

The NIH Record

AIDS Research Unites U.S. And Soviet Union

By Carla Garnett

Soviet *glasnost* apparently has infiltrated and strengthened the communication bond that the United States shares with the Soviet Union in medical science. And AIDS, in its gradual but steady cross-continental foray, may prove to be the latest tie that binds.

Last April, in accordance with a treaty signed by President Reagan and General Secretary Gorbachev at the Geneva Summit in 1985, American and Soviet medical researchers met at the Lister Hill Center to exchange the latest information about the diagnosis, treatment and cure of cancer.

That meeting, a global teleconference called "The Cancer Summit," was televised live to more than 55 cities in Europe, Africa and the Middle East.

More recently, under a U.S.-U.S.S.R. agreement for Cooperation in the Field of Medical Science and Public Health and the Agreement in the Field of Artificial Heart Research and Development, American and Soviet medical officials gathered in Moscow at the Ninth Joint Health Committee meeting to share information on a broader range of medicine and science topics.

The bilateral agreements, which date back to the early 1970's, usually concentrate on

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A 'Superb Performance'

Wyngaarden Wins FASEB Public Service Award

Dr. James B. Wyngaarden, director of NIH, has been selected as the 1989 winner of the FASEB Public Service Award, the Federation of American Societies for Experimental Biology has announced.

The federation board makes an annual public service award to individuals who have made outstanding contributions to the cause of biological and medical research through achievements in government, public affairs, writing, law, the arts and other nonscientific fields. Past FASEB Public Service Award winners were Sen. Lowell Weicker, Jr. (R-CT), Rep. William Natcher (D-KY), columnist Ann Landers, philanthropist Mary Lasker, James Shannon, former director of NIH, and Lewis Thomas, physician, medical school dean and noted author.

Wyngaarden has been director of NIH since April 1982. Prior to that he was professor and chairman of the department of medicine at Duke University School of Medicine. A 1948

Lasers Target Tumors, Plaque

Light Joins Fight Against Cancer, Heart Disease

By Diana Pabst

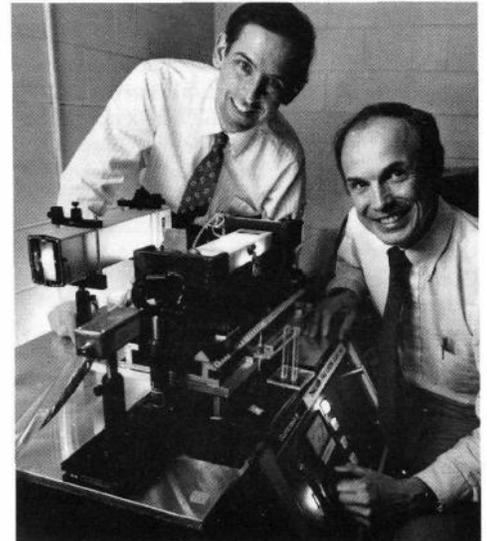
Researchers at NIH are beaming lasers at targets inside the body as they explore new ways of harnessing these powerful tools to treat cancer and cardiovascular disease.

In one innovative approach, lasers are being used with photosensitizing dyes to kill tumors. The advantage of the technique—known as "photodynamic therapy" or "phototherapy"—is its relatively selective destruction of a tumor while sparing normal tissue.

In studies on tissue cultures and small tumors, photodynamic therapy has sometimes shown dramatic results—even within hours. "It kills tumor cells better than anything I've seen so far in terms of quickness and effectiveness," said Dr. Angelo Russo of NCI's Radiation Oncology Branch.

Dr. Harvey Pass, head of the thoracic oncology section in NCI's Surgery Branch, has used phototherapy to remove or reduce bronchial obstructions in several cancer patients. The technique, he said, "has been quite promising, but we have to understand the basic mechanisms involved before we can determine where to go" in terms of future applications.

Researchers say phototherapy hasn't been as encouraging for treating large tumors, mainly because at certain wavelengths the light is unable to penetrate the tissue at depths greater



Drs. Robert Bonner (l) and Paul Smith, of DRS's Biomedical Engineering and Instrumentation Branch, adapt lasers for a wide range of medical applications.

than several millimeters.

Other intramural studies are focusing on the use of lasers to open plaque-obstructed arteries without surgery. The approach is a variation

(See **LIGHT**, Page 6)



Dr. James B. Wyngaarden

graduate of the University of Michigan Medical School, he is a member of the National Academy of Sciences and of the FASEB constituent American Society for Biochemistry and Molecular Biology.

In a letter to Wyngaarden informing him of the award, FASEB President Howard K.

Schachman, professor of molecular biology and biochemistry at the University of California at Berkeley, said the federation board was particularly impressed by the NIH director's "superb performance" and his "dedication to advancing the nation's biomedical research efforts . . . Under your leadership, NIH has become even more effective. With great skill you have been guiding that wonderful institution through a difficult but important period. Despite budget stringency, you have strengthened the agency for the crucial work it faces and for the challenges that will come.

"All biomedical scientists are in your debt for the effective steps you have taken to maintain the independence and autonomy of the National Institutes of Health. This success is as important in the long run as your increasing efforts with Congress to secure adequate funding for NIH and to develop the statutory framework for the agency's future," Schach-

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FASEB

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man wrote.

Schachman noted Wyngaarden's many accomplishments, including: developing the 5-year physician-scientist training award, committing NIH to studying the human genome and designing a logical administrative structure to enhance the scientific excellence of the genome project, arranging for the Howard Hughes Medical Institute to base its scholarship program on the NIH campus and emphasizing biomedical research career opportunities for young people during the NIH Centennial.

Furthermore, Wyngaarden mobilized the nation's medical research to combat AIDS and directed this effort while still stressing the importance of basic science, Schachman added.

"Your leadership has earned you wide respect in government and in the scientific community," Schachman wrote. "It has been in the best tradition of the great institution you serve. We are delighted to name you as winner of the 1989 FASEB Public Service Award and congratulate you for your distinguished achievements." □

Eat Out, Help the Hungry

"Thanksgiving-in-February" comes to Montgomery County on Feb. 21 when participating restaurants contribute 10 percent of their dinner receipts to the hunger relief program of the Community Ministry of Montgomery County, an association of more than 60 churches.



in February

All the contributions go directly to community soup kitchens and programs run by volunteers.

Watch the newspapers for a listing of participating restaurants. Mark Feb. 21 on your calendar and go out to dinner with family, friends and colleagues from work to support this special way of helping the needy among us in Montgomery County. For more information call 762-8682. □

MARC Scholars Conference

The NIGMS Minority Access to Research Careers (MARC) program recently held its seventh Scholars Conference and Program Directors Meeting. Nearly 800 individuals attended, including 500 students and faculty members from colleges and universities with substantial enrollment of ethnic minorities.

The conference served as a forum to enhance communication among MARC trainees and directors, and NIH staff. During the 3-day meeting, minority students who plan careers in biomedical research heard presentations by several leading scientists. The students also held poster sessions and gave oral presentations of their own in such areas as cell biology,



Dr. Norman C. Francis, president of Xavier University of Louisiana, gave the keynote address entitled "The Education of Minority Scientists—A Commitment and An Opportunity" at the MARC program's seventh Scholars Conference and Program Directors Meeting.

immunology, physiology, microbiology, genetics and pharmacology.

On the second day of the conference, local high school students were invited to lunch with the MARC students and to attend the conference. Also on that day, the MARC students toured 77 NIH laboratories to learn about ongoing intramural research. The final day of the conference was devoted to helping the MARC students prepare to apply to graduate school.

MARC is administered by NIGMS in collaboration with other NIH institutes. One of the program's goals is to strengthen science curricula and research opportunities at institutions with substantial minority enrollment in order to prepare students for careers in biomedical research. Toward this end, NIGMS offers MARC undergraduate research training grants for students in their third and fourth years of college to prepare them to compete successfully for entry into graduate programs in biomedical sciences.—Wanda Warddell □

'Sandwich Generation' Cares

Anne works as a personnel officer in one of the Federal agencies in the Washington area. She is the oldest of 3 children and has 2 children of her own in early adulthood. Her widowed mother who lives 4 miles across town has a number of chronic illnesses and recently suffered a mild stroke. Looking after her family and her mother, in addition to keeping on top of her job responsibilities, has created considerable stress in Anne's life.

Just when employees such as Anne think they will have more time for themselves and less responsibility for others, they come to the hard realization that, as their teenaged and adult children need less help, their parents or other aging relative may require more attention. For a generation of middleaged adults the result is a feeling of being "sandwiched" in the middle.

Caring for elderly parents while managing a family and a career may always make you feel a little "sandwiched" but you can learn to keep the stress down. The Employee Counseling Services (ECS) is available to you with information about resources in the community or for confidential consultation about these issues. ECS will also explore the organization of eldercare support groups at NIH should sufficient interest exist. For additional information call Michael Bowler or Carol Weiss, 496-3164. □

The NIH Record

Published biweekly at Bethesda, Md., by the Editorial Operations Branch, Division of Public Information, for the information of employees of the National Institutes of Health, Department of Health and Human Services, and circulated to nonemployees by subscription only through the Government Printing Office. The content is reprintable without permission. Pictures may be available on request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through September 30, 1989.

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New Osteoporosis Treatment Found Safe, Effective

By Michael Fluharty

Osteoporosis researchers at a DRR-supported General Clinical Research Center at the University of Texas have announced promising results of clinical trials using a new treatment to restore spinal bone loss.

Long-term clinical studies reveal that the intermittent use of a new slow-release form of sodium fluoride given with calcium citrate can safely reverse the effects of osteoporosis by augmenting bone mass, said Dr. Charles Y.C. Pak, chief of mineral metabolism at UT Southwestern Medical Center in Dallas, and director of the GCRC.

Spinal osteoporosis is a crippling condition of progressive bone loss that afflicts approximately 5 million Americans—most commonly elderly, postmenopausal women. An estimated half million persons sustain osteoporotic fractures of the spine yearly, and a third of women over age 65 will have spinal vertebral fractures during their lifetimes.

Spinal osteoporosis results from a gradual loss of trabecular bone—found primarily in the spine—that comes with menopause and aging. Eventually, crush fractures of the spine occur. The resulting shortened stature, curvature of the back and abdominal protuberance are sources for much suffering from back pain and gastrointestinal discomfort.

"Treatments such as estrogen and calcium supplements, which are directed at preventing bone loss, are useful in averting the development of osteoporosis when they are applied early—such as during the early postmenopausal period," said Pak. "But they have limited value in patients with established osteoporosis, who have already sustained a substantial bone loss. Our treatment is directed toward the latter group."

Sodium fluoride is a compound used for years by dentists to strengthen teeth. Much evidence has accumulated to show that sodium fluoride is useful in treating osteoporosis because the chemical compound stimulates bone remodeling cells into action, said Pak.

In the past, however, this treatment has had many, sometimes serious, complications that have precluded its widespread use. By reacting with gastric acid, sodium fluoride may cause corrosion of the stomach lining and bleeding. Up to 40 percent of patients display the gastrointestinal complications.

In addition, sodium fluoride has been shown to cause joint pain, swelling and, more seriously, stress fractures in up to 40 percent of patients. It has even been suggested that sodium fluoride may cause hip fractures. The rheumatic complications have been attributed to the formation of abnormal bone, which is mechanically not as strong as normal bone, explained Pak.

"Our treatment has been designed to overcome these problems," Pak said. The drug bypasses the stomach before fluoride is substantially released, thus minimizing gastrointestinal side effects. Moreover, by allowing fluoride to be absorbed slowly, the fluoride level in blood is kept at an effective but non-toxic level.

"The provision of calcium in the form of calcium citrate permits newly formed bone to be adequately mineralized.

"And finally, fluoride treatment is purposely interrupted temporarily at fixed intervals to avoid development of drug resistance or toxicity," Pak explains.

Since 1982 Pak's group has been conducting clinical studies using the oral slow-release sodium fluoride preparation. A total of 251 patients have been enrolled in the collaborat-

ing studies.

At UT Southwestern a total of 65 patients were followed during sodium fluoride treatment for at least 1 year and for an average of 3.5 years. In these patients, gastrointestinal complications were minor and occurred in fewer than 5 percent of patients, said Pak. None had evidence of bleeding. Approximately 6 percent complained of joint pain. Although hip fractures occurred in a few patients, they did not occur at a higher rate than before treatment. Studies outside UT Southwestern showed similar findings.

"In summary, the use of slow-release sodium fluoride with calcium citrate provides reasonable safety in patients with spinal osteoporosis. It partially restores bone lost from the spine and appears to inhibit further spinal fractures," Pak says. □

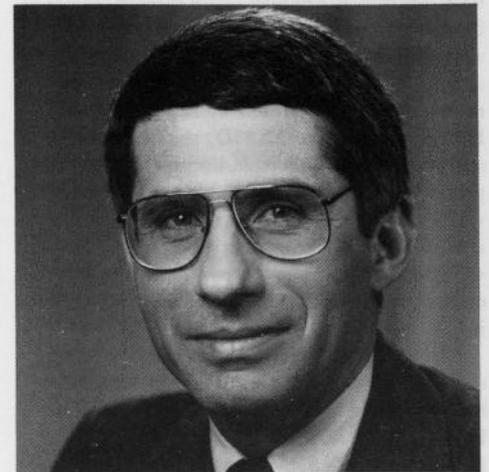
Fauci Wins AAAS Award

Dr. Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases, has been named by the American Association for the Advancement of Science as the recipient of the second annual AAAS/Westinghouse Award for Public Understanding of Science and Technology. The award honors Fauci "for his contributions to public understanding of immunology as a science and of acquired immunodeficiency syndrome (AIDS) as a long-term challenge to the nation and the world."

The award was established to recognize scientists who have made outstanding contributions to communication and understanding between the scientific community and the public. Fauci, who also serves as NIH associate director for research on AIDS, and director, NIH Office of AIDS Research, has been an articulate and influential spokesman on the scientific issues related to AIDS since the syndrome was first recognized in 1981.

In his role as communicator of AIDS research information, Fauci has been extensively interviewed and quoted in the print media, has appeared on many television and radio shows and has participated in AIDS education videotapes and national and international teleconferences. He has been consulted by political figures, policy makers and business leaders to provide perspective about research findings and to explain them in an understandable way.

Fauci is an internationally renowned scientist who has pioneered the field of human immunoregulation. He has made many contributions to basic and clinical research of the pathogenesis and treatment of immune-



Dr. Anthony S. Fauci

mediated diseases and has developed cures for formerly fatal diseases of the immune system such as Wegener's granulomatosis. Among the first to study the immunopathogenesis of AIDS, Fauci demonstrated the precise nature of the immune defect and has been instrumental in developing strategies for the therapy and immune reconstitution of patients with AIDS. He continues to devote his research talents to identifying the nature of the immunopathogenic mechanisms of AIDS and the scope of the body's immune responses to the AIDS retrovirus.

The award is cosponsored by the Westinghouse Electric Fund and AAAS and is administered by the AAAS committee on public understanding of science and technology. □

Unexpected Collaboration Sheds Light on Genetic Disease

By Laurie K. Doepel

Scientists at NIAID and researchers at the University of Iowa and the Veterans Administration Medical Center there, report discovering two new forms of a rare genetic disease that leaves children vulnerable to life-threatening bacterial infections. In doing so, they have gained important insights into the workings of the fundamental cell process that normally prevents such infections.

Their studies, reported in a recent issue of *Science*, reveal that the newly discovered forms of chronic granulomatous diseases of childhood (CGD) arise because proteins integral to this protective cell process, known as the respiratory burst, are missing.

More importantly, their laboratory work indicates that supplying the missing proteins can restore proper activity of the respiratory burst. Thus, CGD emerges as an excellent model disease in which to study the possibility of human gene therapy.

While the respiratory burst is essential for host defense, it can also cause disease. It has been implicated in tissue destruction in certain autoimmune diseases and possibly heart attacks, destruction caused by excessive respiratory burst activity. Therefore, says Dr. Harry L. Malech of NIAID, senior author on one study, "An understanding of how the respiratory burst works, how it's turned on, is very important if we're to modulate this system, either to make it work better in patients who have these severe bacterial infections or to curtail its activity in patients who have autoimmune diseases."

The two groups of investigators conducting this research were Malech, head of NIAID's bacterial diseases section, working with Drs. Hiroyuki Nunoi, Daniel Rotrosen, and John I. Gallin and NIAID-supported researchers at the University of Iowa and the VA Medical Center, both in Iowa City.

The investigators were unaware of their mutual interest until they met at a scientific meeting last May, at which time they agreed to collaborate on subsequent phases of their research. According to Malech, "The two papers mesh perfectly together to prove something I don't think either of us could absolutely prove alone."

The focus of the research, the respiratory burst, is primarily used by white cells called phagocytes—the immune system's defensive front line—to combat bacterial and fungal infections. When a phagocyte engulfs a marauding bacteria or fungi, that contact triggers the cell to produce a lethal chemical, hydrogen peroxide, which helps other proteins in the phagocyte kill the microorganism. The phagocytes make this lethal chemical by bor-

rowing an electron and adding it to oxygen to form an intermediate form of oxygen, superoxide, which quickly breaks down to hydrogen peroxide.

"It's called a burst," explains Malech, "because cells aren't doing it all the time. . . . That it can be triggered only in this specific way [by contact with bacteria or fungi] makes sense, because if phagocytes produced the respiratory burst all the time in the wrong places, then we'd get tissue damage to the host."

Until recently, all people with CGD were thought to have the same disease. While some seemed to be sicker than others, in general, all seemed to lack the ability to produce hydrogen peroxide, and all got similar constellations of symptoms and infections. These included severe deep-tissue infections of liver, lungs, bone and skin and tumor-like masses of inflammatory cells that can block vital body organs.

"We know how to put genes into cells in culture and make them express, but we have very little control over where they go or how to turn them on or off at the right times."

—Dr. Harry L. Malech, NIAID

About 6 years ago it was realized that CGD was not the same in all people. Only some had inherited this disease as a sex-linked characteristic, that is, on the X chromosome contributed by the mother. It is now known that this group comprises about two-thirds of all people with CGD.

Around the same time scientists discovered that most people who had inherited CGD in a sex-linked fashion lacked a special membrane protein, called cytochrome b558, crucial for the respiratory burst.

For the other one-third of people with CGD, researchers knew these people inherited their disease as an autosomal recessive (AR), or non-sex-linked, trait but had no clue about what was functionally abnormal. The present studies have now solved this mystery.

Working with an assay for hydrogen peroxide activity developed about 2½ years ago, the NIAID group set out to study where the abnormalities in AR CGD patients might be located. They found that the defect lay in the cytosol, the extranuclear broth of phagocytes, rather than in the membrane. So during the past year they have been trying to determine what in the cytosol is missing in these

patients.

In *Science*, the NIAID group reported on their work with nine patients with AR CGD. By systematically mixing fractions of cytosol from pairs of these patients, for example, patient 1 and patient 2, patient 1 and patient 3, and so forth, and putting this cytosol mix together with normal membranes in their assay for hydrogen peroxide activity, they determined that a minimum of two different cytosol protein defects could cause AR CGD. This is the result they presented at the meeting in May.

Meanwhile, the Iowa group had been examining the respiratory burst independent of CGD patients, and by the time of the May meeting had identified two different cytosol proteins that appeared to be involved in the respiratory burst. According to Malech, "When they heard our presentation, they said maybe your patients are missing these proteins we've identified. We see two proteins, you see two different kinds of patients, let's get together."

Working with antibodies for the two cytosol proteins sent to them by the Iowa group, the NIAID investigators confirmed that the proteins the Iowa group had identified were indeed the two missing in some of their patients.

What their collaboration has revealed is that in addition to cytochrome b558, three cytosol proteins are essential for the respiratory burst to work. The NIAID researchers have found that their nine patients lack either protein 1 or protein 2. While they have not seen patients lacking protein 3, laboratory studies indicate that such a person would also have CGD.

Missing proteins have been identified in other genetic diseases but it is not known in many cases whether adding back the proteins would make the patient better. "The beauty of these studies," points out Malech, "is that we've not only identified the missing proteins but also done experiments strongly suggesting that if we restored those proteins, it would fix the cells and therefore fix the patients.

Obviously, the long-range goal now is how can we restore this protein to the patient's cells?"

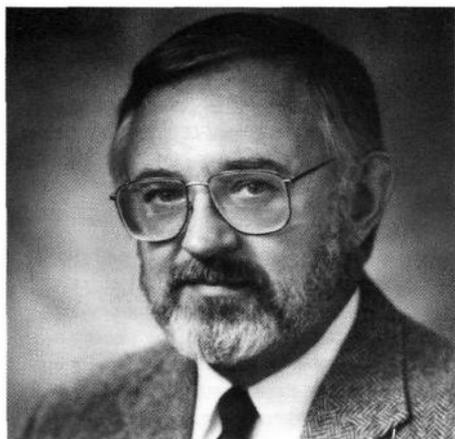
CGD is increasingly seen as one of the best candidate diseases for gene therapy. While Malech finds this prospect exciting, he does not expect it to happen soon. "I view gene therapy as a baby that has been born and is now crawling," he says, "and it's going to be a long time before it stands up, let alone runs. And we can't do gene therapy in people before it's running. . . . We know how to put genes into cells in culture and make them express, but we have very little control over where they

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go or how to turn them on or off at the right times. And we don't know how they will affect the genes they are put next to. This is a concern because we know that certain forms of cancer can arise when genetic translocations occur."

In the meantime, other more conventional approaches may be tried. Protein replacement therapy has successfully been used before, for example, in insulin therapy for diabetes and growth hormone therapy for growth disorders. Similarly, when large amounts of recombinant forms of the missing CGD proteins have been made, protein replacement therapy may be possible for CGD. But unlike insulin and growth hormone, which work outside cells, the missing CGD proteins work inside cells, and it may prove difficult to both target these proteins to phagocytes and get them inside. If this can be done, however, protein replacement could be used as a short-term therapy during particularly bad infections. And such a therapy could prove in the short term to be both ethically and scientifically more feasible to develop than gene therapy. □



Dr. George Curlin has recently been appointed deputy director of NIAID's Microbiology and Infectious Diseases Program. An internationally-known expert in enteric infectious diseases, he has worked in this field in the United States, as well as overseas. He is rejoining NIAID after a 5-year period with the Agency for International Development during which he managed the interagency agreement between PHS and AID in the area of vaccine development and testing. Prior to joining NIAID in 1977 as chief of the Epidemiology and Biometry Branch, Curlin spent 6 years at the Cholera Research Laboratory (now the Diarrheal Research Centre) in Dhaka, Bangladesh, working on the development of cholera vaccines.

NIH Scientists Attend Vatican Conference

By Margo Warren

Dr. Zaven Khachaturian, associate director for the Neuroscience and Neuropsychology of Aging program (NNA) at the National Institute on Aging, recently traveled to Vatican City to take part in an international health conference on "Longevity and the Quality of Life." The meeting drew several Nobel Prize winners in medicine and was translated into 5 languages to accommodate the audience of health leaders from around the world.

NIH was represented at the meeting by Khachaturian and Dr. Carleton Gajdusek of NINDS, one of the Nobel laureates. The Pontifical Council for the Apostolate of Health Care Workers sponsored the meeting, the purpose of which was to consider longevity in terms of the quality of life rather than just the continuation of physical existence.

Longevity was chosen as the conference theme because of the "inexorable increase" in the number of older people in the world, according to the program.

Khachaturian addressed the moral and medical aspects of the aging process. He said that the aging demographic revolution will require "drastic changes in attitudes, perceptions, thinking and priorities of individuals and institutions." In spite of great technological and medical strides, such as conquering outer space and eliminating some killer diseases, there remains a question about whether we have "the will, the courage, and the wisdom" to address the problems associated with an aging world population, according to Khachaturian.

The focus of his paper was on recent significant research advances in Alzheimer disease, which affects more than 2½ million people and accounts for at least 50 percent of all dementias in the United States alone. One finding he reported concerns the way aberrant chemical and physical changes in the brain can account for Alzheimer-related cognitive deficits, thus increasing the likelihood of finding drugs to treat some forms of dementia. He also reported the possibility of developing a testable hypothesis on the causes of Alzheimer disease.

The NNA program, which Khachaturian has headed since October 1987, plays a major role in the national research effort on Alzheimer disease. In addition to conducting and promoting research on the disease, the NIA has been federally mandated to establish Alzheimer Disease Research Centers and an Alzheimer Disease Patient Registry and to conduct clinical trials for treatment. Since 1986, Khachaturian has also headed the NIA's Office of Alzheimer Disease Research (OADR), which he helped create in response



Pope John Paul II and Monsignor Fiorenzo Angelini, titular archbishop of Messene, greet participants at the "Longevity and Quality of Life" conference at Vatican City, where an international group of leaders in the health field met to discuss moral and medical issues associated with aging.

—Photo by Dr. Zaven Khachaturian

to congressional concern about the disease. The office serves as a coordinating body for all of the Alzheimer research done NIH-wide. He is currently working in conjunction with the institute's public information office to establish a national Alzheimer Disease Education and Referral Center.

The NNA program also developed a special group of awards for Leadership and Excellence in Alzheimer Disease (LEAD) which provide long-term support to outstanding senior scientists in the field.

Other areas of research supported by NNA include age-associated sensory changes such as hearing and olfactory loss; sleep disorders; and quality of life issues in older populations.

Khachaturian has served in several administrative positions with the NIA and NIH since 1977, including grants associate, program administrator for the Neuroscience of Aging Program, congressional intern, health policy coordinator in the Office of the Secretary, and member of the Grants Associate Board. From 1982 to 1986 he was the chief of the Physiology of Aging Branch at NIA. He then spent a sabbatical year at the University of Pittsburgh as the vice president for research and interim scientific director for biotechnology and as professor of health services administration. He received his Ph.D. from Case Western Reserve University in Cleveland and his B.A. from Yale University. □

NICHD Seeks 4-Year-Olds

NICHD is seeking 4-year-old, first-born girls and boys for a study of intellectual and social development. Children must be attending preschool. For more information, call Cindy Jordon, and ask for information on the "Preschool Study," 496-6832. □

LIGHT

(Continued from Page 1)

on balloon angioplasty, the alternative to heart bypass surgery in which a balloon is inflated inside a blocked vessel to restore blood flow.

Laser angioplasty "offers great promise as a new technique" to improve blood flow through vessels blocked by cholesterol deposits, according to Dr. Martin Leon of NHLBI's Cardiology Branch. But, he cautioned, "this remains an experimental methodology and many questions must be addressed before general clinical application is considered."

Lasers produce concentrated beams of light that shoot rays of energy to one tiny spot. This intense power, which has made lasers a popular "light knife" for cutting everything from metal parts to microchips, poses special safety concerns when used on the human body.

At NIH, studies of laser applications in medicine are made possible because of the technical support provided by a group of laser experts in DRS's Biomedical Engineering and Instrumentation Branch. The critical role for researchers such as biophysicist Dr. Robert Bonner and physicist Paul Smith is to bridge the biology and the clinical problems with laser and electro-optic technologies.

What kinds of lasers and fiber optics systems will work best in a given medical situation? How can they be fashioned to provide safe and effective doses of light inside the body? And what biophysical effects will result?

"As we develop more answers to these questions," Smith said, "we should increase the number of applications for therapeutic intervention with lasers."

Let There Be Light

For years scientists have known that some drugs—especially a family of drugs called porphyrins—are toxic to cells when used in combination with light. It was hoped these photosensitizers might become a useful new tool in cancer therapy.

What's spurring new interest today is the combination of lasers and fiber optics. "Fiber optics enables us to deliver light internally and direct it at targeted cells," said Dr. Michael Manyak of the Radiation Oncology Branch and George Washington University Medical Center.

This approach of using photosensitizers together with fiber-optic delivery of laser light is seen as especially promising for treating cancer in internal organs of the body, perhaps precluding the need for conventional surgery



Dr. Martin Leon of NHLBI's Cardiology Branch is testing a new laser system to remove plaque in blocked arteries.

in some cases. Besides the use for removal of obstructive lesions in the esophagus and bronchus, phototherapy is being studied for localized treatment of superficial bladder tumors.

First, a photosensitizer—dihematoporphyrin ether (DHE)—is injected intravenously. After 2 to 3 days it filters out of most tissues in the body, but unique properties of cancer cells cause them to retain the photochemically active form of the drug longer. Doctors then thread an optical fiber to the site of the tumor and irradiate it with laser light. This causes a photochemical reaction that destroys the cancer cells.

So far only DHE has FDA approval for patient studies, but other photosensitizers are being tested. In early clinical studies, phototherapy has been applied to a variety of tumors in more than 3,000 patients worldwide since 1976, including nearly 50 cases at the NIH Clinical Center in the past 2 years. The main side effect has been a hypersensitivity to light; patients must avoid the sun for several weeks after treatment.

Pass has used phototherapy to treat 10 patients with obstructing bronchial lesions or primary lung cancer. In eight of the patients, the airway was successfully opened or the tumor was significantly reduced with no subsequent respiratory symptoms. In two of the cases, photodynamic therapy helped physicians determine how much the cancer had spread, and patients needed to have only part of a lung removed instead of all of it.

Dr. Thomas DeLaney of the Radiation Oncology Branch is investigating the use of phototherapy to treat recurrent cancers of the skin—primarily breast cancer—in patients with advanced disease. It is too early for reliable conclusions. "The trials are just starting," DeLaney said. "We are limited to sites we can get the light to. And we still have to decide how much light is needed and when (phototherapy) can be used."

According to DeLaney and Russo, another encouraging area for laser-activated phototherapy may be in treating ovarian cancer. The disease is curable by surgery when detected early. But diagnosis is difficult, and tumors often appear to be localized when they have already spread throughout the peritoneal cavity, where surface ridges and folds make it difficult to detect and remove every malignant cell.

In a recent study in a mouse model, Russo found that 85 percent of ovarian tumors were eradicated within days after phototherapy. There are 11,000 deaths a year in this country from ovarian cancer. "If we can make even small progress in that area," Russo said, "it's a big step."

Because it is still investigational, photodynamic therapy has been reserved mainly for patients with end-stage cancers that didn't respond well to standard treatments. But researchers say studies suggest that the technique could become helpful in treating some earlier-stage cancers. As an example, Pass noted, "it may have use in patients with very early lung cancers that are confined to the bronchus."

Process Requires Oxygen

Scientists aren't sure why DHE and other photosensitizers are so specific and effective on cancer cells, but they know the process requires oxygen in the cells. The photosensitizer absorbs light from the laser and stores the energy in an excited state. This energy is transferred to oxygen, forming what's known as singlet oxygen, which is highly reactive and thus destroys the cells.

In phototherapy, NIH physicians use a "tunable" dye laser. The machine (about the size of a large photocopier) can be set to control the amount of light that strikes the targeted tissue, the length of exposure and the wavelength.

The wavelength selected depends on the molecular structure of the photosensitizer. These compounds have different absorption levels, so the dye laser can be tuned to achieve the appropriate light emission.

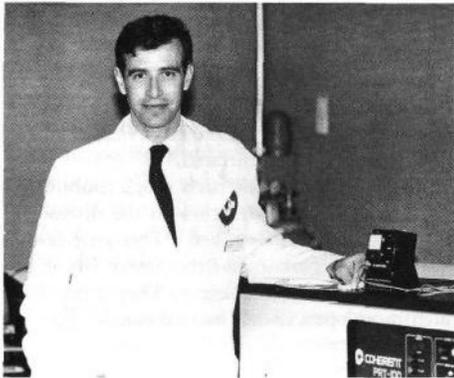
Some researchers believe a variation on the photodynamic process might one day be used to "sterilize" blood supplies against con-

tminating viruses such as those that cause AIDS and hepatitis.

In early studies of this, Dr. Joseph Fratantoni and his colleagues in the FDA's Division of Blood and Blood Products have seen encouraging results. In one experiment using an excimer laser, Fratantoni noted, "we were able to deliver UV light in such a manner that a 'marker' virus—polio—was significantly inactivated, while platelets, notoriously sensitive and reactive, remained in satisfactory condition."

This selective photochemical destruction is possible because of a basic property of laser light. Normal white light is a mix of all visible wavelengths or colors; in contrast, laser light consists of a single wavelength or color. With lasers, the light can be generated at a wavelength that activates photochemistry only of a given molecule. Cells without this molecule should remain unaffected.

In Fratantoni's experiment, for example, red blood cells and platelets have no nucleus and therefore are insensitive to photochemistry that is specific to nucleic acids in viruses.



Dr. Thomas DeLaney is shown with a laser used to treat cancer patients in the Radiation Oncology Branch.

'Making Molecular Soup'

Laser angioplasty could become one of the most widespread of the new laser therapies now under investigation. As many as 200,000 cases of the standard balloon procedure are done each year. But a major shortcoming of the current angioplasty technique is this: The balloon opens a channel for blood flow, but the troublesome plaque isn't actually removed.

In a third of all cases, the vessel closes again within months after treatment; some patients have to undergo bypass surgery anyway. Another drawback: Sometimes the plaque buildup is so thick it can't be penetrated by a balloon.

In a few cases today, lasers are being used to bore a hole through the plaque to open the artery enough so the standard balloon proce-



Dr. Harvey Pass has used phototherapy—photosensitive drugs activated by laser light—to remove bronchial obstructions in cancer patients.

dures can be done. But the ultimate goal, according to Bonner and Smith, is to use lasers to fragment the plaque into sub-microscopic particles that could be washed away in the bloodstream.

A laser system must be devised that's able to penetrate the hard, calcified material, yet is restrained enough to remove the material in extremely fine layers—"making molecular soup" from the plaque, in Smith's words. If the plaque is chipped away in cruder chunks, these fragments might block circulation downstream.

"The fundamental problem of laser angioplasty," Bonner said, "is how to remove the plaque without making a hole in the vessel wall. The laser has the potential to perforate an artery, which could lead to severe problems."

According to Bonner and Smith, "pulsed" lasers are showing the most promise for cardiovascular use. These create a lot of energy in short bursts. They also cut cleanly, leaving a smooth surface area without causing damage to the vessel wall.

Leon and his colleagues in the Cardiology Branch are working with the Clinical Center's Diagnostic Radiology Department to test a laser system designed to guard against accidentally perforating arteries. This "smart" laser is really two laser systems carried inside a single optical fiber, guided by a flexible wire. One system targets the plaque, distinguishing it from normal tissue; the other "fires" on only the material identified as plaque, thus not harming the artery wall. The two laser systems "communicate" through computer language. Clinical trials are under way.

One laser-driven cardiovascular procedure that has clinical approval and is catching on rapidly is a so-called "hot-tip" technique. Laser energy is used to heat up a metal tip at the end of an optic fiber; the heat essentially "melts" the plaque. However, "it's something of a misnomer to call it a laser technique,"

Smith believes, since it has been shown that the procedure can be done without lasers, with the heat generated from an electrical or chemical source. □

NIDR Contributes to National Health Survey

The National Institute of Dental Research recently collaborated on the oral health component of the third National Health and Nutrition Examination Survey (NHANES III) marking the first time oral health has been included in this type of national survey since 1971, when the first NHANES was launched.

"We will be able to analyze the information of oral health in relation to a wealth of medical and nutrition status findings," said Dr. Dushanka Kleinman, dental surgeon, NIDR epidemiology and oral disease prevention program, and one of the researchers who



Staff from the NIDR epidemiology and oral disease prevention program trained the oral examiners who will collect data for the latest National Health and Nutrition Examination Survey. The survey will include clinical evaluations of more than 30,000 Americans.

organized the NIDR team that contributed to the survey.

Oral health is just one of the more than two dozen public health topics included in NHANES III, which will establish the prevalence and associated risk factors of numerous conditions and diseases. It also will attempt to identify reasons for trends in health. Approximately 40,000 Americans in 88 randomly-selected communities around the country will be interviewed, and more than 75 percent of them will receive clinical evaluations.

The National Center for Health Statistics, now part of the Centers for Disease Control, is directing the data collection, which began in October 1988 and will span 6 years. □

SOVIETS

(Continued from Page 1)

eight areas of cooperation—cardiopulmonary diseases, artificial heart research, cancer, environmental health, arthritis, viral diseases, eye diseases and individual health scientist exchanges.

In this session, however, three new areas of interest—primatology, biomedical problems of alcohol and drug abuse and HIV infection—were introduced and agreed upon for collaboration.

"Soviets requested that three additional categories be appended to the original agreement," said Dr. Jack Whitescarver, deputy director, NIH Office of AIDS Research and U.S. AIDS representative to the Soviet Union in the PHS delegation led by former DHHS assistant secretary for health Dr. Robert Windom.

"They expressed interest in exploring research efforts in HIV epidemiology, treatment, basic cellular structure and improved testing systems," he said.

Each of the 11 categories was represented by an American and a Soviet counterpart who (through foreign language interpreters) discussed accomplishments, set new goals and identified specific projects for collaboration. Prior to the visit, American officials had been given an itinerary including a list of probable common interests.

"Suggested projects from U.S.S.R. scientists were matched with U.S. scientists, usually NIH intramural scientists, who would be interested in collaboration," said Whitescarver, who has spent nearly 10 years at NIH.

In 1977, Whitescarver joined the Division of Research Grants as a grants associate and then served, in 1978, as special assistant to NIAID's director. In 1984 he left NIH to become associate dean for research development and assistant professor of pathology at Emory University School of Medicine in Atlanta, where he served until June 1988 when he returned to NIH as OAR deputy director.

"I started out in the early days of the (AIDS) epidemic," admits Whitescarver, "before anyone called it AIDS."

Thus far, AIDS, apparently in its early days in the Soviet Union, has not reached the proportions in that country that it has in the United States.

"The Soviets do not have the problem to the magnitude that we have it here in this country," said Whitescarver. "They are very open about the fact that it might develop into a public health crisis, however. They are very health conscious."

In November 1988, the U.S.S.R. had iden-



Dr. Jack Whitescarver

tified, mainly through serological testing of blood, 350 HIV-infected patients.

"We were told that the majority of the cases were foreigners," adds Whitescarver. "Eighty of the cases were Soviets. There have been six cases of frank AIDS with three deaths; in fact, one of the diagnoses had been made post mortem."

A key difference between the AIDS epidemic in America and the early stages of HIV infection in the Soviet Union, and a factor that could influence the direction AIDS may take in the U.S.S.R., is the social structure of that country.

Homosexuality is illegal in the Soviet Union and punishable by 5 years imprisonment. This, coupled with the intravenous drug abuse that exists there, could complicate communication crucial between AIDS sufferers who are undiagnosed, and therefore untreated, and caregivers.

All three new areas of interest launched at this session in some way and to various degrees involve research on HIV infection, its diagnosis, treatment and prevention.

According to a preliminary draft of the delegation's trip report, the following are some specific issues under consideration:

—In the alcohol and drug abuse area, U.S. and U.S.S.R. coordinators agreed to focus on clinical and biological research of predisposition and genetic markers that can be used to identify risk groups earlier and can lead to prevention and improved treatment programs.

—Collaborative primatology research will include work with simian AIDS and other retroviruses in such nonhuman animals as monkeys and baboons.

—Development of mathematical models, new test systems, epidemiology studies as well as public information dissemination are other topics discussed in conjunction with AIDS.

"If the virus is seeded in the same communities as it is here, if the sociological profiles

are the same," said Whitescarver, "then one can expect (the Soviets to experience) the same results that we have in this country.

"Because they have such stringent social laws, they believe they can keep it (HIV infection) under wraps. In many respects, their position is about the same position we were in in 1981, at least from a sociological point of view and a research point of view."

Another problem, noted during the conference by the head of the Russian Institute of Epidemiology, is that Soviet physicians lack experience in diagnosing AIDS.

Said Whitescarver, "They (the Soviet medical officials) were very interested in our educational and preventive programs. We discussed the brochure mailout and the public service announcements we had run on television."

Although the Soviet public, for the most part, did not seem aware of AIDS, Soviet medical officials are already looking ahead to the status of HIV infection in 1991.

"They are very interested in mathematical models," Whitescarver notes. "I was surprised that they had already taken U.S. AIDS data provided by WHO and made projections for 1991. For the most part, the projections concur with ours."

Another meeting of the Soviet and American research delegation is scheduled to convene later this year or early 1990 to review the progress of the projects initiated.

"There really has not been much (public) exposure to U.S. information on the disease yet," observed Whitescarver. "This visit certainly made apparent that the Soviet Union is going through major changes. They were much more open than I had expected." □

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DRR Public Affairs Officer Retires

By Michael Fluharty

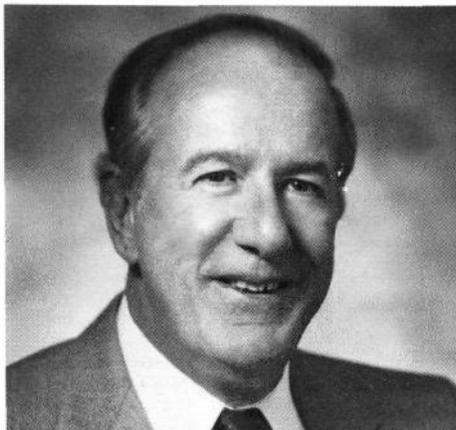
In 1966, when Jim Augustine joined the Division of Research Resources as public information officer, his first two major projects were speeches for Rep. John E. Fogarty, who dedicated the New England Regional Primate Research Center, and for Sen. Lister Hill, who renamed a research building at the University of Alabama-Birmingham. During the next 22 years, Augustine, who retired Dec. 30 after 30 years of federal service, produced hundreds of major communications projects for DRR programs and resources.

During that time, he developed a very specific public relations philosophy that he plans to carry into his new PR, communications and publishing services business for the scientific and medical fields.

If ideas are a prime yardstick by which the communications business is judged, as Augustine is fond of saying, then his career at NIH has surely been a success. One of his most innovative ideas involved the Research Resources Information Center (RRIC), which he developed as a contract for DRR in 1976. The center produces the *Research Resources Reporter*, a 16-page monthly newsletter describing scientific advances that occur in DRR-supported resources. The RRIC also produces other DRR publications such as directories of division resources and *Program Highlights*, the DRR annual report. Since 1979, the division's publications have won 72 awards for editorial excellence while the *Reporter* has grown into the largest free circulation periodical at DHHS, all under his guidance as NIH project officer for the contract.

"I believe in an action public relations concept," says Augustine, describing the development of communications projects built around an organization's natural services. "Actions in PR always speak louder than words," he comments. In the case of DRR, which is totally extramural and whose resources are noncategorical, those "actions" meant developing information products for the biomedical research community that sprung naturally from resource services or from NIH-supported research in the facilities. "We aim for our publications to be as helpful to readers as possible, and as accurate," he added.

In addition to the RRIC, Augustine cites other examples of his action theory at work, including 3 ABC News documentaries he helped produce for the General Clinical Research Centers Program and media coordination for 24 large national meetings, including those of the "clinical societies," as well as dozens of dedications and anniversaries



"NIH has been a wonderfully stimulating place to work," says Jim Augustine, who recently retired after 22 years as the DRR public information officer.

associated with DRR-supported resources.

Augustine says that because of DRR's extramural focus, he was able to produce some very successful special events over the years. Perhaps the most publicized, he believes, was the dedication by Lady Bird Johnson, wife of the late President Lyndon Baines Johnson, of a General Clinical Research Center at Children's Hospital, Washington, D.C., in February 1968. "It was a smash hit," he recalls. "We expected very good coverage, but even we were surprised at just how much interest was expressed."

Augustine's flair for public affairs comes from a wide-ranging educational and professional background. In addition to earning a bachelor's degree in English from the University of Virginia, he was an army newspaper editor and information specialist at Valley Forge Army Hospital, Phoenixville, Pa., and a Washington correspondent for an international aviation magazine.

Augustine began working for the department in 1961 as an editor for the Food and Drug Administration. A year later he came to the Public Health Service as a writer-editor in the Diabetes and Arthritis Program, Division of Chronic Diseases; in 1964, he was named its information officer, joining DRR 2 years later. He is a member of the National Press Club, National Association of Science Writers, American Medical Writers Association and Nikon Professional Services.

"NIH has been a wonderfully stimulating place to work," Augustine says. "But I'm ready for some new challenges; new problems to stir my imagination, in my own business." □

Technology Assessment Seminar

Significant controversy surrounds the annual reporting of hospital mortality by the federal Health Care Financing Administration (HCFA). In an effort to understand more clearly the role of HCFA in assessing the effectiveness of medical technologies as well, the NIH Office of Medical Applications of Research (OMAR) is sponsoring a seminar on Feb. 17, from 9:30 to 10:30 a.m. in Bldg. 1, Wilson Hall.

Dr. Henry Krakauer, director of the office of program assessment and information, Health Standards and Quality Bureau, HCFA, will present a talk entitled "Systematic Assessment of Medical Technology in the Medicare Environment." Krakauer has made major contributions in health outcomes evaluation using the HCFA Medicare database. A brief discussion period will follow his talk. NIH staff are invited to attend. Preregistration is not required. For additional information, contact OMAR, 496-1143. □

AAAS Honors Five from NIH

Five NIH people, including the current director and a past director, are among 316 individuals recently elected as fellows of the American Association for the Advancement of Science Council.

Dr. James Wyngaarden, present NIH director, and Dr. Donald Fredrickson, director from 1975 to 1981, were among the new fellows, described as "members whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

Also honored were three employees of the National Cancer Institute: Seymour Jablon, statistician with the Radiation Epidemiology Branch, Division of Cancer Etiology; Dr. Thomas A. Waldmann, chief of the Metabolism Branch; and Dr. Michael Yarmolinsky, acting chief of the developmental biochemistry and genetics section, Division of Cancer Biology and Diagnosis.

The fellows were elected at the annual meeting of the AAAS in San Francisco last month. □

Women Volunteers Wanted

Women in their thirties and forties, menstruating regularly, without menstrually related mood or behavioral changes, are needed for interview study or biological studies. Call Dr. Jensvold at NIMH, 496-9675. □

Dr. Michael B. Shimkin, NCI Researcher, Dies

Dr. Michael B. Shimkin, 76, an internationally respected cancer researcher, educator, historian and spokesman on cancer prevention, died of a stroke Jan. 16, at the University of California—San Diego Medical Center.

Professor emeritus of community and family medicine at the UCSD School of Medicine, he was one of the early pioneers in cancer research. Beginning in the 1930's with seminal studies on the cause of cancer, his career was devoted to understanding and explaining the mysteries of cancer through groundbreaking laboratory research and important population studies.

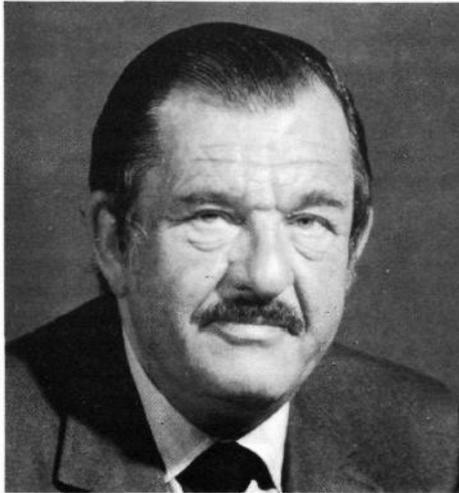
"If there were a prize for the renaissance man of cancer research, Dr. Shimkin would have been the leading contender," said Dr. Joseph Fraumeni, director of the epidemiology and biostatistics program at the National Cancer Institute. "He covered a great deal of territory in his career, including clinical, experimental and epidemiological investigations."

"Dr. Shimkin was one of the most marvelous people I've ever worked with," said Dr. Joseph Stokes, professor of medicine and public health at the Boston University School of Medicine and School of Public Health. Stokes was chairman of community medicine at UCSD when Shimkin came to UCSD. "He was one of the first cancer specialists, and his great strength was his breadth of knowledge. He was truly a man for all seasons, a walking encyclopedia with an understanding of the cause, biology, incidence and history of cancer. He was a major figure in the evolution of cancer research."

Born in Tomsk, Siberia, in 1912, the young Shimkin fled with his family to escape the Bolshevik Revolution, living first in Java and then settling in San Francisco. His mother was a physician, his father an engineer.

He earned his undergraduate degree from the University of California, Berkeley in 1933 and his M.D. from the University of California, San Francisco in 1937, choosing the fledgling field of oncology as his specialty. He began his career as a research fellow of the newly created National Cancer Institute at Harvard, remaining with NCI in various research and administrative capacities until 1963. Shimkin also served with the Public Health Service from 1939 to 1963. He was professor of medicine and assistant vice president for research at Temple University Health Sciences Center in Philadelphia from 1963 until 1969, when he joined the faculty of the UCSD School of Medicine.

Shimkin's early studies focused on chemical carcinogenesis, with research directed at the role of various chemicals, including estrogen,



Dr. Michael B. Shimkin

in the development of cancer. He went on to develop a strong interest in epidemiology, which is the study of the incidence of disease in population groups. In the 1950's his studies were among the first to establish a strong link between smoking and lung cancer.

He traveled throughout the world as a consultant and adviser, and made a number of trips to the U.S.S.R. on medical missions and as assistant to the late vice president Hubert Humphrey.

A prolific writer, Shimkin had more than 300 publications to his credit, including comprehensive works on the history of cancer. His books *Science and Cancer* (1964) and *Contrary to Nature* (1977) are classic works on cancer and cancer research from ancient times to the present. He served as editor of and contributor to a number of professional journals.

In his later years, he wrote and spoke extensively on cancer prevention, using his considerable expertise to educate a concerned public about the realities of cancer, environmental carcinogens and the impact of lifestyle on health.

"He believed that the public does not clearly understand what is harmful and what is not with regard to cancer," said Dr. Cedric Garland, a cancer epidemiologist at the UCSD School of Medicine. "He tried to emphasize the importance of major factors such as smoking, drinking and diet over concerns about trace chemicals linked to cancer."

"His major characteristic was his humanity. He was a generous, compassionate person who never forgot that our objective is minimizing suffering as well as advancing understanding. He believed strongly in the importance of human values in medicine," said Garland.

He was a member of many professional

degrees, honors and awards, including the first Distinguished Achievement Award ever presented by the American Society of Preventive Oncology.

Shimkin is survived by his wife, Mary North Shimkin of La Jolla. The Shimkins celebrated their 50th wedding anniversary last July. He is also survived by a brother, Demetri Shimkin of Urbana, Ill.; three children, Dr. Peter Michael Shimkin of Fairfield, Conn., Ann Mary Segal of Bethesda, and Philip North Shimkin of Teaneck, N.J.; and seven grandchildren.

Shimkin was cremated. A memorial service will be held on Saturday, Feb. 25 at 1:30 p.m. in the 14th floor chapel at the Clinical Center. The family requests that, in lieu of flowers, contributions be sent to the UCSD Cancer Center Foundation, H-233, 220 Dickinson St., San Diego, CA 92103-1990.

Whitlock, Former Branch Chief, Dies

Joseph G. Whitlock, Jr., retired chief of the Telecommunications Branch, Division of Technical Services, Office of Research Services, died of cancer on Jan. 14.

Whitlock began his 24-year NIH career in 1965. He spent all his career in the Telecommunications Branch. He was promoted to chief of the communications section, TCB, in March 1971 and was chief of the Telecommunications Branch from December 1980 until his retirement last September.

Prior to his NIH career, he spent 22 years in the U.S. Navy, retiring as a chief hospital corpsman.—Ed Brown

Learn English Country Dancing, American Contra Dancing

The class will introduce and teach two forms of line dances. English country dancing originated in England and dates back to the 17th century. American contra dancing originated in barns and churches in New England. The classes will be held once a month on the following Thursday evenings: Feb. 16 and Mar. 9 from 7:30 to 9:30; Apr. 13 and May 18 from 8 to 10. All of these classes will be held in Bldg. T-39. Sign up today at the R&W Activities Desk in Bldg. 31 to attend one or more of the sessions. Call Dan Seigel, 496-1331, for more information. □



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The NIH Training Center of the Division of Personnel Management offers the following:

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Personal Computer training is available through User Resource Center (URC) self-study courses. There is no cost to NIH employees for these hands-on sessions.

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Black History Month Observed

The national observance of Black History Month takes place every year during February. The NIH 17th Annual Black History Observance will be held on Friday, Feb. 24, from 11:30 a.m. to 1 p.m., in Masur Auditorium, Bldg. 10.

The program will feature Dr. Charles S. Finch, III, noted physician, historian, and educator from Morehouse School of Medicine; Roy Ayres, noted jazz musician; and Rejoice, Caribbean and gospel singers. For further information, please contact Denise Banks or Irene Peyton, Division of Equal Opportunity, 496-6301. □

Dyslexic Men Needed

NIMH seeks dyslexic men, 18 to 35 years old, with a history of serious reading disability for a study of brain activity. Must be a native English speaker and have normal hearing. Contact Mary or Ashley, 496-3175. □

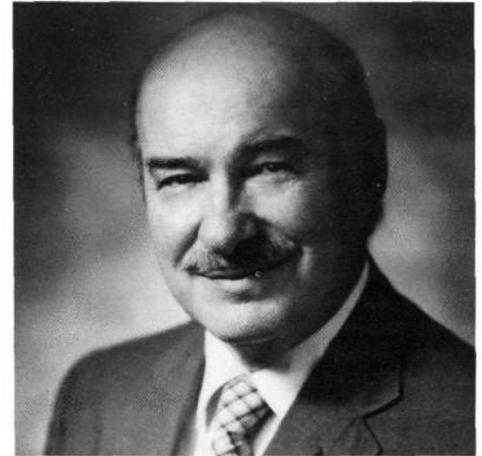
LeRoy Kerney, CC Chaplain Chief, Dies

LeRoy G. Kerney, chief of chaplains at the Clinical Center since 1963, died at his home in Rockville on Jan. 13. A nationally recognized leader in the field of pastoral care, Chaplain Kerney began his ministry in 1945 as a student chaplain at Elgin State Hospital in Elgin, Ill., under the supervision of Dr. Anton Boisen—founder of the clinical pastoral education movement.

Ordained to the ministry of the Evangelical United Brethren Church in 1948, Kerney subsequently served as a chaplain at the Episcopal Hospital, Louisville, Ky., and the Manteno State Hospital, Manteno, Ill. He also served tenures as pastor of the United Brethren Church in Naperville, Ill., and First United Brethren Church of Manhattan, Ill. In 1948, Kerney came under the supervision of Dr. Earnest E. Bruder at St. Elizabeths Hospital in Washington and was subsequently made a certified supervisor of clinical pastoral education.

Kerney's distinction as a chaplain has been earned through 40 years of service. In 1956 he became professor of pastoral care and supervisor at the Institute of Religion, Texas Medical Center in Houston. He remained at that institution until his appointment to NIH in 1963. He has lectured at McCormack Theological Seminary, Methodist School of Nursing in Houston, at Baylor School of Medicine, and at George Washington University in Washington. Kerney received his bachelor of arts degree in 1945 from Westmar College, LeMars, Iowa, and the bachelor of divinity degree in 1946 from Evangelical Theological Seminary in Naperville. In 1963, Kerney received the master of arts degree from the University of Chicago.

Through the years at NIH, Kerney has served as a member of Institutional Review Boards in the institutes of cancer, neurology



Chaplain LeRoy Kerney

and diabetes. He is a past president of the College of Chaplains of the American Protestant Health and Welfare Assembly. An early member of the College of Chaplains (a national certifying group for clergy in chaplaincy) he was honored by its membership at its last national meeting in San Francisco in March 1988, with the Distinguished Service Award. At that convention, Kerney delivered the college keynote speech at the Russell Dicks Memorial Lecture entitled, "The Art of Ministering to the Sick: Touchstone to the Future."

Kerney was a native of Iowa where his father was a minister of the Evangelical United Brethren Church. He is survived by two daughters, Dr. Suzanne Kerney of Rockville, and Mrs. Sarah Gunnarson of Fairfax; two son-in-laws and one grandson, Caleb Kerney of Rockville. Kerney's wife of nearly 40 years preceded him in death in 1984.

Do You Work With Monkeys?

Herpes B virus is a common monkey virus that causes few symptoms in monkeys but can rarely cause severe illness in people who are exposed to monkeys. However, some people may carry the herpes B virus without knowing it. A group of NIH scientists is conducting a study to determine by a blood test how common this virus is in people who handle monkeys.

If you have contact with monkeys, either occasionally (i.e., in the course of scientific experimentation) or routinely, and are interested in participating in this study, please call 496-5265. □

Allergy Volunteers Wanted

The Laboratory of Allergenic Products, Center for Biologics Evaluation and Research, FDA, is seeking volunteers with spring and/or fall hayfever, or allergies to dust, animals, pollens, molds or food to participate in studies to evaluate the potency of allergenic extracts. Individuals known to be allergic to peanuts are especially needed. Volunteers will be asked to complete a questionnaire. Selected subjects will undergo skin testing with commercial and/or investigational allergenic extracts.

Interested individuals should send a request for a questionnaire to Dr. Paul C. Turkeltaub or Marialice White, Bldg. 29, Rm. 201. □

Drug Testing Approved

Process Begins To Make NIH a Drug-free Workplace

By Anne Barber

The quest to make DHHS a drug-free workplace has begun. Former Secretary Otis T. Bowen signed a memorandum in December, which was distributed recently to all employees, stating his approval of a drug-free workplace plan for all HHS.

"This department, as the nation's leader in drug abuse prevention, education, research and treatment," he said, "should take the initiative to deter illegal drug use and to assist in the rehabilitation of drug-using employees.

"Our intent is to offer assistance to those who need it," he continued, "while sending a clear message that illegal drug use is incompatible with employment in HHS."

The plan, which is available for review from your personnel office, explains how random testing will be handled, the positions identified for testing, along with education and rehabilitation offered through the Employee Assistance Program.

The plan identifies 80 different job series within HHS that are subject to random testing for marijuana and cocaine. Employees in these series number approximately 8,600 for the department.

NIH has approximately 2,500 persons in designated positions. HHS will select 10 percent of those, 250, to be randomly tested annually.

Most of the testing designated positions involve health care and medical research, based on direct patient care or handling of hazardous or sensitive materials. Security personnel, such as police and some fire positions, and those operating hazardous equipment are also included.

Random testing will not begin until at least 60 days after the issuance of Bowen's memorandum. Additionally, a specific notification must be sent at least 30 days prior to any testing of individuals who are in the targeted testing positions.

In addition, drug tests will be administered to applicants for jobs in the targeted positions as well as employees identified through "reasonable suspicion."

"The HHS plan," said Bowen, "includes assurances of privacy in the testing process and for test results."

The plan also calls for any positive test results to be reviewed by a Medical Review Official to determine if there are any valid factors, other than illegal drug use, that could cause the test to show positive, for example, prescription drugs.

"Drug testing is but one aspect of the HHS

plan for a drug-free workplace," says Thomas S. McFee, assistant secretary for personnel administration, DHHS.

"While only a small percentage of all employees will come in contact with the drug testing portion of the plan, drug education, supervisory training and the Employee Assistance Program are available to all employees," he said.

"We (NIH) already have active educational programs going on through our Occupational Medical Services. We have the capability and have been doing referral testing in the past, but not random testing," says Stephen Benowitz, director of the Division of Personnel Management. "And this all started before the (drug testing) plan itself."

The Employee Assistance Program is part of OMS' Employee Counseling Service headed by medical director Dr. Barbara P. Wasserman.

"We expect OMS to continue to provide education and rehabilitation as they have been doing in the past," he continues, "and under the same structure basically."

The NIH personnel offices and executive officers, along with the unions, have copies of the drug-free workplace plan.

The plan comes from DHHS; there will not be a separate NIH or PHS plan. HHS was designated as the lead agency for developing testing procedures and plans for all the Federal agencies.

"While DHHS will be monitoring and conducting the overall drug testing program, including hiring contractors for testing and laboratory analysis," says Benowitz, "John D. Mahoney, NIH associate director for administration, is the official coordinator at NIH."

The random drug testing, designed to deter use of illicit drugs on or off the job, is the result of an executive order calling for a "drug-free workplace" signed by former President Reagan in 1986. □

Hospice Lecture Planned

A lecture on "History of Hospice and Its Role in Society," will be given on Friday, Feb. 10 from 2 to 3 p.m. in Lister Hill Auditorium, Bldg. 38A.

Speaking will be Mary Lindberg of the Montgomery Hospice Society. Sign language interpretation will be provided at this event, which is sponsored by NLM's EEO subcommittee on drug abuse/health issues. □



NIA communications officer and 26-year NIH Credit Union member Dan Rogers uses the newly operational lift to ascend the staircase that once hampered disabled employees' use of credit union facilities. Operated by a special key issued by the handicap program, the lift takes about 3 minutes to ride and marks the successful completion of a 5-year project of the handicapped employees committee. To obtain a key, disabled employees may call Joan Brogan, 496-2906.

Seminar on Animals in Research

"Animal research." These days, those two words can spark heated controversies and draw angry protests—sometimes to the NIH campus.

On Feb. 15, the NIH Science Writers Guild hosts an hour-long seminar about the animal research situation facing biomedical scientists and their institutions. "Getting Out the Word About the Need for Animal Research," will be held in Bldg. 31, Conf. Rm. 6, beginning at 11:30 a.m. Speaking about the topic will be Storm Whaley, NIH associate director for communications, and Frankie Trull, president of the Foundation for Biomedical Research, a scientists' organization based in Washington, D.C.

Among the questions to be discussed are: How can you inform the public about the benefits of animal research? How should a scientific organization handle a protest by an animal rights group? What does the public really think of animal research?

The Science Writers Guild invites all those interested to attend the session. Anyone wishing more information can contact Louise Williams, NINDS, 496-5924. □