Still The Second Best Thing About Payday

**Jenkins, Copeland To Give Mider Lecture, Jan. 14**

Working together since 1977, Drs. Nancy Jenkins and Neal Copeland are very much a team. Currently, they oversee the National Cancer Institute’s Mouse Cancer Genetic Program in Frederick, Md. The focus of their research is the mouse genome, and over the past decade they have developed many new mouse models for studying cancer and other important human diseases.

Jenkins and Copeland will deliver this year’s G. Burroughs Mider Lecture as part of the NIH Director’s Lecture series. Their talk, titled “Retroviral Insertional Mutagenesis Provides a Roadmap for Navigating the Cancer Genome,” will take place Wednesday, Jan. 14 at 3 p.m. in Masur Auditorium.

**NIDDK’s Daly Delivers NIH Director’s Lecture, Jan. 21**

On Jan. 21, the NIH Director’s Lecture series will feature internationally known chemist/pharmacologist Dr. John W. Daly speaking on “Natural Products: Impact on Biomedical Research,” at 3 p.m. in Masur Auditorium, Bldg. 10.

Now a scientist emeritus in the National Institute of Diabetes and Digestive and Kidney Diseases, Daly was chief of NIDDK’s Laboratory of Bioorganic Chemistry, a laboratory he founded and headed from 1981 to 1997. Natural products discovered through the research of Daly’s lab, primarily alkaloids derived from amphibian skin, have had a major impact on knowledge of how the nervous system functions and how drugs interact with the nervous system.

During Daly’s 40-year tenure at NIH, his numerous accomplishments have included:

**NIH Launches Web Site for Seniors, Jan. 15**

NCI Touts Benefits Of Postdoc Training

**Zerhouni Defends NIH at Third Town Hall Meeting**

By Rich McManus

During his first 18 months here, Dr. Elias Zerhouni has consistently championed NIH as a stellar organization of committed employees. But at his third Town Hall meeting since being named director, he was even more ardent in his defense of NIH as a keeper of the public trust as he answered a series of public controversies that arose during 2003, including congressional concern about NIH grants that address sexual behavior and drug use, and about outside consulting arrangements that some employees have with private industry.

Twice during Zerhouni’s opening remarks, the audience interrupted key comments with spontaneous applause.

**More Than Sum of Parts**

New NIGMS Director Berg Sees Interdisciplinary Future for Research, Training

By Dan Hogan

Dr. Jeremy M. Berg became director of the National Institute of General Medical Sciences in November, after serving most recently as director of the Institute for Basic Biomedical Sciences and professor and director of the department of biophysics and biophysical chemistry at Johns Hopkins University School of Medicine. The following interview with him took place after his first month on the job.

What were your motivations for accepting the offer to become NIGMS director at this point in your career?

On a personal level, it seemed like a whole new set of challenges. Every day there’s something new to learn.

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

January 6, 2004 Vol. VI, No. 1

**NIH director Dr. Elias Zerhouni addresses crowd.**

**NIH director Dr. Elias Zerhouni holds wire model of nucleosome core particle, one of many models he has made.**
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. 12. 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, (301) 402-5197 or visit http://www.recgov.org/rsw/nihtaekwondo.html.

Hints for Smooth Interpreting Service
The Interpreting Services Project Office and Sign Language Associates (SLA) are dedicated to ensuring that all interpreting service requests are confirmed with assigned interpreters. However, there are times when a request may not be filled, for several different reasons. Here are some items to consider to avoid problems. Enter your interpreting service requests 5 or more business days in advance of the event. The extra time is needed by SLA to ensure the most appropriate interpreter is assigned to your request. When you know that your previously scheduled event has been postponed/cancelled, try to let the project office know 2 business days in advance. When planning annual leave, keep the project office in mind as well—you may have an on-going or one-time request on the master calendar that needs to be cancelled or changed. This is especially true during the holidays. If you need to make a change or cancel your request, go to http://www.nih.gov/od/or/ods/special/interp.htm and enter the information online. For more information, contact Carole Harman (harmanc@mail.nih.gov) or Tim Tosten (tosten@mail.nih.gov) at (301) 402-8180 or (301) 435-1908 (TTY).

Have Premature Ovarian Failure (POF)?
NIH offers a variety of studies for POF. If you are 18-42, you may be able to take part. Call 1-800-411-1222 or 1-866-411-1010 TTY.

Duke, Pitt Training in Clinical Research
The Clinical Center’s Office of Clinical Research Training and Medical Education offers two opportunities for training in collaboration with Duke University and the University of Pittsburgh. The NIH-Duke Training Program in Clinical Research, implemented in 1998, is designed primarily for physicians and dentists who desire formal training in the quantitative and methodological principles of clinical research. The program, offered via videoconference at the CC, offers formal courses in research design, research management and statistical analysis.

Academic credit earned by participating in this program may be applied toward satisfying the degree requirement for a master of health sciences in clinical research from Duke School of Medicine. For more information, visit http://tpcr.mc.duke.edu/ or email tpcr@mc.duke.edu. The deadline for applying is Mar. 1, 2004.

The University of Pittsburgh Training in Clinical Research Program is designed for Ph.D.’s and allied health professionals and consists of a curriculum taught over three semesters starting with an intensive 8-week summer session. NIH trainees are only required to spend the first 5 days of the summer session in residence at the University of Pittsburgh. Physicians and dentists are also eligible to matriculate in this program.

For more information, including tuition costs, visit http://www.cc.nih.gov/ccdcc_pitt/index.html or email tcrp@pitt.edu. The deadline for applying is Mar. 1, 2004. Prospective participants should consult with their NIH institute or center regarding the official training nomination procedure.

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The Record is recyclable as office white paper.
NIA, NLM Launch Senior Health Web Site

People 60 and older constitute the fastest growing group of Internet users in the United States. So isn’t it time they had their own web site for reliable health information?

NIH has answered with an enthusiastic “Yes!” by launching NIHSeniorHealth.gov (http://www.nishseniorhealth.gov), a new talking web site with formats and topics tailored to the needs of older people. The senior-friendly site takes advantage of techniques developed by the National Institute on Aging and the National Library of Medicine designed to encourage older people to use the Internet, and this site in particular, as a resource for the best information on health and medical research.

The site was unveiled at a recent Capitol Hill briefing requested by Sen. Tom Harkin (D-IA) Harkin, whose state is among those with a high percentage of people age 65 and older, said, “As our population ages, good health will be important on both a policy and personal level. For all of us, that starts with the right information on prevention and treatment, which NIH is now providing seniors by means of this new and innovative web site.”

NIA and NLM brought together researchers who study cognition, web site designers and communications experts to fashion a site that is easy for older adults to read, understand, remember and navigate. The site features large print and short, easy-to-read segments of information repeated in a variety of formats such as open-captioned videos and short quizzes to increase the likelihood it will be remembered. Consistent page layout and prompts help older adults move from one place to another on the site without feeling lost or overwhelmed. Each topic provides general background information, quizzes, frequently asked questions (FAQs), open-captioned video clips, transcripts for the videos, and photos and illustrations with captions.

NIHSeniorHealth.gov also has a “talking” function, which allows users the option of reading the text or listening to it as it is read to them. Finally, in addition to being senior-friendly, the new site complies with section 508 of the Rehabilitation Act of 1973, making it accessible for persons with disabilities.

Because the risk of many diseases increases with age, site sponsors are focusing on topics of particular interest to older people, including Alzheimer’s disease, arthritis, balance problems, breast cancer, colorectal cancer, exercise for older adults, hearing loss, lung cancer and prostate cancer. In coming months, topics will include aphasia, diabetes, falls, osteoporosis, sensory loss and vision changes, among others.

Along with NIA and NLM, many other NIH components contribute topics to the site.

NIHSeniorHealth.gov is expected to serve as a model for web designers seeking to make sites accessible for older adults. NIA and NLM have developed a booklet, Making Your Web Site Senior Friendly: A Checklist, which gives guidelines that can be used to update any web site with cognitive aspects of aging in mind. To order a copy or to get more information about the web site, contact Stephanie Dailey, (301) 496-1752 or Kathy Cravedi, (301) 496-6308.

Autoimmune Diseases in Women

The women’s health special interest group will host a talk by Dr. Denise Faustman on the topic, “Autoimmune Diseases in Women,” on Friday, Jan. 9 from 11:30 a.m. to 12:30 p.m. in Lipsett Amphitheater, Bldg. 10. Faustman is associate professor of medicine, Harvard Medical School, and is affiliated with Massachusetts General Hospital. Sign language interpretation will be available.

Annual King Program Slated for Jan. 15

All are invited to attend the NIH 2004 Dr. Martin Luther King, Jr. Commemoration observance in Masur Auditorium, Bldg. 10, on Thursday, Jan. 15 from 11:30 a.m. to 1 p.m. The theme is “Dr. Martin Luther King, Jr. — Living in the Shadow of Wisdom.” The speakers are pioneers in the civil rights movement, including Dr. Dorothy Height, president emeritus of the National Council of Negro Women and recipient of the Presidential Medal of Freedom and U.S. Congress Rep. John Lewis (D-GA), author and recipient of the Martin Luther King, Jr. Non-Violent Peace Prize. For more information about the program, call Tyrone Banks, (301) 496-1763. Sign language interpreters will be provided. Individuals who need reasonable accommodation to participate in this event should call Michael Chew, (301) 402-3681 (voice), (301) 480-3122 (TTY) or 1-800-877-8339 (Federal Relay Service).
the discovery of the “NIH Shift”—an unexpected molecular process involved in the conversion of the amino acids phenylalanine and tryptophan to the important neurotransmitters dopamine, norepinephrine and serotonin; the discovery that forskolin, from the Indian medicinal plant Coleus forskohlii, is a potent activator of adenylyl cyclase, an enzyme responsible for the formation of the intracellular messenger cyclic adenosine monophosphate (cyclic AMP) from ATP; the demonstration that the central stimulant effects of the alkaloid caffeine are due to blockade of adenosine receptors; the discovery and introduction of batrachotoxin as a specific activator of sodium channels in nerve and muscle, and of epibatidine as a potent analgesic acting through nicotinic receptors; the discovery and characterization of over 600 new biologically active alkaloids from the skin of poisonous frogs in the forests of Central and South America, Madagascar and Australia.

Daly's University of Maryland collaborator Edison Albuquerque says of him, “Daly was for the expression of molecules what Darwin was for the evolution of man.”

Daly describes himself as “a pharmacologist with a strong background in chemistry.” Born and reared in Portland, Ore., he received his bachelor’s degree in biochemistry and his master’s degree in organic chemistry at Oregon State College. After completing his Ph.D. in organic chemistry at Stanford University in 1958, he came to NIH as a postdoctoral chemist in Dr. Bernhard Witkop’s Laboratory of Chemistry, where he studied the inactivation of catecholamines along a methylation pathway, mentored by future Nobel laureate Dr. Julius Axelrod. From the beginning, Daly was interested in the discovery of “small molecules” as research tools, in particular for research involving the function and diseases of the central nervous system.

Two years after his arrival, he joined the permanent staff at NIH. In 1965, Dr. Gordon Guroff of the National Heart Institute was puzzled by results obtained while working on an assay for phenylalanine hydroxylase, an enzyme involved in the metabolic disease phenylketonuria. Discussions and collaboration with Daly led to the discovery of intramolecular hydrogen migration during enzymatic hydroxylation of aromatic compounds, a phenomenon that was to be named the “NIH Shift.” This discovery opened an entire new field of research, allowing Daly’s former close collaborator on the mechanism of the “NIH Shift,” Dr. Donald M. Jerina, to delineate the metabolic pathways that form dihydriodil carcinogens from the polycyclic hydrocarbons found in cigarette smoke and automobile exhaust. Currently, Jerina’s group in NIDDK is showing how these dihydriodil metabolites react with DNA and interfere with repair mechanisms, potentially providing insights into how to prevent chemical carcinogenesis.

Daly’s pioneering discovery of the enzyme target for the plant diterpene forskolin changed the course of pharmacology by providing researchers with a selective tool for studying the second messenger system that generates cyclic AMP, itself a key regulator of physiological functions in all cells.

In 1963, when his lab chief Witkop needed someone to collect poison dart frogs in western Colombia and investigate the nature of the toxins in such frogs, Daly proved to be the perfect choice. The batrachotoxins in the extracts he brought back were shown to have unique structures and to be specific and potent activators of sodium channels responsible for nerve conduction. Batrachotoxin and a radioactive analogue (batrachotoxin-A benzotate) developed by Daly’s group have been used in hundreds of studies to better understand the function of sodium channels and how they are affected by other agents.

A career-long collaboration between Daly and field biologist Charles Myers, begun in 1966, led to the discovery of several new species of poison frogs and hundreds of new bioactive alkaloids. One trace alkaloid from an Ecuadorian frog, epibatidine, was shown by Daly’s group to be 200 times more potent than morphine, and just as effective as a pain-killer. Moreover, because epibatidine acts through nicotine rather than morphine receptors, it has the potential for pain relief without the addiction and tolerance associated with opiates. An analogue has been in clinical trials for the treatment of chronic pain. In a recent review, noted nicotine researcher Richard Glennon said, “It is difficult to say where nicotine research would be today without the discovery of epibatidine.”

Daly is currently tracing the sources of these frog skin alkaloids through to their diet of insects and other arthropods. “We now realize that the frogs are really the true bioprospectors,” he says, being careful to give credit where credit is due. “Without the frogs, hundreds of bioactive insect alkaloids would remain undiscovered, and possible sources for genes responsible for the biosynthesis of such alkaloids would be unknown.” Among his many collaborators, NIDDK chemists Drs. H. Martin Garraffo and Thomas F. Spaade continue to contribute much to the research on the frog alkaloids.

Author of over 500 research papers, a book (Cyclic
Nucleotides in the Nervous System) and many book chapters, Daly was elected to the National Academy of Sciences in 1997. Among his many other honors are: the Hillebrand Award from the American Chemical Society in 1978, the Research Achievement Award from the American Society of Pharmacognosy in 1997, the Karl Wilhelm Scheele Award from the Swedish Academy of Pharmaceutical Sciences in 1999 and in 2002, the American Chemical Society's Ernest Guenther Award in the Chemistry of Natural Products. That same year, he was also named among the 200 most-cited pharmacologists in the world.

For sign language and reasonable accommodation, or for more information, call Hilda Madine, (301) 594-5595.

Dr. Robert L. Nussbaum, a senior scientist at the National Human Genome Research Institute, assumed the presidency of the American Society of Human Genetics on Jan. 1. ASHG was founded in 1948 as the primary professional membership organization for human geneticists in the Americas. Today, ASHG has nearly 8,000 members, including researchers, academicians, clinicians, laboratory practice professionals, genetic counselors, nurses and others with a special interest in human genetics. In addition to his roles as chief of NHGRI's Genetic Disease Research Branch and of the Inherited Disease Research Branch, Nussbaum is director of NHGRI's Clinical Molecular Genetics Training Program. He also is an executive faculty member of the Joint National Institutes of Health-Johns Hopkins University Genetic Counseling Training Program, and the project officer for the Center for Inherited Disease Research in Baltimore, a research center that analyzes common disorders caused by the actions of multiple genes and interactions with the environment. Nussbaum's tenure as president of ASHG will run for one year, ending in January 2005.

FEW Hosts Brown Bag, Jan. 13

Federally Employed Women, Bethesda chapter, will host a brown bag lunch meeting on Tuesday, Jan. 13 from noon to 1 p.m., in Bldg. 31, Conf. Rm. 6. Author Lynne Waymon will present "Networking Know-How for Career and Business Success." Sign language interpreters will be provided. Individuals with disabilities who need reasonable accommodation to participate in this event should contact Allyson Browne, (301) 451-0002 or the Federal Relay (1-800-877-8339).

‘Demystifying Medicine’ Class Returns

NIH's popular Demystifying Medicine course will be returning January-May, 2004. The class, modeled after a successful program at Tufts University, attempts to bridge the gap between Ph.D.s trained in basic science and the medical problems to which their skills and insights might be applied.

Beginning Jan. 6, all sessions of the class will be held on Tuesdays from 4 to 5:30 p.m. in the ground floor conference room of Bldg. 50. Students, fellows and staff are welcome to attend. Those seeking academic credit for the course can register with FAES (http://www.faes.org). If you want to take the course but will not be seeking academic credit, you should register by signing up for the course listserver (http://lists.nich.gov/archives/demystifyingmed.html). The course web site and schedule are now available at http://www1.od.nih.gov/oir/DemystifyingMed/index.html.

Bone Health Is STEP Topic, Jan. 13

The staff training in extramural programs (STEP) committee will offer a Science in the Public Health talk titled, "Feeling Good Right Down to Your Bones," on Tuesday, Jan. 13 from 8:30 a.m. to 12:30 p.m. in Lister Hill Auditorium, Bldg. 38A.

Bone is a complex and dynamic tissue, and yet bones are taken for granted until they ache or break. Do you know the risk factors and life choices that can affect your bone health? For example, steroid hormones, nutrition and exercise all have a long-lasting impact on bones in later life for both men and women. How do you minimize age-related bone loss to stay active and mobile? Join us as we discuss the biology of bone and explore the clinical aspects of bone health.

NICH'D's Dr. Bruce Simons-Morton was recently designated a distinguished fellow of the Society for Public Health Education (SOPHE). Chief of NICH'D's Prevention Research Branch, he has identified a number of factors that can keep children and adolescents from harm. Along with his NICH'D coworkers, he has found that parents who set limits on their teens' driving can greatly reduce the chances that teens will engage in risky driving behavior. He has also found that teens are less likely to smoke or drink if their parents remain highly involved, establish clear expectations for them and monitor their behavior. SOPHE is honoring Simons-Morton for a "lifetime of contributions to expanding the science-base of health education research and practice."
The first occurred during his discussion of NIH grants in the area of HIV/AIDS, drug use and sexuality. "I have had more communication on these areas of research than any other topics this year, mostly from Congress," said Zerhouni. He defended the integrity of NIH, its management and its work. "NIH will not shy away from studying what harms people...we are first and foremost physicians and healers." As a burst of applause died down, he continued, "No one category of disease is less deserving than another of NIH study. Make no mistake—there is no way I will shy away from any of our suffering patients."

Zerhouni told the crowd in Masur Auditorium on Dec. 16 that NIH "must be responsive, we must stand behind our process" when under fire from critics. He said NIH gets advice from some 21,000 advisors, and that its work is balanced and "not done in darkness."

"Our stewardship gets questioned from time to time, and when it does, I will address it clearly," he said.

He then moved to the second controversy, generated by a Dec. 7 story in the Los Angeles Times that criticized a number of top NIH scientists for their consulting ties. "Clearly we need to address these issues," Zerhouni began. "We can't afford to see the public trust in our institution diminished in any way." That earned another round of applause.

"I would rather have our scientists sought after than considered irrelevant and sought by no one," he continued. He said NIH has two duties to the public: that our research results in benefits to people, and that we uphold full disclosure so that NIH activities are seen to have integrity "not only in reality but also in perception." He said explicit processes are in place to assure the integrity of NIH science and that he is "very committed" to them. "I do believe that many of the reports have been exaggerated, and that NIH has been harmed by innuendo and the juxtaposition of facts...I want to bring the maximum light to this issue, so that the shadows will go away."

"I am very proud of the caliber of NIH employees," he said, "and I'm proud that our knowledge has been sought out...Don't believe what you read in the newspapers is all I can say, but there is always room for improvement, and we'll carefully look into that and implement any necessary change as soon as possible." He then repeated a theme that has marked his NIH tenure from the start: "We must be factual, not fictional...I am moved by the weight of evidence, not opinions."

He said that NIH's recent difficulties have brought NIH's best qualities to the fore. "I am deeply impressed by the commitment you have shown in the face of difficulties. The more difficult the issue, the more spirit I see here."

While Zerhouni's impassioned defense of NIH's people and mission found him at his most emphatic, particularly as the agency strives for transparency, he began his remarks by saying he is pleased that NIHers are winning A-76 competitions. He also mentioned several key new appointments, including NIDCR's Dr. Dushanka Kleinman, who has joined the Office of the Director on detail to lead the implementation of the new NIH Roadmap for Medical Research initiative.

The program continued with an update on security from Steve Ficca, NIH associate director for research services. He noted that there has been a 60 percent decrease in reported crime since 2002, and that the perimeter fence, complete with pedestrian entrances, should be finished by March 2004.

Leonard Taylor, director of the Office of Research Facilities, gave a slide-enhanced tour of current construction projects on campus, which range from stream restoration projects (including that hole on the lawn of Bldg. 1) to the completion of the Clinical Research Center by late this year. Conceding that the campus is looking fairly dug-up just now, he cheerfully concluded, "Just think how wonderful it will look when it's done."

Offering an A-76 update was Tim Wheeles, director of the Division of Management Support, who said that NIH has agreed, in consultation with HHS and OMB, to complete its review of all commercial functions by 2014. He noted that, should an NIH MEO (most efficient organization—the reconfigured grouping of a particular function to enhance cost-effectiveness) fail, then NIH must re-
compete the job function. Further, “NIH might not have a seat at that competition—this is incredibly important to realize.”

Thus far, the A-76 scorecard reads as follows:
NIH won 34 of 36 reviews conducted in 2002, and 2 of 2 in 2003. In 2004, NIH intends to review functions in visual and medical arts; veterinary services; telecommunications; information technology data center and networking; material management; and logistics and material handling. These represent a total of some 300 FTEs.

During the question session, employees discussed such issues as difficulties with the travel portion of the new NIH Business System; shuttle bus scheduling; pedestrian safety; and fairness in hiring of postdoctoral fellows.

Zerhouni brought the 70-minute meeting to a close by urging employees to embrace the values of the holiday season, particularly family, which he said “comes first with me.” After wishing everyone a safe and happy holiday, and asking NIHers to join him in considering employment here a privilege, he made one last pitch in his role as CFC campaign leader: “I thank those of you who have contributed and, if you haven’t done so yet, please consider contributing to the CFC before it ends.”

The complete Town Hall meeting is available for viewing at http://videocast.nih.gov.

Winter Blues Study Recruits
Do you hibernate in the winter time? If you notice that you feel fatigued and down and that your sleeping and eating habits change in the winter, you may be eligible to participate in a research study on seasonal affective disorder (SAD). Diagnostic assessment and treatment consisting of light therapy, cognitive-behavioral “talk” therapy or their combination will be offered. There is no charge for participation in the study. Interested volunteers, 18 or older, are invited to call the Uniformed Services University seasonality treatment program for more information, (301) 295-3241.

ADHD Genetics Study
Take part in an NIH study seeking to identify the genes that contribute to attention deficit hyperactivity disorder (ADHD). For more information call 1-800-411-1222 (TTY 1-866-411-1010).

Grünewald Wins Salzmann Award in Virology

Dr. Kay Grünewald, an NIAMS visiting postdoctoral fellow, was recently selected as the winner of NIH’s annual Norman P. Salzman Memorial Award in Virology. The award, sponsored by the Virology Interest Group and the Foundation for the NIH, honors young scientists and their mentors and was established in recognition of Salzman’s 40-year career in virology research and mentoring.

Grünewald’s mentor was Dr. Alasdair Steven, chief of the NIAMS Laboratory of Structural Biology Research.

Grünewald received the award for his analysis of the herpes simplex virus using cryo-tomography. The technique combines cryo-technology, which preserves a specimen such as a virus in a supercooled, glass-like and hydrated state, with electron tomography, which reconstructs an object in three dimensions from a series of two-dimensional projection pictures of the object.

Grünewald and Steven were recognized at the recent Salzman Virology Symposium held in NIH’s Cloisters. Grünewald said it was a great honor for him to be selected as winner of the award: “I am thrilled to win this award that was established in the spirit of Dr. Salzman—for the great work he did in promoting the mentoring of young doctoral fellows and virology research. Dr. Steven was an excellent mentor throughout the course of my project. Other members of the Laboratory of Structural Biology also contributed, and we are all excited about the prospect of applying this powerful new technique to other viruses and cellular structures.”

Dr. Rolf Menzel recently joined the Center for Scientific Review, where he is a scientific review administrator for the infectious diseases and microbiology integrated review group. He earned his Ph.D. in molecular biology from the University of California, Berkeley, studying bacterial genetics and gene regulation. Menzel studied the regulation of DNA gyrase as an NIH staff fellow, working with Dr. Martin Gellert at the NIDDK Laboratory of Metabolic Diseases. He continued this research at the Dupont Co. before moving to Bristol-Myers Squibb, where he designed and developed drug screens. He then cofounded an early-stage drug development company, Small Molecular Therapeutics, Inc., that was sold to Morphochem. Most recently, he founded Optigenix, Inc., which reengineered industrial enzymes using a proprietary recombination-based technology.
and think about. That's what I hoped would be true, and it's surpassed my expectations.

Second, I'm a strong believer in the importance of basic research. NIGMS has done more than any other organization to foster basic research in biomedical fields. Having a chance to participate in decisions about how to make the institute as effective as possible and figuring out which directions are exciting is what I thought would be fun. And it is. And the third reason is public service. I feel that if people benefit from the system, they have to give back. There are some significant challenges, though. There are so many things that could be done, you have to pick carefully what you decide to do. And you have to balance the long view of basic research that's relatively untargeted—that is, figuring out fundamental mechanisms of biological processes—with more directed efforts where you know what you want to know.

In addition to serving as director of NIGMS, you'll be continuing your own research here at NIH. Tell us about this part of your work.

My lab will be within the Laboratory of Molecular Biology in the National Institute of Diabetes and Digestive and Kidney Diseases. Both this lab and NIDDK's Laboratory of Chemical Physics have had a strong basic science bent over their entire existence. It seemed like the natural place, and I'm delighted that they were pleased to have me on board.

In terms of research areas, the overarching theme of my research is molecular recognition—that is, how do molecules recognize specific binding partners, where does this specificity come from on a biophysical level, and can you understand those things well enough that you can predict what binds to what or design things for particular targets? For me, this started off with zinc finger proteins. My training is as an inorganic chemist. But I decided as a postdoc to change direction completely and work on DNA binding proteins. I was trying to figure out how to combine inorganic chemistry and DNA binding proteins at just about the right moment, to within a week of when zinc-containing DNA binding proteins were discovered. And I thought, "Cool." That was in 1983, when that paper got things going.

The other nice thing was that the protein I was studying was from Xenopus—from frogs—which seemed to me to be pretty obscure. So I thought I would have this whole area to myself for a while. And it turned out that these zinc finger motifs are the most abundant motifs encoded in the human genome. There are 700 or 800 zinc finger genes, and literally thousands of zinc finger domains, in the human genome and other eukaryotic genomes. So it's been the tip of a very big iceberg, which has been stimulating in all sorts of ways.

NIH director Dr. Elias Zerhouni recently unveiled the NIH Roadmap for Medical Research. How do you see NIGMS's role in the Roadmap?

The Roadmap is an attempt to find areas that cut across all of NIH and aren't disease-specific, but where techniques or technologies or other sorts of infrastructure are needed to address problems in a broad sense. In a lot of ways, the Roadmap overlaps substantially with the NIGMS mission of supporting fundamental biological processes that are not specific to a particular disease.

NIGMS has clearly been ahead of the curve in several Roadmap areas. For example, NIGMS has been doing more and more interdisciplinary training programs—molecular biophysics, the chemistry-biology interface, and so on. Also, the institute has supported interdisciplinary research teams—through its "glue grants," for example—that are right along the lines of what Dr. Zerhouni was thinking about in the Roadmap.

I think the Roadmap initiatives are very exciting. The science will be good. It will help the image of NIH, in terms of making people realize how much already goes on between institutes. But it will also help the institutes work together better than they ever have.

In what directions would you like to steer NIGMS over the next 5 to 10 years? Are there any research areas in particular that need more support?

A lot of things in the Roadmap or pre-existing programs at NIGMS are pointed in the right direction. But from the broadest perspective, I think the key—although it's getting to be an overused term today—is systems biology. We spent the last few decades effectively looking at all the little pieces that make up biology, from identifying 35,000 or so genes to trying to determine 3-D structures of as many proteins as we can.

But biology takes place in a lot of interacting components—proteins bind to DNA, proteins form simple or complicated complexes where the function is really not the sum of the parts but is much bigger. By working both directions—from individual molecules to complexes to macromolecular machines to organelles, on up, as well as from organisms to cells to structures within cells, organelles, and so on—you can start seeing individual molecules inside cells doing things.

Everything is ripe to meet in the middle. It's sort of like the transcontinental railroad, where the two directions are going to start meeting pretty soon. And you have to make sure that the necessary technologies are being fostered, and that the human resources—the people—are being trained well enough to understand how things work.
If you could write your own job review, how would you like it to read a year from now, or a decade from now?

I guess, "good listener, creative problem-solver." With NIGMS, it's not too different from how I felt when I was working on the fifth edition of Lubert Stryer's Biochemistry textbook. You know, it was so effective at what it does that I didn't want to be known as "the person who ruined Stryer's textbook." So, likewise, I don't want to be known as "the guy who ruined NIGMS." [laughs]

I've been incredibly impressed with how wise the leadership of NIGMS has been in the past. And the fact that NIGMS is well positioned for the Roadmap initiatives is reflective of that. So, I'd also like my job performance review to read: "Continued in the fine tradition of NIGMS leaders, from Ruth Kirschstein through Marvin Cassman to Judith Greenberg as acting director in the last couple of years."

Ten years from now, hopefully it would read something like: "Charted new directions, integrating basic research and practical applications." To some extent, I think it's a case of "If I knew, I'd be working on it now." There are going to be discoveries that we can't anticipate that will give us ideas about what directions to go.

For a longer version of this interview, visit http://www.nigms.nih.gov/news/features/berg-interview.html.

Dr. Joseph Rudolph has returned to NIH as scientific review administrator of the neurotoxicity and alcohol study section at the Center for Scientific Review. He earned his Ph.D. in pharmacology from the University of Florida, where he studied the effects of chronic ethanol exposure on NMDA receptor pharmacology and physiology. He first came to the NIH intramural program as a postdoctoral fellow, studying the genetics of alcoholism and other mental disorders in the NIAAA Laboratory of Neurogenetics. Before coming to CSR he was group leader of the applied genomics and molecular genetics core facility at Transgenomic, Inc., in Gaithersburg.

Trauma Survivors Needed

NIMH is seeking volunteers over 18 years old who suffer from post traumatic stress disorder (PTSD) to participate in research studies that include mental health assessment, brain imaging (compensation provided) and/or a medication trial. Call 1-866-627-6464 (TTY 1-866-411-1010).

NIH Training Center Classes

The Training Center supports the development of NIH human resources through consultation and provides training, career development programs and other services designed to enhance organizational performance. For more information call (301) 496-6211 or visit http://learningsource.od.nih.gov.

- Purchase Card Training: 1/12
- Basic Time and Attendance Using ITAS: 1/13-14
-Delegated Acquisition Training Program: 1/13-14, 15-16
-NBS Travel System for Organizational Administrators: 1/13-14
-NBS Travel System for Approving Officials: 1/14
-Management Seminar Series: 1/15-6/17
-Foreign Travel: 1/28-29
-Travel for NIH Travelers: 2/2
-Introduction to NIH Property Management: 2/3-4
-Travel for Administrative Officials: 2/3

CIT Computer Classes

All courses are given without charge. For more information call (301) 594-6248 or consult http://training.cit.nih.gov.

- NCBI's LocusLink Quick Start: 1/7
- Electronic Identity Management and Introduction to PKI: 1/8
- Statistical Analysis of Microarray Data: 1/8-9
- Critical Computer Tasks for the Knowledge Worker: 1/8
- Expediting Your Request for Telephone Services at the NIH: 1/8
- Building a Home Network: 1/9
- Analyzing Microarray Data using the mAdb System: 1/13
-Writing to the Point for IT Professionals: 1/13-14
-EMBOSS & GCG: All the Sequence Analysis Tools You Need: 1/14
-Introduction to Adobe Illustrator: 1/15
-Visualization in MIPAV: 1/15
-Partek Pro for Gene Expression Analysis: 1/15
-Cluster Analysis & Advanced Visualization of Gene Expression Data with Partek Pro: 1/15
-Advanced Statistical Analysis of Microarray Data Using ANOVA Techniques with Partek: 1/15
-Introduction to Dreamweaver MX: 1/16
-Advanced SQL: 1/21-22
-Introduction to mAdb: 1/27

Parkinson's Disease Study

People with Parkinson's disease may be able to participate in a study of the experimental drug fipamezole at NIH. For more information call 1-800-411-1222 (TTY 1-866-411-1010).

Heart Failure and Diabetes

If you or someone you know has heart failure/diabetes, call today for study information: 1-800-411-1222 (TTY 1-866-411-1010).

Dr. Joseph Rudolph has returned to NIH as scientific review administrator of the neurotoxicity and alcohol study section at the Center for Scientific Review. He earned his Ph.D. in pharmacology from the University of Florida, where he studied the effects of chronic ethanol exposure on NMDA receptor pharmacology and physiology. He first came to the NIH intramural program as a postdoctoral fellow, studying the genetics of alcoholism and other mental disorders in the NIAAA Laboratory of Neurogenetics. Before coming to CSR he was group leader of the applied genomics and molecular genetics core facility at Transgenomic, Inc., in Gaithersburg.
Asian/Chinese Volunteers Needed

The department of transfusion medicine (Blood Bank) at the Clinical Center seeks healthy volunteers (male and female) 18 years of age and older to participate in a research apheresis study that assesses the influence of ethnic background on immune response. Volunteers are needed who were born in China, including Taiwan, Hong Kong and Singapore or first generation offspring of parents who were born in these countries. Two visits are required and compensation is available. Call Rose Werden, (301) 402-0757.

MIDER LECTURE, CONTINUED FROM PAGE 1

Bldg. 10. Using mouse genetics to try to answer questions that would not be possible with technology alone, the couple sees the mouse as an excellent tool for understanding human disease better.

Their interest in mouse genetics began in 1980, when they joined the world's pre-eminent mouse laboratory—The Jackson Laboratory in Bar Harbor, Me. In 1985, Jenkins joined the ABL-Basic Research Program as head of the molecular genetics of development section, which was part of the Mammalian Genetics Laboratory (MGL). In 1999, the MGL was incorporated into the Center for Cancer Research and renamed the Mouse Cancer Genetics Program. She is now head of the molecular genetics of development section with this program. Additionally, she was appointed editor-in-chief of the journal *Genomics* in 1997. Jenkins received her Ph.D. in molecular and cellular biology from Indiana University.

Copeland also joined the ABL-Basic Research Program in 1985 as director of the Mammalian Genetics Laboratory and head of the molecular genetics of oncogenesis section. Upon becoming part of the Center for Cancer Research in 1999, his laboratory was renamed the Mouse Cancer Genetics Program and received increased resources to expand. Copeland received his Ph.D. in biochemistry from the University of Utah.

Their studies highlight the power of the mouse as an instrument for gene discovery and functional genomics in the modern genome era. The focus of their recent research involves the development of a dense gene-based linkage map of the mouse genome. Copeland and Jenkins are also attempting to develop an efficient Cre/loxP-mediated mitotic recombination system for mouse genome research.

Trunnell Retires After 42 Years in Government

After her high school graduation from a small rural town of 300 in the Midwest, Diana Trunnell moved east with a neighbor girl who had two sisters who lived in Rockville. One of these sisters worked in Bldg. 1.

Trunnell began her federal career in 1961 as a clerk typist in Bldg. T-6, which was located on a site currently occupied by a Bldg. 31 parking lot. Her first assignment was in NIMH's Grants and Fellowships Administration Branch. She remembers being so scared of the branch chief that she had to be asked twice if she wanted the position.

Trunnell recalls that everything was typewritten back in the days when John F. Kennedy was President. There were several carbon copies of most documents, too. There were a variety of copying machines, followed by such innovations as verifax, thermo fax and the ditto machine. She managed the Small Grant Program and put together application kits, mailed applications to study section reviewers and put council books together.

In 1973, Trunnell wrote the NIMH handbook for the Research Scientist Development Award Programs (now called “Ks”), which was quite an experience for her since she had not funded this type of award before.

From 1974 until 1984, she was a senior grants management specialist. She then became assistant chief of NIMH's Grants Management Branch. She was involved with the National Research Service Award programs, and worked on a committee to publish the initial guidelines. She served on many NIMH and NIH groups to create handbooks and guidelines, particularly in the area of training.

Trunnell stayed with NIMH as it moved to various buildings around Bethesda and Rockville and became part of different agencies, for example HSMHA, ADAMHA and finally back to NIH. She spent much of her career in the Parklawn Bldg. When NIMH moved to Executive Blvd., she moved, too. She retired as assistant branch chief in September.

In retirement, Trunnell relishes free time with family and friends, and also enjoys traveling, camping, fishing and activities with her church.

Have Uterine Fibroids?

Call NIH at 1-800-411-1222 for information on a study using a new medication for 3 months before hysterectomy. Study-related treatment provided at no cost. Compensation is provided. TTY: 1-866-411-1010, or email prpl@cc.nih.gov.

Pelvic Pain Relief Study

NIH invites women with endometriosis to take part in a pain relief study of the drug raloxifene (Evista). Call 1-800-411-1222 for more information.
NINDS's Paul Nichols Retires After 32 Years
By Shannon E. Garnett

Dr. Paul L. Nichols, program director and administrative team leader in the systems and cognitive neuroscience cluster of the NINDS Division of Extramural Research, recently retired after 32 years of government service, all with the neurology institute.

"Paul has been a stalwart of the extramural programs of NINDS since long before I came to the institute," said Dr. Constance Atwell, NINDS associate director for extramural research. "He has been particularly helpful to his colleagues in providing them with reports and analyses that mined the NIH databases over the years. We will all miss his sure-footed, even-tempered presence in the institute."

A native of Ohio, Nichols earned his undergraduate degree in physiology, magna cum laude, in 1965, and his Ph.D. in genetics in 1970, both from the University of Minnesota. His first association with NINDS came as a graduate student analyzing data from the NINDS Collaborative Perinatal Project (NCPP)—a large prospective study that followed 50,000 women throughout their pregnancies and their children through age 8.

Shortly after graduate school, Nichols worked as a field geneticist for the Minnesota department of health. In 1971, he joined NINDS as a research psychologist in the Perinatal Research Branch, collaborative and field studies section, where he continued work on the NCPP—studying the relationship between prenatal and perinatal complications and cognitive and behavioral outcomes, and analyzing data on minimal brain dysfunction.

During his NCPP work, Nichols published numerous articles and books, including Preschool IQ: Prenatal and Early Development Correlates and Minimal Brain Dysfunction: A Prospective Study.

As data analysis from the NCPP came to an end, the collaborative and field studies section became part of the Extramural Research Division, and in 1983 Nichols became a health scientist administrator in the Developmental Neurology Branch of the Division of Convulsive, Developmental, and Neuromuscular Disorders. In this role, he developed a research program in muscular and neuromuscular disorders, and administered a portfolio of regular research grants, program projects and centers, career awards, institutional and individual training grants, and small business innovation research and small business technology transfer research grants.

In 1995, when the division's name was changed to the Division of Convulsive, Infectious, and Immune Disorders, Nichols continued to administer the institute's research program and grant portfolio in muscular and neuromuscular disorders research, including research on such disorders as diabetic neuropathy, post-polio syndrome and muscular dystrophy.

"I am grateful to have had Paul Nichols as my program administrator for nearly 20 years," said NINDS grantee Dr. Joshua R. Sanes. "From happy times—when I was trying to arrange a sabbatical—to horrible times—following the sudden death of my closest colleague and collaborator—to everything in between, I knew I could count on him for help and advice," said Sanes, who is currently professor of neurobiology at Washington University Medical Center in St. Louis.

In fact, Nichols also served as project officer for the research grants of former NINDS directors Dr. Zach Hall and Dr. Gerald Fischbach, and for NINDS deputy director Dr. Audrey Penn. "They all went from being my grantee to being the director of NINDS (although Audrey was twice acting director)," said Nichols. "Dr. Kurt Fischbeck, chief of the NINDS Neurogenetics Branch, and Dr. Alan Willard, chief of the NINDS Scientific Review Branch, had also been my grantees. Once in an e-mail to Gerry, I mentioned that I really couldn't claim any credit for their success. I appreciated his short reply: 'Yes, you can.'"

After a restructurization of the institute's extramural program in 1999, Nichols became program director and administrative team leader of the cognitive neuroscience cluster, guiding the institute's research grants in such areas as muscular and neuromuscular disorders, peripheral neuropathies and behavioral genetics.

In retirement, Nichols will pursue his many other interests which include traveling, family history research, numismatic research (the study of money and medals), and projects around the house.

Nichols, who serves as historian of Grace United Methodist Church, also plans to revise the church's award-winning history—dating back to 1844—that he wrote several years ago. An avid table tennis player, Nichols—who served as president of the NIH Table Tennis Club for more than 20 years and received the R&W Exceptional Service Award—now intends to join another club and play in more tournaments.

"The NINDS has been a great place to work. With the exciting advances we've made in areas such as genomics, proteomics and imaging, our researchers are positioned to make some major breakthroughs in preventing and treating neurological disorders," said Nichols. "When that happens, everyone will realize what a great investment medical research has been."
Howard Students Hear About NCI Opportunities

"Approximately 1.6 percent of all postdoctoral students in the United States are African American," noted Dr. Orlando Taylor, dean of Howard University's graduate school. "With these numbers, we're not going to get the kind of diversity we want in academia and research."

Along with more than 40 Howard Ph.D.s, M.D.s and predoctoral candidates, Taylor attended a recent meeting on the benefits of postdoctoral training at the National Cancer Institute. Bringing together representatives of NCI's Fellowship Office, the intramural training divisions, and Howard's Alliances for Graduate Education and the Professorate, the meeting launched a new venture to formalize the long-time partnership between the two programs and organizers hope, increase the numbers of Howard students who become NCI postdoctoral fellows. Attendees heard from NCI program directors and principal investigators about unique opportunities in their fields of science and from current fellows and one former fellow who spoke about research, mentors and keys to success.

NCI supports the specialized research training of more than 1,000 postdoctoral fellows within its intramural research program.

"Your postdoctoral experience at NIH will be different from your graduate-school experience," said Dr. Michael Gottesman, NIH deputy director for intramural research, referring to the transition from a single-minded focus on completing the doctoral project to an emphasis on interdisciplinary research and team-building at NCI.

"Here at NCI, you have the ability to interact with laboratory-based investigators and translate research into clinical trials," said Dr. Barry Gause, director of NCI's fellowship program in clinical oncology.

Many speakers touched on NCI's team-oriented approach to science and support for interdisciplinary research. "Science is becoming more and more interdisciplinary," said Dr. Shine Chang, associate director of the Cancer Prevention Fellowship Program at NCI. "On one project, you may need nutritionists, behavioral scientists, epidemiologists, clinical oncologists and biostatisticians."

Dr. Sam Mbulaiyeye, a postdoctoral fellow in the Viral Epidemiology Branch of the Division of Cancer Epidemiology and Genetics, described his experiences as a doctor tracking the HIV/AIDS epidemic in Uganda. Drawn by the vast expertise and resources available at NIH, he said, "This environment turned out to be quite dynamic."

The topic of translational research, another hallmark of intramural NCI, came up repeatedly. Dr. L. Michelle Bennett, associate director for science at the Center for Cancer Research, explained that the CCR was formed to merge the divisions of basic and clinical science. One of its primary missions is to translate discoveries made in the laboratory into treatments that can help patients in the clinic. Offering a case in point, Dr. Melinda Merchant, clinical fellow in pediatric oncology, described her experience with a new drug. "I tested it in the Petri dish; I tried it out in the mouse; I wrote the clinical trial; and we hope to have it in patients next year."

Dr. Alfred Johnson spoke about his 18 years at NCI, starting out as a postdoctoral fellow. Currently wearing two hats as director of scientific program operations, Office of Loan Repayment and Scholarship, OD, and principal investigator for the Laboratory of Molecular Biology, he reiterated the need for more diversity in postgraduate education.

"If I can do it, you can do it. The only way we're going to eliminate the health disparities is by doing the research ourselves. That's what this partnership is all about."  

At the NCI symposium are Dr. Barbara Harland (r), speaker from Howard University's department of nutritional science and Dr. April Moon, a student at Howard.

Wednesday Afternoon Lectures

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features 2002 Nobel laureate in chemistry Dr. John B. Fenn on Jan. 7, speaking on "Electrospray Wings for Molecular Elephants." He is research professor, Virginia Commonwealth University.

On Jan. 14, Dr. Neal G. Copeland and Dr. Nancy A. Jenkins will deliver the G. Burroughs Mider Lecture. See story on p. 1.

NIH scientist emeritus Dr. John W. Daly gives the NIH Director's Lecture on Jan. 21. See story on p. 1.

For more information or for reasonable accommodation, call Hilda Madine, (301) 594-5595.