

THE NIH RECORD

Still The Second Best Thing About Payday

NIH Observes American Indian, Alaska Native Heritage

NIH held its second annual American Indian/Alaska Native Heritage Month observance recently at the Natcher Conference Center's main auditorium. The trans-NIH event was organized by the

American Indian/Alaska Native Employee Council (AIANEC) and sponsored by many ICs as well the Office of Equal Opportunity and Diversity Management.



Samuel Tom Holiday, a Navajo "code talker"

NHLBI's Frank L. GrayShield, a member of the Washoe tribe who serves as president

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NIH Health Fair Attracts Record Number of Participants

NIH recently held its fourth free community health forum—Share the Health: An Exposition of Health Resources from NIH to Its Neighbors—and attracted more visitors than ever. Sponsored by the Office of Community Liaison, the event, held at the Natcher Conference Center, drew more than 700 people. Participants took part in free health seminars, vision and blood pressure screenings, children's activities, exhibits, tours, workshops and more. The purpose is to provide the latest NIH research and health information to its neighbors and local community members.

"As the world's leader in biomedical research, NIH is a great resource for the community to find out about the latest health and disease prevention research," said OCL director Dr. Tom Gallagher.

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U.S. Department of Health and Human Services National Institutes of Health

January 7, 2003
Vol. LV, No. 1

At Sixth Shannon Lecture

Kennedy Surveys Borderlands of Public, Private Knowledge

By Rich McManus

Standing atop the dual promontories of editor-in-chief of *Science* magazine and president emeritus of Stanford University, Dr. Donald Kennedy surveyed both the positive and unintended negative consequences of exposing the frontiers of knowledge—formerly regarded as a public province—to private parceling in the sixth annual James A. Shannon Lecture on Nov. 20. He argued that the Bayh-Dole Act of 1980, enacted to stimulate the transference of the fruits of public research into marketable products, has had largely the same effect on the "knowledge commons" or intellectual frontier, that the Homestead Act of 1862 had on public lands of the American West, settled and made productive during the 19th century. Both acts reordered sensitive ecosystems which, viewed in retrospect,



Dr. Donald Kennedy (l) meets NIH artist Al Laoang, who drew his portrait.

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T.K. Li Joins NIAAA as Director

By Charlotte Armstrong

In the course of a distinguished research career, newly arrived NIAAA director Dr. T. K. Li has been at the center of advances that have transformed both the way alcoholism is understood and the means of investigating alcohol's effects on the body and brain. Along with scientific achievements for which he is internationally recognized, he brings to the directorship long experience as a director of a major alcohol research center, a leader in the alcohol research community and an advisor to NIAAA and NIH.



Dr. Ting-Kai Li

A major focus of his research has been to characterize the structure and dynamics of the multiple genetic variants of alcohol dehydrogenase (ADH), the

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Participants said the forum was one of the best. "I have attended the last three events, and each just keeps getting better," said one attendee. Others agreed, calling the event a "great service" to the community. Some even boasted that the health seminars were "better than a visit to a doctor."

Topics at the forum included osteoporosis, treating chronic pain, the safety of herbal medicine, sleep and sleep disorders, nutrient needs of older adults,



Share the Health participants collect the latest health information from NIH institutes.

women and depression, vitamins and age-related eye disease, advances in the treatment and prevention of stroke, quality of life at the end of life, managing chronic diseases, alcohol and the brain, cochlear implants, biodefense, racial and ethnic health disparities and oral complications of cancer therapy.

With exercise as a major theme, keynote speaker Dr. Richard Hodes, director of the National Institute on Aging, stressed the importance of exercise at all ages of life. Providing examples and giving demonstrations, he explained how exercise is key to staying healthy. Participants also got expert guidance from exercise guru Margaret Richard, producer and host of PBS-TV's *Body Electric* program. She



NIA volunteers including Jeannine Mjoseth (l) demonstrate proper exercise techniques during Dr. Richard Hodes' keynote presentation.

led visitors in several muscle-toning workshops.

OCL was determined to reach a broader audience than in years past. An activity center provided mini-workshops for children and teens. Kids had the opportunity to listen to Mr. Bones, the skel-

eton, teach about the importance of strong bones; hear life-sized puppets talk about asthma, diabetes and attention deficit and hyperactivity disorder; and meet the National Capital Therapy dogs who provide patient therapy. "I see more and more young adults and youngsters attending—keep expanding your efforts to reach out to more age and ethnic groups," recommended one attendee.

Organizers have also made an effort to provide health information in Spanish. The event offered workshops on NIMH's Spanish Health Initiative and on the Spanish-language debut of NIH's consumer online health resource, MEDLINEplus. Spanish-speaking participants also learned how to access health information in both Spanish and

English from NIH's web site.

Community members had their eyes and blood pressure checked; collected health information from exhibits by various institutes and local health-related organizations; and learned how to find reliable health information from the Internet. Everyone enjoyed visits with the "Mad Hatter" (a.k.a. Ed Rau of the NIH Environmental Protection Branch) who gave out mercury-free thermometers and explained why ridding our homes of mercury is important.

"By and large, people had a great time and learned a lot of useful information," said Gallagher. "NIH strives to be a good neighbor, and it is with events such as this that we can continue our commitment to community outreach."

If you missed the recent event, make plans to attend the next Share the Health day on Saturday, Oct. 25, 2003.—Terry LaMotte ■

Tae Kwon Do Beginner's Class

The NIH Tae Kwon Do School is offering a beginner's class for adults and mature teens starting Jan. 27. The curriculum combines traditional striking arts, forms and sparring with emphasis on self-defense. No experience is necessary. Class will meet in the Malone Center (Bldg. 31C, B4 level, next to the NIH Fitness Center) from 6 to 8 p.m. on Mondays and Wednesdays, and will continue for about 2 months until participants can be integrated into the regular school training. Dues are \$40 per quarter and a uniform costs \$30. Interested persons are welcome to watch regular training sessions. For information call Andrew Schwartz, 402-5197 or visit <http://www.recgov.org/r&w/nihtaekwondo.html>. ■

N I H R E C O R D

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. 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 Sept. 30, 2003.

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The NIH Record reserves the right to make corrections, changes, or deletions in submitted copy in conformity with the policies of the paper and HHS.

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NCI's Susan Gottesman To Give Dyer Lecture

While we now know the full sequence of the genomes for humans, mice, brewer's yeast and many bacteria, understanding how and when different portions of the information in the genomes is used will keep scientists busy for many years to come. Under what circumstances is a particular gene transcribed and translated, and once a protein is made, how and when does the cell get rid of it?



Dr. Susan Gottesman

Dr. Susan Gottesman, who presents the annual R.E. Dyer Lecture on Wednesday, Jan. 15 at 3 p.m. in Masur Auditorium, Bldg. 10, has explored two levels at which the expression of genes can be modulated, both active after the messenger RNA for the genes has been made.

The talk, titled "Biological Circuits with Small RNA Switches," will address recent work from Gottesman's laboratory on how small RNA molecules can act to cause the destruction or inactivation of specific messenger RNAs, providing an unexpected level of complexity to regulatory networks.

Gottesman is currently chief of the biochemical genetics section of the Laboratory of Molecular Biology, NCI, where she has been since 1976. She received her Ph.D. at the department of microbiology and molecular genetics at Harvard. She and her husband, Michael (now NIH deputy director for intramural research), first came to NIH as postdoctoral fellows in 1971. Her postdoctoral work on site-specific recombination in bacteriophage lambda with yet another (but unrelated) Gottesman, Max Gottesman, led her to an interest in the *E. coli* proteases that chewed up one of the proteins required for the recombination reaction.

After 2 years at MIT as a research associate, she returned to NIH in 1976 to become a senior investigator in the Laboratory of Molecular Biology, continuing studies on these proteases and their substrates. In collaborations with Michael Maurizi in the Laboratory of Cell Biology at NCI, and Sue Wickner in NCI's Laboratory of Molecular Biology, her laboratory has continued to investigate the ATP-dependent proteases of *Escherichia coli* and their protein targets, studying the mechanism of proteolysis, the basis for target selection and the ways in which unstable proteins are used in regulatory cascades. The architecture and general mechanism of action of the bacterial proteases and their important role in regulating gene expression have proven to be characteristic not only of *E. coli*, but of eukaryotic organisms as well. This work led to her

election to the National Academy of Sciences in 1998 and the American Academy of Arts and Sciences in 1999. Studies on the role of small RNAs in regulation evolved from the work on proteolysis, and illustrate the multiple levels at which a given gene can be regulated. As with the proteases, small regulatory RNAs have recently been recognized as critical regulatory molecules in eukaryotes as well as bacteria.

The lecture honors Rolla E. Dyer, a former NIH director, and is given to a scientist who has made an outstanding contribution to knowledge in a field of medical science. For more information or for reasonable accommodation, contact Hilda Madine, 594-5595.—Tina B. Fobbs ■

Management Intern Program Recruits Candidates for 2003

Outstanding men and women who have a clear interest in and a commitment to a career in public service are encouraged to apply for the 2003 NIH Management Intern (MI) Program. Entering its 46th year, the program—a highly competitive 2-year rotational training opportunity—has graduated dozens of interns, many of whom now hold high-level managerial positions with NIH and other federal agencies.

MI's complete assignments that introduce them to potential administrative career tracks in grants & contracts management, information technology, human resources management, central service management, science policy, program and management analysis, public liaison, legislative analysis, budget and finance, communications, and public information & education.

MI's come from diverse career backgrounds and from positions in administrative offices, intramural research laboratories and patient care. Skills in project management and evaluation; idea and literature research; data collection, analysis and presentation; negotiation; problem solving; and communication are key attributes of successful MI's.

Eligible candidates must be either a current career or career-conditional employee of the Department of Health and Human Services at the GS-5 level or above, or wage grade equivalent or on any other type of appointment that offers noncompetitive conversion during the application period. Recruitment will open on Feb. 10 and close on Mar. 10. Up to five MI's will be selected. To find out more about the program, visit <http://internships.info.nih.gov> or attend one of the information sessions that will be held from 11:30 a.m. to 1:30 p.m. at the following locations:

Jan. 29
Bldg. 31
Conf. Rm. 7

Feb. 6
Executive Plaza North
Conf. Rm. H
6030 Executive Blvd.

Jan. 30
Clinical Center (Bldg. 10)
Medical Board Rm. 2C-116

Feb. 11
Neuroscience Center
Rm. B1 & B2
6001 Executive Blvd.

Feb. 5
*Natcher Bldg. (Bldg. 45)
Conf. Rm. F1/F2

Feb. 12
Rockledge II
Conf. Rm. 9100
6701 Rockledge Drive

*Session will be videoconferenced to Fort Detrick, NIEHS and NIA-Baltimore. ■



NIH recently welcomed five new management interns (from l) Sharon Ballard, Dominica Roth, Jorge Zapata, Amy Blackburn and Chris Chavis.

HERITAGE, CONTINUED FROM PAGE 1

of AIANEC, welcomed the audience and introduced Clayton Old Elk, a Crow tribal member and Indian Health Service employee who provided the invocation and thanked NIH for hosting the event.

"American Indian and Alaska native contributions to U.S. society have been numerous and significant,



Bill Crouse (r) demonstrates use of the traditional "water drum" during a performance by the Allegany River Dancers.

PHOTOS: BILL BRANSON

ranging from the use and development of herbal medicines, to participation in research studies that led to the development of vaccines for hepatitis B and influenza," said NIH deputy director Dr. Ruth L. Kirschstein, in opening remarks. She talked about her own and NIH's many collaborations with American Indians in pursuit of biomedical research.

Dr. Jared B. Jobe of NHLBI, a Cherokee, introduced keynote speaker A. Paul Ortega, Mescalero Apache and a traditional healer. He is a former member of the NIH advisory board on alternative medicine and also former director, Traditional Medicine Initiative, IHS. He spoke with first-hand experience on the program's theme "Embracing Traditions for a Brighter Future: A Bridge to Scientific Research."

The audience also enjoyed a special treat—a talk by Samuel Tom Holiday, a Navajo "code talker" who served with the Fourth Marine Division, 25th Regiment, H&S Company during



A. Paul Ortega, a member of the Mescalero Apache, spoke about traditional medicine. He is a recent IHS retiree.



The Allegany River Dancers perform an intertribal "pow wow" style dance. The group specializes in Iroquois social dance presentations, and has performed throughout the U.S. and Canada.

World War II. He participated in the campaigns on the islands of Roi-Namur, Tinian, Saipan and Iwo Jima. Holiday was awarded the Congressional Medal of Honor, signifying bravery and valor of the highest standard.

The program was closed by Dr. Clifton A. Poodry of NIGMS, a Seneca who introduced the Allegany River Dancers led by Bill Crouse. The audience enjoyed a performance of Iroquois social dance as well as their repertoire of intertribal "pow wow"-style dances.

To learn more about AIANEC, contact Frank GrayShield at 594-2373 or Cheryl White at 496-3350.—Michael Chew ■

Annual King Program Scheduled, Jan. 16

Former Virginia Governor L. Douglas Wilder, a distinguished professor at Virginia Commonwealth University (VCU), will be the keynote speaker for NIH's annual Dr. Martin Luther King Jr. Commemoration Program on Thursday, Jan. 16 at 11:30 a.m. in Masur Auditorium, Bldg. 10. The theme of the observance is "A Lesson in Peace that Cannot Be Erased." Music by Wydell L. Croom is also featured.



Douglas Wilder

A milestone was achieved on Jan. 13, 1990, when Wilder was sworn in as the first elected African-American governor in U.S. history. What made the event even more extraordinary was that he was elected in Virginia—the centerpiece of the Confederacy during the Civil War—where African Americans constitute less than 20 percent of the population.

Since leaving the governor's mansion, Wilder, who serves as professor at VCU's Center for Public Policy and its department of political science, has also been involved in development of the National Slavery Museum in Fredericksburg, Va., which will focus on education and will include lecture halls, an auditorium, classrooms and a library of about 250,000 books.

Sign language interpretation will be provided. For reasonable accommodation or more information about NIH's observance, call Levon Parker of NINDS, 496-5332 or Kay Johnson Graham of NIDCD, 402-6415.

Electron Microscope Leaves Bldg. 7 for History

Workers recently winched an electron microscope out of the sub-basement of Bldg. 7 through a trap door and into NIH history. The rigging company used the same supporting bolts from when the microscope was first lowered into the cramped basement in the mid-1960s.

The scope, a Siemens 1-A, was used in many groundbreaking experiments. In 1972, Dr. Albert Kapikian of NIAID and coworkers discovered the Norwalk virus on the microscope. The virus was the first to be associated with viral diarrheas. The Norwalk and Norwalk-like viruses are now considered to be the major cause of non-bacterial epidemic diarrhea around the world. Because the virus did not grow in any tissue culture system, Kapikian and colleagues used a technique called immune electron microscopy, which led to the virus' discovery by enabling it to be seen and showing that individuals who were infected with the virus developed antibodies to it.

Drs. Stephen Feinstone, Kapikian and Robert Purcell discovered the hepatitis A virus with the same technique in 1973. Kapikian and colleagues also visualized rotavirus, which was discovered by others in Australia, for the first time in the United States on this electron microscope. These viruses have emerged as the single most important cause of diarrhea in infants and young children around the world.

The electron microscope was also used as an epidemiologic tool in studies of specimens from various parts of the world. Pinpointing the viruses responsible for diseases enabled researchers to gather information about the viruses, to develop additional tests and to begin to develop vaccines for them.



NIAID's Dr. Albert Kapikian (l) and technician Siemer Siems prepare to bid microscope farewell.

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Siems kept the microscope working for 30 years.

The microscope was in working condition until the day it was dismantled. Kapikian praised technician Siemer Siems, who had kept the microscope in excellent condition for about 30 years. Siems changed filaments or fixed the microscope when called, day or night. With some regret and reminiscing, Siems skillfully took the microscope apart in Bldg. 7 for the move and reassembled it in the storage area of the DeWitt Stetten Jr. Museum of Medical Research. The museum hopes eventually to be able to exhibit this important microscope.—

Michele Lyons ■

Course on 'Demystifying Medicine' Starts

A weekly course titled "Demystifying Medicine" begins Jan. 7 and continues through May 27. It is primarily for Ph.D. students, postdoctoral fellows and staff. Physicians and other students are also welcome to participate.

Building on a similar class last year, the goal is to help bridge the ever-widening gap between advances in basic science and their application to human disease. The course is designed to "demystify medicine" for basic scientists through clinical presentations of patients, pathology and relevant diagnostic and therapeutic advances.

There is no fee, but registration is requested to avoid overcrowding. All sessions are held from 4 to 6 p.m. on either Tuesdays or Thursdays in the ground floor auditorium, Bldg. 50. The winter segment of the schedule is as follows:

Jan. 7, Hepatitis C: The Virus and Epidemic Chronic Liver Disease and Cancer, by Drs. Harvey Alter and Jake Liang.

Jan. 14, HIV/AIDS: The Virus, Disease and Therapeutic Advances, by Drs. Cliff Lane and John Coffin.

Jan. 23, Hospital-acquired Infections: Mechanisms and Vaccines, by Drs. David Henderson and John Robbins.

Jan. 30, Hepatocellular Cancer: Disease, Detection, Mechanisms and Treatment, by Drs. Win Arias and Curtis Harris.

Feb. 4, Multiple Sclerosis and Other Demyelinating Diseases, by Dr. Henry McFarland and colleagues.

Feb. 13, Parkinson's Disease: Disease, Genetics and Mechanism, by Drs. Mark Hallett and John Hardy.

Feb. 20, Aging: Patients, Cells and Mechanisms, by Drs. Richard Hodes and Fred Dice (Tufts University).

Feb. 27, Atherosclerosis: Coronary Artery Disease, Stroke, by Drs. Toren Finkel and Steven Warach.

For registration or more information, email Dr. Win Arias at iarias@helix.nih.gov.

Volunteers Needed

An NIH study is seeking individuals currently taking an anti-depressant (Wellbutrin). Participants will be asked to donate 4 tablespoons of blood for routine screening and evaluation of platelet function. The visit will be no longer than an hour and compensation is provided. Call Donna Jo McCloskey for more information and to schedule an appointment, 496-5150. ■

SHANNON LECTURE, CONTINUED FROM PAGE 1

forfeited some integrity or at least some cultural coherence.

The Shannon Lecture always focuses on science's public policy implications, and Kennedy is well-positioned to comment; he is a former commissioner of the Food and Drug Administration and a former NIH grantee. Indeed he told one guest at a reception following his lecture that an NIH grant, won shortly after he earned a doctorate in biology, "saved my life."

"My first NIH grant had only four digits," he joked at the outset of his talk, titled, "A Second Post-War Revolution in Biomedicine." He said

former NIH director Shannon and NIH "were symbols of hope for a generation of scientists." Following World War II, the United States made "a remarkable choice." It decided to divert its postwar economic might, including a huge investment in military research, into biomedical research, much of it basic. "No other industrial democracy made a similar decision."

The idea was that publicly financed research would create a huge "knowledge infrastructure" out of which industry could choose nuggets for private investment. "This was a wise thing to do," said Kennedy. "It transformed a research enterprise that had been the province of a small elite into a vast public enterprise...an 'endless frontier.'" The "decanting" of research resources toward health from the military was postwar revolution number one.

He likened unexplored intellectual territory to the yet-unclaimed physical spaces of the American West in the 1800s. The intellectual frontier, or "knowledge commons," was for years "largely publicly owned and managed." But just as the Homestead Act, which offered essentially free use of lands, and eventually ownership, to settlers who could improve their lots, the Bayh-Dole Act has had the effect of "enclosing" the knowledge commons, said Kennedy. With Bayh-Dole, the government relinquished its right to patent claims on the inventions of its grantees. The goal was to spur "technology transfer" by enabling federally supported scientists to patent and license their discoveries.

"It worked, sort of," observed Kennedy. "Like mushrooms after heavy rains, technology transfer offices sprang up in academia." With the incentive of royalty income, scientists abandoned the purity of the Ivory Tower. "There was a proliferation of start-

ups, many peopled by faculty who profited by Bayh-Dole," said Kennedy.

The transformation of science into a deliberately profit-oriented enterprise was pushed further along by tax law changes in the late 1970s that reduced taxes on capital gains and offered more deductions on capitalization of research, Kennedy explained. A flood of venture capital ensued.

At Stanford University today, some 60 faculty are involved in more than 100 companies, he said. "The proportion of basic research done in the proprietary sector rose dramatically, due to powerful economic incentives...The research portfolio became as important as one's business plan." Landing a paper in as respected a journal as *Science* became not only academically, but also financially rewarding, even prospectively so: "Papers in *Science* came to have street value...Companies that were years away from having a product were valued by how their labs were perceived, how prestigious they were.

"Bayh-Dole is the Homestead Act of our time, along with accompanying statutory changes in the tax laws," said Kennedy. "Unclaimed spaces in the knowledge commons are filling in."

Benefits from this new enclosure are sundry, he allowed. "It's good to see papers in *Science* from company researchers rather than from MIT and Johns Hopkins," he noted wryly. He credits Dr. J. Craig Venter's hugely expensive private effort to map and sequence the human genome as another advantage of the new economic landscape (Venter is a former NIH scientist who took his ideas and ambitions to the private sector).

But there are costs, too, to Bayh-Dole, Kennedy warned. "There are serious problems for our venture that have fallen on scientists, institutions and journals," he said. "The erosion of easy communication among scientists, which used to be common, has been disappointing to me." Universities, whose technology licensing offices began with cautious guidelines, have become far more aggressive than ever anticipated, he said. Two years after Bayh-Dole passed, he related, the presidents of five research universities met to hammer out "guidelines for the new universe." They established three major principles: agreements between universities and industry were to be public; licensing was to be nonexclusive whenever possible; and coinvestment on the part of investigators with universities was forbidden—"schools shouldn't go into business with their faculties." Nowadays, the latter situation is common, Kennedy said. "Of the three principles, only the first is still reasonably intact."

He warned of other dangers: graduate students coerced to work on behalf of faculty company projects, conflicts of interest (objectivity sacrificed to profit pressures), the invariable muddying of such issues as space, salary and promotion. "Scientific



Dr. Cyrus Creveling (l), president of the NIH Alumni Association, presents Kennedy with a plaque in honor of the Shannon Lecture. The NIHAA hosted the talk, along with NIDDK and OD; sponsors were NIMH and the NIH Federal Credit Union.

exchange, too, is hurt," Kennedy continued, by the proliferation of technology licensing offices. MTAs, or material transfer agreements, "are increasingly burdensome legal documents—most researchers would like to be free of them." He quoted Stanford's Nobel laureate Dr. Paul Berg: Bayh-Dole has engendered "onerous barriers to the free exchange" of ideas and materials.

Journal editorship, too, has become a tougher enterprise; Kennedy gently called the results of the new profit orientation "a little odd and unexpected." For example, *Science* requires authors to provide cell lines and reagents to other scientists. What happens when a third party acquires the materials with a view to commercializing them? What about a company researcher who refuses to publish if coerced to share materials?

Papers in the agricultural sciences are particularly affected by issues involving trade secrets vs. openness, Kennedy reported. A new requirement of some journals is a "conflict statement" in which authors disclose links to industry, he said.

"There is a new public suspicion about our enterprise," Kennedy continued. Universities used to enjoy a more lofty status, and were seen as providing a valuable social function, he said. "This preferred status is eroded at the edges when we're perceived to be in business—and to be rather good at it."

The major research universities earned the same deference as Big Oil when it came to tax lobbying on Capitol Hill in the late 1980s, he noted. Like multinational corporations, universities run the risk of encouraging student unrest as they are seen more as economic powerhouses than as solvers of the world's problems. "This might become the hardy perennial of student resentment," he said, citing protests about high-cost drugs discovered with public money. "Universities pay a public-image price in their overeager response to Bayh-Dole."

Kennedy returned to the Homestead Act to find a remedy for the current dilemma. The act was very effective at the beginning, as settlers moved West, first to the corn belt and prairie grasses, then to the wheat belt and the range. In the ideal situation, yeoman farmers thrived. But the mountains brought more serious problems for settlers and few staked mountain claims, which were hard to lay out. Mining and railroad interests gained control of huge parcels, often without offering any improvements. Late in the game, forests and parkland were ceded back to the government as privately unprofitable, which gave rise to a generous network of national parks.

Kennedy sees much the same sort of endgame playing out in Bayh-Dole, predicting continued border skirmishes and sectoral hostility, and continued capture of public value by private interests.

"Private entities can seal off public information," he said. "It's already evident in the plant sciences," he noted, warning that there might eventually be private "hijacking" of some germplasm.

He concluded by reminding the audience of the wisdom of an old English poem, once read on the floor of Congress: "The law will punish man or woman/ Who steals the goose from off the common,/ But leaves the greater felon loose/ Who steals the common from the goose." ■

Ambassador Bushnell Visits NIH

Ambassador Prudence Bushnell visited NIH recently at the invitation of the Fogarty International Center. In a special "meet the ambassador" session held at the Stone House, Bushnell spoke about her experiences as ambassador to Guatemala and Kenya, where she was posted at the time of the embassy bombing there, and as a senior diplomat in India, Senegal and within the main State Department complex in D.C.



Bushnell was an early and ardent advocate on the AIDS issue within the Department of State, recognizing the importance of global health issues and the particular role of diplomats in achieving progress to address them. As ambassador, she worked to strengthen labor reform and women's issues among others.

She is currently dean of the school of leadership and management at the State Department's National Foreign Affairs Training Center in Arlington, Va., which provides training to senior U.S. diplomats going abroad. FIC is working with her and continues to work with others within the Department of State to identify ways to advance biomedical research efforts through diplomacy and U.S. foreign policy. ■

Ambassador Prudence Bushnell (c) visited NIH recently at the invitation of the Fogarty International Center, whose director, Dr. Gerald Keusch, greeted her, along with FIC deputy director Dr. Sharon Hrynkow.

Computer Classes

All courses are given without charge. For more information call 594-6248 or consult the training program's home page at <http://training.cit.nih.gov>.

XML Basics	1/8-9
Windows XP – What's New	1/9
Account Sponsor Orientation and Workshop	1/14
Software Engineering for Project Managers	1/14
Flash Fundamentals	1/15
Getting Started with the SAS Output Delivery System	1/15
Creating Presentations with PowerPoint for the PC	1/15
Active Directory at NIH for Network Administrators & Developers	1/16



Dr. Brian Pike recently joined NIGMS as a scientific review administrator in the Office of Scientific Review. His responsibilities include managing the review of selected training, Minority Opportunities in Research and specialized center grant applications. He was formerly a research assistant professor in the department of neuroscience at the University of Florida College of Medicine, where his research interests focused on nerve cell injury and cell death. He earned a B.S. degree in psychology and a Ph.D. in biological psychology from Virginia Commonwealth University. Pike then conducted postdoctoral research in the department of neurosurgery at the University of Texas Health Science Center at Houston.

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enzyme that catalyzes the first step in the metabolism of ethanol. The speed with which ethanol is metabolized is an important determinant of its physiologic and pathologic effects. Genetic variants of the enzymes involved in the process are thus important factors in determining risk for alcoholism and in understanding the genetics of alcoholism. Li was honored with a MERIT award for research on the molecular basis of differences among individuals in the physiology of these enzymes.

He also pioneered the development of animal models in which marked differences in the level of voluntary alcohol consumption could be observed, paralleling the same inborn variation seen in human behavior. The development of these animal lines helped cement the once radical notion that alcohol consumption behavior was genetically influenced. The fact that animal lines could be created to manifest contrasting behaviors demonstrated that genetic influence was at play.

Beyond that, scientists have gone on to study in these animals the behavioral aspects, neurophysiology and genetics of the response to alcohol. Current knowledge of the roles of neurotransmitters in the response to alcohol and how they are involved in intoxication, addiction and withdrawal emerged from studies with animals that varied in their appetite for alcohol. Genetic insights derived from animal studies set the stage for the search for genes in humans that would influence sensitivity to alcohol and the risk of developing alcoholism in someone who drinks.

Li has been integrally involved in the spectrum of investigations that have spun off from these animal studies. Before coming to NIAAA, he directed the institute-sponsored Indiana Alcohol Research Center (IARC) at the Indiana University School of Medicine where he also served as associate dean for research. The research focus of the center is the genetic determinants of alcohol consumption, including ongoing research on the dynamics of alcohol and aldehyde dehydrogenases.

IARC is also one of the sites of NIAAA's Collaborative Study on the Genetics of Alcoholism (COGA), a consortium of centers whose aim is to identify specific genes that underlie vulnerability to developing alcoholism. Li has been a key investigator in COGA, which has to date identified several possible chromosomal locations for alcoholism-related genes. He has also been centrally involved in NIAAA's multidisciplinary Integrative Neuroscience Initiative on Alcoholism, an effort to integrate knowledge from multiple lines of inquiry to understand the changes in the brain that occur with chronic drinking.

Li brings to NIAAA this depth of research expertise and a long record of involvement in the alcohol research community and NIH. He has served on the

National Advisory Council on Alcohol Abuse and Alcoholism and other NIAAA advisory groups and on the advisory committee to the director, NIH. He has been president of the Research Society on Alcoholism (RSA) and was, until recently, editor of RSA's journal, *Alcoholism: Clinical and Experimental Research*. Among his honors and awards, Li is a recipient of RSA's Award for Research Excellence, the Jellinek Award and the James B. Isaacson Award for Research in Chemical Dependency Disease. He is a member of the Institute of Medicine.

Born in Nanjing, China, Li earned his undergraduate degree from Northwestern University and his M.D. from Harvard. He worked and studied at Peter Bent Brigham Hospital in Boston and was named chief medical resident there in 1965. He also conducted research at the Nobel Medical Research Institute and Karolinska Institute in Stockholm and served as deputy director of the department of biochemistry within the Walter Reed Army Institute of Research before joining the faculty at Indiana University as professor of medicine and biochemistry.

In introducing Li recently to NIAAA's national advisory council, NIH director Dr. Elias Zerhouni said "his unparalleled scholarship and proven leadership abilities will enable NIAAA to continue to capitalize on the diverse scientific opportunities in biomedical, clinical and prevention research."

"I am honored to have been selected as the new director of NIAAA," says Li. "The field of alcohol research is ripe with many promising opportunities. It is exciting to contemplate where these opportunities will take us. Moreover, I feel very fortunate to be coming to NIH at a time when, perhaps more than ever before, scientists are recognizing the inter-relatedness of so much of the scientific enterprise and the wisdom of working together across disciplines. Studies conducted over the last 25 years have shown that multiple biologic and environmental factors influence the spectrum of alcohol problems. Thus, to provide the knowledge base for more effective treatment and prevention strategies, it is essential that we pursue collaborative studies that cut across disciplinary lines." ■

Sons of Italy Offer Cookbook

The NIH Lodge, Order Sons of Italy in America #2547 has recently published a cookbook. It has many great recipes and would be a fine addition to any kitchen. Copies can be obtained for \$12 each or 10 for \$100. If interested call Nina Baccanari at (301) 869-4045 or Cathy Battistone at (301) 320-4529. The OSIA Lodge at NIH was chartered in October 1983 and plans to celebrate its 20-year anniversary sometime during 2003. ■

Florence Mahoney, Advocate of NIH and NIA, Dies at 103

Florence Stephenson Mahoney, 103, a lifelong champion of health research and an unfaltering advocate for NIH and the National Institute on Aging, died Nov. 29 in her home in Georgetown.

"This extraordinary woman helped create the modern National Institutes of Health and the National Institute on Aging," said Dr. Richard Hodes, NIA director. "Her intellect and enthusiasm also sparked the development of other NIH institutes such as the national institutes on arthritis, child health and mental health. Like many others, I admired her enormously."

As a young woman, Mahoney pursued premedical studies in Battle Creek, Mich., and in New York City, where she also worked in a children's hospital. Before she completed a degree, she met and married Daniel Mahoney, publisher of influential Democratic newspapers in New York. Mrs. Mahoney parlayed this journalism connection into a role in Washington, D.C.'s power structure while the couple commuted to D.C. from their homes in New York and Miami.

In the late 1930s, the progressive Mrs. Mahoney lobbied for mental health and birth control programs in Georgia with Margaret Sanger and in 1938, the duo asked the Pope to remove his edict against birth control.

In the 1940s, Mrs. Mahoney joined forces with Mary Lasker, who was married to Albert Lasker, a wealthy advertising mogul. With Mrs. Mahoney's encouragement, the Laskers formed the Albert and Mary Lasker Foundation to support biomedical

Mouse Muscles Restored via Gene Delivery

Scientists have discovered how to reverse muscle degeneration in a mouse model of Duchenne muscular dystrophy, a genetic disorder in which muscle cells become progressively more damaged and die. Researchers at the University of Washington, supported by NIAMS, along with researchers at the University of Michigan, supported by NIA, have devised a way to revitalize wasting muscle by using a special carrier to introduce the missing dystrophin gene into the diseased muscle tissue. Dystrophin is required to maintain muscle.

Using a strain of mouse that lacks the dystrophin gene, Dr. Jeffrey S. Chamberlain in Seattle, and Dr. Susan V. Brooks in Ann Arbor and their colleagues injected affected muscles with the missing gene, using a special adenovirus vector, or carrier. The muscles became more able to resist injury and muscle function was restored. The finding could eventually lead to gene therapies for patients with Duchenne muscular dystrophy.

The key to the study's success was the modified adenovirus vector. Previous attempts to inject an adenovirus with an abbreviated form of the dystrophin gene produced promising results, but the

research.

The philanthropic alliance between Mahoney and Lasker helped NIH become a world-class medical research institution. Eventually, Mahoney emerged as a special advocate for aging and mental health research while Lasker crusaded for cancer research.

Mahoney tirelessly argued for federal support of health research: in the White House, before congressional committees, and in her own home at her legendary dinner parties. She convinced congressional budgeters that funding health research could actually save money and lives. An unpaid lobbyist for decades, she shared her views with politically powerful senators such as Claude Pepper, Ernest Hollings, Lister Hill and Thomas Eagleton as well as many Presidents beginning with Harry Truman. The Kennedys and Carters also were Mahoney's friends.

In the 1960s, Mahoney began to push for a separate institute on aging at NIH. The goal, she said, was not to add years to life, but to add quality to later years. Although President Nixon vetoed the bill to establish the new institute, Mahoney's many friends in Congress overrode the veto with a two-thirds majority.

She served on many boards and advisory committees including those of NICHD and its advisory council, NIA, the Lasker Foundation and the President's commission on heart disease, cancer and stroke. She is survived by her son Michael. ■



Florence Stephenson Mahoney was a lifelong champion of health research and a staunch advocate for NIH and the National Institute on Aging.

shortened form of the gene was not as effective as the full-length gene. Also, while the delivered gene improved the muscle tissue in very young mice and adult mice with compromised immune systems, adult mice with healthy immune systems developed an immune response to the vector, and their muscles eliminated the gene after 10 to 20 days. The group decided to modify the adenovirus vector. They stripped it of viral components that might cause the immune response they wanted to avoid, making more room for the very large dystrophin gene. They added the entire gene to the adenovirus and tried again. The full gene in the modified adenovirus reversed the muscle wasting process more effectively than the shortened form of the gene, without causing an immune response.

"This breakthrough shows that it's possible to reverse the terrible muscle wasting characteristic of Duchenne muscular dystrophy," said Dr. Stephen Katz, NIAMS director. "The researchers' successful use of a modified adenovirus as the vector for gene delivery into muscle will no doubt stimulate more promising research on gene therapy for the muscular dystrophies and other diseases as well." ■

Science Writer Bennett Retires After 39 Years

By Rich McManus

Science writer Bobbi Bennett retired after 39 years at NIH at the end of November, having regarded her career as one long feast at the table of American biomedical research. At a retirement party on Dec. 3, she said her career was blessed by working with some of the brightest and finest researchers at NIH. "I feel like I had one of the luckiest careers ever," she said. Nagged by allergies to mold in recent years, she decided it would be healthier to stay home.

Bennett was one of the few two-way players in the science communications community here; she spent



Bobbi Bennett

11 years in various laboratories, honing science skills that she developed after earning a B.A. in chemistry from Immaculata College in her native Pennsylvania, then became a science writer for the last 28 years of her NIH experience. Along the way, she always managed to find what she affectionately calls "buddies" and fascinating personalities. Her luck in

this regard began immediately upon joining NIH in 1963.

"I was hired by the Blood Bank to work with a visiting Japanese scientist named Dr. Mitsuo Yokoyama to study the immunochemistry of rare blood groups. He had done work in forensic medicine for the Tokyo police department, and had solved many cases," said Bennett.

American novelist Erle Stanley Gardner, best known for his Perry Mason stories, based some of those tales on Yokoyama's cases, and even dedicated a novel to him, Bennett said, "in glowing terms." Bennett felt well launched by "a great year in the Blood Bank."

Dr. Harvey Alter was also there at the time, and had just found—along with Dr. Baruch Blumberg who was then in NIAMD, the forerunner of NIDDK—what later became known as the Australia antigen, the surface antigen of the hepatitis B virus.

When Yokoyama's stint at NIH was up, Bennett moved to NCI's new immunology branch in 1964.

The field of immunology was just coming into its own, with bone marrow transplantation in its infancy, and Bennett was excited to be part of it. Back then she and her boss were the only ones at NIH doing HLA (human leukocyte antigen) typing. "It was a fabulous place to work," she says, reeling off the names of former NCI colleagues, "and an exciting time for immunology."

During the Vietnam war years, NIH hosted a cadre of young physicians who fulfilled their military duty by serving 2 years in the Public Health Service doing research. Bennett recalls that many of those who came through the immunology branch "were terrific individuals. There was a great deal of camaraderie in the lab, which you almost never see in an office situation."

Bennett headed NIH's first co-rec softball league in this era, and managed one of the four teams in the league as well as played third base.

But all was not fun and games with her career. "I had reached an invisible ceiling in the lab, beyond which you could go no further without an advanced degree," she said. Bennett had planned to work a few years at NIH and then go to graduate school. "But the longer you're away from school, the harder it is to go back."

She had been editor of both her high school and college newspapers, and always enjoyed writing. When NIAID's information office had an opening for a writer with a science background, Bennett applied and won the job. Under the tutelage of a gifted mentor in the office, she quickly regained her writing and editing proficiency, and began turning out stories on malaria and other parasitic diseases, asthma and allergies. She proudly recalls having written the press release on the first biosafety experiments involving recombinant DNA. "It was an exciting time to be at NIAID—the people were great, the scientists were top notch. I always say I was lucky to be in the right place at the right time."

She left NIH in 1979 briefly to be editor of the monthly trade magazine at what was then the National Bureau of Standards. "I realized the first day I was there that this wasn't the place for me," she recalls. Fortunately, the dental institute had an opening for a writer and Bennett returned, grateful to find an institute that valued science writers. After a year at what was then NIDR, she joined the Division of Public Information in OD to organize science writers' seminars, which turned out to be the best part of her NIH career.

Local science reporters had asked NIH to provide state-of-the-art seminars at which journalists could meet top intramural scientists and get background material that would bolster their ability to report research findings accurately. Bennett organized dozens of them over the years, assisted by NIDDK's Dr. Alan Schechter. "The joy of working with Dr. Schechter as my mentor and advisor was the best part of my job," she said. Standout seminars included a 1987 NIH Centennial event at the Cloister, which was the first meeting ever held in the newly reopened former convent, and one on human embryo research timed for a week before the recommendations of a panel on that subject, con-

NIH Library's Classes Begin Jan. 9

Get a jump-start on your New Year's resolution to be more organized by taking one of the NIH Library's classes such as EndNote or Reference Manager. Learn to create and manage your own searchable bibliographic databases. Free, hands-on classes covering 12 topics are offered in the Library Training Rm., Bldg. 10. For more information, call 496-1080 or visit the library's training page at <http://nihlibrary.nih.gov/training.htm>.

vened at the request of then NIH director Dr. Harold Varmus. This proved so valuable to reporters that several called later to thank her for enlightening them on the new avenue of research.

Bennett's other great mentor was Dr. DeWitt Stetten, Jr., former NIH deputy director for science, emeritus, who hosted special Friday morning scientific seminars in Stone House where cutting-edge research was presented by scientists who were brought by the scientific directors of each institute. Bennett attended these as a representative of the public affairs community.

"That was a golden opportunity," she said. "Only the best and brightest intramural scientists were invited. It was the most civilized seminar at NIH. We sat on sofas or plush chairs, and a butler served coffee on a silver tray...Stetten was a fabulous, brilliant, warm man. He was probably the person I most admired at NIH, just a golden individual."

Bennett also served briefly as an information official in the nascent human genome office in OD, when Dr. James Watson headed the program. She eventually rose to chief of the Science Communications Branch in the Office of Communications and Public Liaison. Her main responsibility in recent years has been production of the *NIH Word on Health*, a consumer health publication that she launched in 1996. It is distributed to every newspaper in the country, as well as to health professionals and other requesters. She was also charged with producing several authoritative scientific fact sheets—one on medical uses of marijuana, which came to be the bane of her existence (she became, by default, the NIH spokesperson on the issue and had to field phone calls from reporters and impassioned advocates of both legalization and use of pot as medicine)—and one on radiation (following the government's admission of conducting or supporting studies that exposed unwitting U.S. citizens to radioactive materials), which answered the deepest call of her federal career: helping people in need.

"I always felt this was a great place to work because we're helping people," she said. "My greatest satisfaction has been helping people and their loved ones with health problems. That's something we must never forget. It's why we're here."

Bennett elected a federal career "because of John F. Kennedy." During the summer between her junior and senior years of college, she had a job at the Department of Agriculture. Every week, college students in federal jobs were bused to Constitution Hall to hear Cabinet members and other officials give lectures; U.N. Ambassador Adlai Stevenson and Justice William O. Douglas were especially memorable, she recalls. But at the start and end of the summer, the students were invited to the White House lawn, where President Kennedy personally

urged the youngsters to consider careers in government.

Bennett plans an active retirement. She intends to "take the advice of my own newsletter" and exercise daily, do genealogical research, visit museums, do a little freelance travel writing (her husband Herb is an avid photographer and can illustrate her work), help "save the whales," and take classes so that she can continue the habit, honed at NIH, of staying young by staying intellectually challenged. She is also deeply interested in advocating for better care of the elderly: "There's so much to be done to help people in this country who are not getting a fair deal," she says.

Not many are aware that Bennett has an adventurous side that she rarely revealed on the job. Ever since her teen years, she loved Porsche automobiles. At NIH, she worked with a doctor who was selling his car with only 10,000 miles on it. She elicited from him a promise to teach her how to drive a 5-speed stick, and soon took ownership of an orange Porsche 912. She joined the Porsche Club of America, rising to membership chair of the D.C. chapter, and became a rally enthusiast and a corner worker at the club's driver ed schools at Summit Point race track in West Virginia. "I even met the grandson of Dr. Porsche, the original designer," she says, and once won the ladies tech quiz on her particular model at a Porsche national convention.

She can't drive off into the sunset in her Porsche, though, because she sold it awhile ago "to an NCI scientist who promised to give it TLC, and even built a heated garage for it." But she does want her many friends around NIH to know she intends to keep in touch, and is available for lunch most any time. ■

FIC director Dr. Gerald Keusch (r) receives the 2002 Bristol Award of the Infectious Disease Society of America from then IDSA president Dr. David Gilbert at the society's recent annual



meeting in Chicago. The Bristol Award is granted in recognition of a career that reflects major accomplishments and contributions to the acquisition and dissemination of knowledge about infectious diseases. Keusch was honored for his long-term commitment to excellence in research, teaching and clinical practice and for fostering research training among young scientists in the United States and developing countries.

CRIS Demos Slated for January

CRIS—the Clinical Research Information System—is a \$60 million project that will tie together and support patient care, research and management at the Clinical Center and the Mark O. Hatfield Clinical Research Center. Work has begun on the largest component of CRIS, the core that will replace and expand the 25-year-old MIS (medical information system).

Want to know more about the capabilities of this core system? Stop by the Clinical Center Visitor Information Center 2-4 p.m. on Jan. 14, 23 or 27 for hands-on demonstrations.

Dr. Stephen Rosenfeld, CRIS project manager, talked about the project in a recent Grand Rounds presentation that is now online at <http://videocast.nih.gov>. Go to "Past Events, Clinical Center Grand Rounds." For more information about CRIS, go to <http://cris.cc.nih.gov>.

'Across the Lifespan'

Asthma Highlights Health Disparities Discussion

"Can children die from asthma?" That's what one solemn youngster wanted to know during the question period of a recent community panel discussion that gathered people of all ages—from



A youngster raises his hand to ask a question during the free asthma discussion held by NIH at a D.C. community church.

PHOTOS: ERNIE BRANSON

elementary schoolers to senior citizens—at the Nineteenth Street Baptist Church in Washington, D.C., to talk about "Asthma Across the Lifespan." Coordinated by an ad hoc NIH health disparities committee, the event was the second in a series designed to bring NIH's health research and resources into communities directly affected by gaps in health status.

Asthma, a chronic lung condition with ongoing airway inflammation, causes recurring acute episodes (attacks) of breathing problems such as coughing, wheezing, chest tightness and shortness of breath. A growing health problem in the United States—particularly among inner-city African-American and Latino populations—asthma affects an estimated 17 million Americans or 6.4 percent of the U.S. population, according to information provided by the National Institute of Allergy and Infectious Diseases.

Children account for 4.8 million of the nation's asthma sufferers. Asthma claims approximately

5,000 lives annually in the U.S. Asthma deaths have increased significantly during the past two decades.

At the panel discussion, keynote speaker Dr. Floyd Malveaux, dean of Howard University's School of Medicine, discussed basic facts about asthma and its prevalence in urban neighborhoods. Dr. James Kiley, director of the Division of Lung Diseases at the National Heart, Lung, and Blood Institute, gave an overview of research on asthma.

The health disparities committee will present its next panel discussion on "Depression Across the Lifespan." For details about the event, call Kay Johnson Graham, 496-3403.



Dr. James Kiley, director of the NHLBI Division of Lung Diseases, offers information on research.



Keynote speaker Dr. Floyd Malveaux, dean of Howard University's School of Medicine, talks about asthma.



One of the event's organizers, Kay Johnson Graham (l), EEO officer for NIDCD/NINR, greets members of the Nineteenth Street Baptist Church congregation.



The Reverend Dr. Derrick Harkins, pastor of the church, gives his support for the health discussion series. Dr. Mamie Montague, a research nurse at Howard University, offers remarks.



Wednesday Afternoon Lectures

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Susan Gottesman on Jan. 15, giving the annual NIH Director's R.E. Dyer Lecture on "Biological Circuits with Small RNA Switches" (see story on p. 3).

On Jan. 22, Dr. Carol W. Greider, professor and acting director, department of molecular biology and genetics, Johns Hopkins University, will discuss, "Telomerase and the Consequences of Telomere Dysfunction."

For more information or for reasonable accommodation, call Hilda Madine, 594-5595. ■