Biodefense Effort Firms Up in Post-Attack Year
By Rich McManus

As NIH prepares to absorb its largest budget increase in history, chiefly to conduct research to defend against bioterrorism attacks, one of the lead architects of the preparedness plan, NIAID director Dr. Anthony Fauci, offered a sweeping view of the steps that have been taken since 9/11 to defend the country against such ravages. Speaking at a special hour-long Grand Rounds session in Masur Auditorium on Sept. 11, he addressed everything from the philosophy of bioterror versus biowarfare, to the agents most likely to be used as weapons, to the broad federal response to the threat (from basic research to “deliverables”), and concluded with a bedrock rationale for NIH to be at the center of things: “The worst bioterrorist of all could be nature itself...The next pandemic flu worries all of us. The same research that goes into [preparing for SEE BIODEFENSE, PAGE 4

Anthrax Researcher Collier To Give Kinyoun Lecture, Oct. 7
By Jeff Miner

Dr. R. John Collier, a leading expert on anthrax toxin and other bacterial toxins, will deliver this year’s Kinyoun Lecture, sponsored by the National Institute of Allergy and Infectious Diseases. His talk, titled “Anthrax Toxin: Structure, Activity, and New Inhibitors,” will take place on Monday, Oct. 7 at 9 a.m. in Lipsett Amphitheater, Bldg. 10.

Collier, the Maude and Lillian Presley professor of microbiology and molecular genetics at Harvard Medical School, has dedicated his distinguished career to understanding how bacteria cause disease. He elucidated the molecular structure and activity of many important bacterial toxins SEE KINYOUN LECTURE, PAGE 2

Hope, Strength Highlighted in 9/11 Observance on Bldg. 1 Lawn
By Rich McManus

It could have been a depressing experience all over again, and employees knew it as they streamed by the hundreds from all quarters of the campus to attend NIH’s brief observance in commemoration of the horror of Sept. 11, 2001, on its first anniversary. “Got any tissues?” asked one woman to a friend walking from Bldg. 31 toward the gathering on the lawn in front of Bldg. 1. “I might need some.”

It didn’t help that, in eerie evocation of the smoke of Ground Zero, a white scrim of dust blew toward Bldg. 1 as strong winds lofted dirt from the construction zone surrounding the new Clinical Research Center. Nor did fighter jets patrolling the skies over metropolitan Washington, or a phalanx of fire trucks and ambulances parked

Aspects of Scientific Identity Traced
Inaugural CAM Lecture Compares Today’s Medicine with Yesterday’s
By Carla Garnett

To offer perspective on the concept of complementary and alternative medicine (CAM) that seems to have the modern public captivated, medical historian Dr. Charles E. Rosenberg said he journeyed back hundreds of years in time. What he found—and shared with a packed Masur Auditorium recently—were quite a few medical thoughts and practices that in many ways were not too different from today’s.

“Medical ideas were accessible and plausible to a wide range of people,” he said, providing a sketch of health care as practiced in the 17th, 18th and 19th centuries. “They also were multicausal and holistic, with enormous emphasis on the relationship between lifestyle” and health,
and has applied this knowledge to create new strategies for treating and preventing bacterial illness.

Early in his career, Collier discovered that diphtheria toxin crosses the cell membrane and directly inactivates a cellular protein called elongation factor-2, thereby hindering the cell from making new proteins. This research was the first to show that a bacterial protein toxin could breach the protective mammalian cell membrane. His finding was crucial to later discoveries that many major toxins—including cholera, pertussis, tetanus, botulinum and anthrax toxins—enter mammalian cells and target particular molecules within them.

In recent years, he has focused his research on understanding how such intracellular toxins invade cells. His studies have revealed two distinctly different types of molecular machinery that toxins use to penetrate membranes, one employed by the diphtheria toxin, the other by the anthrax toxin.

In the case of anthrax toxin, Collier’s research has proved timely. Well before September of last year, he and his coworkers developed novel strategies to block anthrax toxin, based on new information about its structure and activity. One strategy introduces mutations in the subunit of the toxin that forms an entryway, or pore, in the cell membrane. These mutations convert the pore-forming subunit into a potent “dominant negative inhibitor” (DNI) of toxin action. The DNI combines with normal pore-forming subunits produced during anthrax infections and renders it inactive, ultimately blocking entry of the toxin into cells.

In a second strategy, working with Dr. John Young of the University of Wisconsin, Collier identified the long-elusive anthrax toxin receptor, or ATR, on the surface of animal cells. ATR is the molecule the toxin uses to gain cell entry. The researchers then found the specific region of ATR where the toxin binds. With this information, they produced a “decoy” molecule to divert the anthrax toxin—a shortened, free-floating version of the receptor that binds to the toxin before it attaches to cells.

In the laboratory, the DNI and decoy molecules completely protected animal cells from the toxin. These two toxin inhibitors, plus a third one developed by Collier and colleagues, will soon be tested in animal models as potential anthrax therapies.

Collier holds a B.A. from Rice University (1959) and a Ph.D. from Harvard (1964), both in biology. After postdoctoral study at the University of Geneva, he joined the faculty of the department of microbiology (then called bacteriology) at the University of California at Los Angeles. In 1984, he moved to Harvard, where he served 6 years as graduate dean, followed by a year as acting chair of the department of microbiology and molecular genetics.

Collier received the Eli Lilly Award in Microbiology and Immunology in 1972, the Paul Ehrlich Prize in 1990, and the Selman Waksman Award in 1999. He was elected to the National Academy of Sciences in 1991. Since 1967, his research has been supported primarily by NIAID.

The Kinyoun Lecture honors Dr. Joseph Kinyoun, who, in 1887, founded the Laboratory of Hygiene from which NIH evolved. The lecture highlights research advances in the understanding of infection and immunity. All are invited to a reception in the Lipsett lobby after the talk.

**AAPIEC Mentoring Workshop Planned**

The Asian American/Pacific Islander employment committee (AAPIEC) is planning a mentoring workshop on Thursday, Oct. 10 from noon to 2 p.m. in Bldg. 31, Conf. Rm. 6C10. Speakers Dr. Richard Nakamura, Dr. Simon Liu, Dr. Bill Bunag and Dr. Chi-Chao Chan will provide tips on how to create a network for career success at NIH. This is the first of a series of workshops/brown bags on mentoring sponsored by the NIH AAPIEC. For more information, contact Lucie Chen at 496-5684 or Eva Chen at 496-3164. Attendees will have an opportunity to sing up as mentors or protégés at the workshop. The meeting is open to the public. Sign language interpreters will be provided. Individuals with disabilities who need reasonable accommodation to participate should contact Charly Wells, 496-4627 (TTY 496-9755), or email cw197p@nih.gov.
**Depression Screening Offered for NIH'ers**

Depression screening for NIH staff will be held this year on Thursday, Oct. 10, which is National Depression Screening Day. If you have questions or concerns about symptoms of major depression (including sadness, reduced motivation, sleep disturbances, thoughts of death), or questions about bipolar disorder (including extreme happiness, irritability, talkativeness and increased sociability, insomnia), then you may want to attend one of the sites below anytime between 11 a.m. and 3 p.m. to find out whether you could benefit from further diagnosis and treatment.

**Clinical Center, Rm. 6C-306**
Bldg. 31, Rm. B2B-57
Neuroscience Center, 6001 Executive Blvd., Conf. Rm. D
Executive Plaza North, Rm. 103
Rockledge One, Rm. 5038
NCI-Frederick, Bldg. 549, Conf. Rm A

In Baltimore, the hours will be 11 a.m. to 2 p.m. at the NIDA Bayview Facility, Scanlon Conf. Rm.

At all sites, staff will have the chance to view a short video; complete an anonymous screening tool; meet privately, anonymously and confidentially with a mental health professional for results and treatment resources; or just gather information.

Participants who would benefit from communicating with a mental health professional in Cantonese or Mandarin may want to attend the Bldg. 31 site and meet with Eva Chen, a consultant with the Employee Assistance Program. To arrange for other language interpretation (e.g., Arabic, Hebrew, Vietnamese, Korean, Spanish, etc.), employees should call Andrea Rander with the Language Interpretation Program at least 48 hours in advance (496-1807). To request reasonable accommodation, contact sglezos@nih.gov or call 443-4533.

The EAP is scheduling anonymous screenings through Oct. 25 for staff members who are unable to attend but would still like to be screened (496-3164). Alternatively, people who would prefer to visit a privately sponsored site on Oct. 10 may want to call (800) 520-NDSDF or email ml7w@nih.gov. Sign language interpretation will be provided. For other reasonable accommodation, contact the Office of Equal Opportunity and Diversity Management, 496-6301.

**Hispanic Scientists Day, Oct. 10**

The NIH Hispanic Employee Organization invites all employees to participate in the second part of its Hispanic Heritage Month Celebration, the third annual Hispanic Scientists Day, to be held Thursday, Oct. 10 beginning at noon. The leadoff talk, "Multidrug Resistance in Cancer: Laboratory Studies and Clinical Correlates," will be given at that hour by Dr. Antonio Fojo, chief, Cancer Therapeutics Branch, NCI, in Lipsett Amphitheater, Bldg. 10.

At 12:45 p.m., Dr. Milton Hernandez, director, Office of Special Populations and Research Training, NIAID, will offer an "Introduction of NIH Programs Focused on Grant Opportunities/Positions."

Poster presentations, exhibits and a reception will take place in Bldg. 10's Visitor Information Center from 1:30 to 3 p.m. For more information, contact Dr. Marta Leon-Monzon, 496-4564 or ml7w@nih.gov. Sign language interpretation will be provided. For other reasonable accommodation, contact the Office of Equal Opportunity and Diversity Management, 496-6301.

Dr. Nadarajen A. Vydelingum has been named deputy director of the NCI Center to Reduce Cancer Health Disparities. He has experience in both clinical research and basic science and brings a diverse background in education and administration to the position. The center's goal is to translate research discoveries into policies and/or services aimed at reducing cancer-related health disparities in racial, ethnic, elderly and medically underserved communities.

Vydelingum earned a Ph.D. in clinical biochemistry from London University. In 1977, he began his career in the United States at the Medical College of Wisconsin in the departments of medicine and pharmacology and as director of the lipid laboratory in the General Clinical Research Center. His early research interest in insulin action and fat metabolism as related to type II diabetes and obesity attracted him to Memorial Sloan-Kettering Cancer Center in New York, where he led a group on the study of cancer cachexia (cancer-induced tissue depletion) and the influence of cytokines on lipid/protein stores in cancer patients. In 1991, Vydelingum joined the Division of Research Grants (now CSR), where he headed a scientific review group on peer review in bioengineering and physiology. He has a major interest in science education. He has organized courses for target M.D. students and for students of biochemistry at the Foundation for Advanced Education in the Sciences and spent 3 years as lecturer in advanced cell biology at Johns Hopkins University. He has reviewed more than 200 science books for Northeastern and Boston universities and participates in outreach programs organized by the NIH Speaker's Bureau.

**Juvenile Rheumatoid Arthritis (JRA)?**

Take part in an NIH study testing a new drug treatment for JRA. For more information call 1-800-411-1222 (TTY 1-866-411-1010) or email prpl@cc.nih.gov.

**Have Crohn's Disease?**

Take part in an NIH study testing a potential new Crohn's disease treatment. For more information call 1-800-411-1222 or email prpl@cc.nih.gov.
emerging and reemerging pathogens] should go into our bioterrorism work... The country is looking toward us at NIH. We're going to be in this for a very long time."

Unlike biowarfare, which is essentially troop-targeted, bioterrorism is aimed broadly at the civilian population, meaning that defensive measures must take into account not the homogeneity of an army made up mostly of healthy men ages 18-50, but a staggering diversity of ages, degrees of healthiness and susceptibilities. This is particularly true of vaccines against potential agents of bioterror, Fauci suggested. Too, the nature of a biological attack is insidious; the name of a potential agent alone—Ebola, Lassa, or Marburg viruses for instance—is enough to unleash panic. Thus, even though last fall's anthrax attacks, which resulted in 18 confirmed cases and five deaths, were, epidemiologically speaking, limited, the result was nonetheless chaos: Congress was closed and no hearings could be held until buildings were cleansed, post offices closed, everyone was afraid of the mail for a while, and more than 30,000 people were put on antibiotics, more than 10,000 of them for more than 60 days. “The fear and disruption had more impact than the biological effect,” Fauci said, adding that he in no way discounts the tragedy of those who suffered personally.

Lessons from the anthrax attacks were both academic and grim: we can correct the old textbooks that speculated inaccurately about the volume of spores needed to induce disease; Fauci reported that anywhere from a few to likely 1 million or more spores are required to produce infection, depending on the subject. Each of the letters used in the anthrax attacks contained 2-3 grams of spores, Fauci continued. “If that amount had been put into the ventilation system of a large building, there would possibly have been hundreds if not thousands of deaths... Anthrax is still very high on the list of our homeland defense strategy.”

Fauci reviewed the history of smallpox, noting again that fear of the agent “likely outpaces its actual biological impact.” Despite a vaccine supply large enough to protect all Americans (if the problem of delivery could be solved), and the fact that victims are only infectious after a rash has appeared some 10 to 12 days after initial infection (“That’s at least a positive in our favor,” Fauci noted), not to mention that smallpox was declared eradicated in 1980 by the World Health Organization, the likelihood is “pretty strong,” Fauci said, that remaining stores of smallpox virus from the old Soviet Union “may have fallen into the wrong hands... is it a real bioterrorism threat? Yes.” That there is enough smallpox vaccine to go around in the U.S. is tribute to a science that moved in “a absolute record time,” Fauci said. Researchers used samples from an original store of 15 million doses of smallpox vaccine, in addition to another store of approximately 70 million doses that was recently identified, found through dilution studies that more than 360 million doses can be wrought from our reserves, and would still likely offer good protection. A second-generation vaccine is in the works. The very rare, but still lethal, toxicity of the old vaccine is the only reason it has not yet been offered on a voluntary basis to anyone who wants it, Fauci said. He hinted that an official policy on smallpox vaccination is forthcoming from the Bush White House.

Fauci touched briefly on a raft of research highlights: NIH, the CDC and the Department of Defense are working on a better anthrax vaccine, one that will employ a recombinant protective antigen; following “very impressive” animal trials, a phase I trial in humans of a new Ebola virus vaccine is expected in coming months, largely a tribute to the “spectacular job” done by Dr. Gary Nabel at NIH’s Vaccine Research Center; a combination vaccine is also planned to combat not just Ebola but also Lassa and Marburg viruses, which also cause viral hemorrhagic fever; four new Biosafety Level 3 or higher laboratories are in the works (a BSL-3/4 lab and animal facility at Rocky Mountain Laboratories, a BSL-3/4 clinical facility at Ft. Detrick, a BSL-3 lab and vivarium in NIH’s new Bldg. B and a BSL-3 lab at the Twinbrook facility in Rockville); a new polyclonal inhibitor of anthrax toxin is being developed; and perhaps most dramatically, Fauci showed a brief film clip from the laboratory of Dr. Vincent Fischetti demonstrating a new bacteriolytic agent that kills anthrax bacilli with remarkable speed and efficiency.
Fauci also expects big payoffs in unexpected areas from biodefense work, which NIH is pursuing in partnership with industry and academia. "There will be important spinoffs for things having nothing to do with biodefense," he predicted.

He reported that the proposed Department of Homeland Security is budgeted at over $30 billion, 16 percent of which ($5.9 billion) is devoted to bioterrorism work. "NIH has assumed a substantial responsibility for this work that all of us take very seriously," Fauci said. The President's FY 2003 request for NIH biodefense spending is about $1.75 billion—"the largest annual increase in the history of NIH."

Addressing fears that some of the work could end up compromising U.S. interests, Fauci called for a "culture of responsibility" among scientists and declared that "unless it is proven otherwise, we should keep science the way it is, which is totally transparent. There may be exceptions, but transparency must be the rule."

The session ended with questions from the audience, during which Fauci offered evidence that smallpox vaccination, even if it occurred decades ago, is still somewhat protective. "You might still be susceptible to infection, but chances are better compared with people who were never vaccinated that you might not die if you were infected."

Camera Club Holds Competition

The annual photo competition sponsored by the NIH Camera Club will be held Tuesday, Oct. 8 in the Bethesda-Chevy Chase Services Center. The building will be open at 6:15 p.m. for registration of entries and judging begins at 7. Contest entry fee is $1 and judging will be done by a panel of three expert photographers from the community. Cash prizes will be given for the top three images in each category and ribbons will be given for honorable mention. The categories are black and white prints, color prints and slides. Individuals may enter up to four images per category. For more information email Bey Jackson at bjackson@nida.nih.gov or call Harvey Kupferberg (301) 983-0167 or Margaret Sprott (301) 299-6805.

Wednesday Afternoon Lecture

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Jeffrey M. Trent, NHGRI scientific director and chief of the institute's Cancer Genetics Branch, on Oct. 9. He will speak on "Integrating Genetics, Genomics and Biology of Malignant Melanoma."

There is no lecture on Oct. 16 due to the NIH Research Festival.

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

16th Research Festival Ready to Go

The 16th annual NIH Research Festival will be held in the Natcher Conference Center from Oct. 15 to 18. The festival organizing committee, cochaired this year by scientific directors Dr. Barry Hoffer of NIDA and Dr. Thomas Kindt of NIAID, has planned a wide-ranging program that once again showcases the scientific diversity of the intramural research program.

The NIH Job Fair for Postdoctoral Fellows will kick off festival events on Tuesday, Oct. 15. The fair is sponsored by the Foundation for the NIH with assistance from the NIH Office of Education. Dr. Michael Zasloff, dean, research and translational science, Georgetown University Medical Center, will present the fair's keynote address, "From NIH Bench to the Biotech Bedside," beginning at 10 a.m. in the auditorium of the Natcher Conference Center.

The Job Fair will follow immediately and will host representatives from industry, government, the academic community and nonprofit organizations. NIH postdoctoral fellows who are completing their research training and seeking permanent employment will have the opportunity to meet with these representatives from 11 a.m. to 3 p.m. Visit the fair web site at http://www.training.nih.gov/jobfair/ for a listing of vacancies of the participating exhibitors.

Two days of scientific symposia will begin with a plenary session on "Biodefense: A New NIH Mission," at 8:30 a.m. on Wednesday, Oct. 16. A second plenary session featuring presentations on "Bench to Bedside: NIH Success Stories," will begin at 8:30 a.m. on Thursday, Oct. 17. Both sessions will be held in the auditorium of the Natcher Conference Center.

Twelve mini-symposia with topics solicited from the IC scientific directors and members of the various special interest groups have also been planned for the 2 days as well as four poster sessions featuring presentations by almost 400 intramural scientists.

The Technical Sales Association will again sponsor the Research Festival Exhibit Show on Thursday and Friday, Oct. 17 and 18. More than 400 booths will display state-of-the-art equipment, supplies and services by leading regional and national biomedical research suppliers. The tent show will take place on parking lot 10D adjacent to the Clinical Center Blood Bank.

Visit http://festival02.nih.gov for more program information, meeting locations and complete listings of poster abstracts and special exhibits on intramural resources.
along Center Drive, contribute serenity to the occasion. But an uplifting address by NIH director Dr. Elias Zerhouni pointed the crowd away from darkness and terror and toward a spirit of hope, pride and resolve in the face of tragedy.

Perhaps the largest crowd ever to appear for an outdoor event near Bldg. 1 heard Zerhouni—standing on the portico of Bldg. 1 and looking into the sun, the crowd and a flag poised at half-mast—pledge that “we as a family will overcome any obstacle, any challenge” and hail a sense of spirit and compassion at NIH that prompted employees here to respond immediately to the disasters.

The crowd—larger than any CFC rally, or Bond Drive kickoff, or relay race—assembled quietly and reverently on a morning nearly as perfect, with respect to weather, as a year ago. The ceremony began with a version of “Auld Lang Syne” played on the public address system, followed by a brief welcome by Zerhouni, the presentation of colors by an honor guard composed of NIH fire and police professionals, then the Pledge of Allegiance, led by NIH Director. Next came the “Star Spangled Banner” offered by Cpl. Cilvanus Wood of the NIH Police. Then Zerhouni recounted the events of last September, “which will remain in our memories forever.”

Participants were solemn and somber.

After acknowledging the initial shock that marked the event so indelibly, Zerhouni shifted to the positive: “Within hours, the nation was united in one movement of solidarity and compassion...This event has made us stronger.” Out of tragedy, the country knit a new sense of family, he suggested.

“We shared the pain with our brothers and sisters.”

The enemies of America who perpetrated the acts “thought that we could not muster the moral strength” to respond courageously...Members of the Commissioned Corps were in New York within hours of the event.”

He continued, “In life, it’s not the way that you get hurt that defines you—it’s the way you respond to the hurt.” NIH was a leading responder, he said, crafting within 90 days of the 9/11 and anthrax attacks a plan for biodefense that was so well done it is still in place today.

“...But we are here today not to make speeches,” he said. “We are here to demonstrate that we are one family...Nobody will ever forget those who suffered, and every year we will commemorate this event.”

He saw great hope in the fact that 1,000 new infants...
The crowd listened attentively to brief remarks and witnessed the presentation of colors by an honor guard. They have been born to the families of 9/11 victims. “The new generation will be here,” he asserted, “and we as a family will overcome any obstacle, any challenge we may face.”

From the size of the crowd, it was clear we (NIH) had a major role, which ended, Masur filled to capacity again for a talk whose title was practically begged of the preceding events: “The Future of Life” by Harvard professor E.O. Wilson (see coverage in an upcoming Record).

Fredrickson Memorial Program, Oct. 18

NIH director Dr. Elias Zerhouni invites all employees to attend a memorial program to honor Dr. Donald S. Fredrickson, former director of NIH (1975-1981) and internationally renowned authority on lipid metabolism and its disorders. Fredrickson died June 7 at his home in Bethesda at age 77. The program will be held Friday, Oct. 18 in the auditorium of the Natcher Conference Center. Coffee and refreshments at 9:30 a.m. will precede the program, which will run from 10 to 11:30 a.m. Dr. Thomas Malone, former deputy director and acting director of NIH, will serve as master of ceremonies for the program, which will include a video tribute and remarks by speakers who knew Fredrickson at different phases of his career. A buffet reception will follow at 11:30 a.m. in the Natcher foyer. If you plan to attend call (301) 650-8660 or send an email to edorsey@palladianpartners.com before Oct. 14.

2002 Flu Vaccine Program

In the United States, flu season peaks between late December and early March. Vaccination is the best way to minimize serious adverse outcomes from influenza virus infection. Influenza vaccine delivery is on schedule and the first shipment has arrived. As always, Clinical Center patients and staff who provide direct patient care will be the first to receive immunization. The schedule for vaccination clinics for the general NIH population will be published as soon as the dates are available. A web site (http://www.nih.gov/od/ors/ds/flu/) is established that will have more information as it becomes available.

For more information, or to enroll your youngster, contact Steve Bauer (bauer@1.cber.fda.gov, 827-0468) or Susan Hauser (hauser@nlm.nih.gov, 435-3209).

Science Fun for Children, Adults

NIH staff are welcome to participate as instructors in the Adventure in Science program, a hands-on science education program designed to show children ages 8-11 the fun of doing science. The program meets in Bldg. 10 on Saturday mornings, 8:30 to 11, from late October through early March. The curriculum depends on the interests of volunteer instructors; you can design your own teaching session from scratch or get ideas from previously taught sessions. Teach one Saturday or many. No previous teaching experience is required, but you should have good communication skills, be enthusiastic about science and enjoy interacting with children.

For more information, or to enroll your youngster, contact Ed Max at max@cber.fda.gov or 827-1806.
CAM LECTURE, CONTINUED FROM PAGE 1

"including what kind of work you did, how you slept, what kind of exercise pattern you had. Also, everyone assumed that body and mind were related, that emotions could lead to sickness, that excesses in emotions could make you predisposed for illnesses."

To an extent, Rosenberg explained, earlier generations' concept of health was similar to today's: "Everyone was in a sense dealt a particular hand of cards, but environmental circumstances and lifestyles determined how you played those cards."

Titled "Alternative to What? Complementary to Whom? On Some Aspects of Medicine's Scientific Identity," Rosenberg's talk was the first in a new series of lectures launched by the National Center for Complementary and Alternative Medicine on the science of CAM. The timing for the series probably could not have been better, said Dr. Stephen Straus, NCCAM director. "This is a subject—as you can see from the size of the audience—that is fascinating to the American public today," he said. "The CDC estimates that 29 percent of Americans use one or more of these [CAM] modalities each year. It's that popularity in part that led to the creation 3 years ago of the national center. What we hope to do in this series is not to promote alternative and complementary medicine, but to promote understanding about it by looking at it from various perspectives. We intend to bring in truly distinguished scholars who can speak about the practice, the science, the ethics and various aspects of it. Today we're beginning by providing some social and historical context."

Introduced by Straus as "one of the country's most eminent medical historians," Rosenberg, a professor of the history of science at Harvard University, began by discussing core traditions of medicine. He then explored the American medical experience and gave background on several relevant social factors that have come to define legitimate—and illegitimate—medical practice.

"When I was asked to speak about this topic," he said, "I thought it would be a challenge. And it has been, because the more I thought about it the more elusive—yet more interesting—it became. Where there is so much social affect, there have to be a lot of very deeply held thoughts and feelings."

Rosenberg acknowledged the existence of a broad spectrum of opinion about CAM, ranging from those who assert that all unconventional approaches to medicine are little more than quackery that divert resources and attention from scientifically tested therapies to people who believe in using methods of prevention and treatment not accepted in the mainstream. His research into medicine's history suggested the wisest course may be to adopt a wide view of health and disease.

The history of medicine can seem very narrow if viewed simply as the history of doctors (or those identified as progenitors of today's doctors), he said. However, "if you think of the history of medicine as social function—what happens when people get sick—it's a different history. It's a bigger history."

Until recently, he continued, "it was never assumed that most medical practice was done by doctors. Whether we're talking about 17th century, 18th century or most of the 19th century, most medical practice was in the home and was done by laypeople through a mixture of traditional skills—for instance, how you deal with a wound, or a fracture."

Rosenberg explained that of necessity, practitioners who were quasi-professionals, including barbersurgeons, bonesetters, bleeders and clergymen, often practiced medicine because they were the only educated people in a community.

"The predecessors of today's doctors were very text-oriented, very academic," he pointed out. "In some ways their skills were more like that of a professor of classics or professor of history than our idea of a laboratory scientist or a clinical investigator. They were people who knew how to read texts, how to think about texts, how to compare texts and they were able to convince educated people that they could help them prevent disease or cure disease. It's not an accident that until the 19th century, the regular medical profession was called 'the faculty' as a synonym for the profession. It's also not an accident that the term 'empiric' was a pejorative synonym for 'quack,' because an empiric meant someone who did something because it worked and they had no rational basis for doing it. There was no theoretical framework to justify what they did."

"In the history of medicine faces now, he said. "There have always been problems of boundary setting and boundary maintenance."

Rosenberg noted, referring to the current conflict between so-called conventional medicine and CAM, and the value placed on either or some combination. "A number of the things we associate with modern medicine and with what's legitimate or normal weren't there," long ago, Rosenberg said. For instance, "the site of medical practice in almost every Western European country was the home, not the hospital. Until the late 19th century, the hospital was a minority urban institution for the urban poor."

"Medical knowledge was diffused very widely in society," he explained, noting that grandmothers of the time were just as likely to diagnose fever as a
doctor, and that medical specialties were nonexistent. For example, he continued, barbers often pulled teeth and stitched wounds; doctors routinely performed double duty as pharmacists.

Turning to the history of health care in the U.S., Rosenberg traced the roots of several sects that could be viewed as early alternatives to what had at the time become mainstream medicine: the Thomsonian sect touted remedies largely based on native herbs and sweat baths; homeopathy, imported from Germany, gained popularity in this country in the 1830s and 1840s "as sort of an indictment of regular medicines," which were viewed by many as severe and more toxic when compared with homeopathy's emphasis on strict measurements and milder dosages; and the Water Cure was a hygienic regimen based on improved sanitary conditions and purifying the body through bathing and water consumption. Later on, many of these therapies tended "either to dissipate into ad hoc individual practice or they became assimilated into regular medicine," Rosenberg said, stressing that criticism of mainstream medicine also has a long history.

"We all know who won," he said. "The laboratory won. The notion of medicine tied to science—even if imperfectly applied—won in terms of dominating public policy, dominating licensing and dominating the notions of educated people as to what they should expect, what 'normal' medicine should be."

As for where medical practice finds itself these days, Rosenberg concluded, "Optimists will say, 'We have a genuinely plural system. We're going to look everywhere for things that work.'"

In reality, he said, the topic of CAM continues to inspire at least two well-defined factions, a circumstance possibly due to an inherent conflict: the science-based evidence required by most mainstream physicians versus CAM approaches founded solely on experience-based claims.

"Most [physicians] I know don't believe in narratives," Rosenberg admitted, "because narratives imply contingencies or arbitrariness, a historical accident. It's not a way of thinking that is congenial to most people in the medical world."

**FEW Holds Lunch Meeting**

The Bethesda chapter of Federally Employed Women will hold a session in its Brown Bag Lunch Professional Development Series titled, "Tapping Into Management and Leadership Programs—An Interactive Panel Discussion." Graduates of the NIH Management Intern and Presidential Management Intern programs, the NIH Management Cadre Program and other leadership programs will discuss their experiences and lessons learned as interns. The meeting is Tuesday, Oct. 8 from noon to 1 p.m. in Bldg. 31, Conf. Rm. 6C-10. Reasonable accommodation will be provided.

**MEDLINEplus Now Speaks Spanish**

MEDLINEplus, the National Library of Medicine's consumer friendly health web site, now speaks Spanish. The new site is at medlineplus.gov/esp.

Recent surveys show that more than 50 percent of adult Hispanics in the U.S. use the Internet. More than half of those look to the web for medical and health information. This growing audience was the impetus for launching MEDLINEplus in Spanish.

Now users will find many of the authoritative, full-text resources that are available on MEDLINEplus "en Español," too.

MEDLINEplus, available free of charge 24 hours a day, debuted in October 1998. Today the site features over 560 health topics and sees over 1 million visitors per month. The web address is medlineplus.gov.

In the Spanish version, hundreds of topics point users to information from NIH and other federal agencies, plus professional medical associations and health-related organizations. On the medical encyclopedia pages, full-color illustrations and photographs accompany over 4,000 articles on diseases, injuries, tests and surgeries. The interactive health tutorials—narrated guides to various health topics—use animated illustrations and plain language to describe medical procedures, surgeries, and the symptoms and effects of disease.

Non-Spanish speaking doctors, nurses, librarians and others looking for Spanish language materials for their patients and clients will find the new service especially useful. A single click of the "Español" link will take users from the English MEDLINEplus page to its corresponding Spanish page.

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Dr. David Armstrong has been named chief of the brain disorders and clinical neuroscience integrated review group at the Center for Scientific Review. He recently was the principal investigator on three NIH grants to study transmitter neuroanatomy and the GABA receptor in Alzheimer's disease. Armstrong has devoted his career to understanding the cellular and molecular mechanisms related to the neurodegeneration seen in Alzheimer's and stroke patients. He has authored or coauthored more than 90 journal articles, advancing the understanding of the neurotransmitter systems and gene products associated with the neuronal vulnerability that precedes neurodegeneration. His academic and administrative experiences include serving as senior scientist and associate director of the Lankenau Institute for Medical Research; professor and associate director of the Institute on Aging at the MCP-Hahnemann School of Medicine; associate professor at Georgetown University Medical College; and assistant professor at the University of California in San Diego and the Albert Einstein College of Medicine.
Olopade Delivers Eighth Annual Diggs Lecture

By Willie Davis and Alfred Johnson

Dr. Olufunmilayo F. Olopade, professor of medicine and director of the Center for Clinical Cancer Genetics at the University of Chicago Medical Center, delivered the NIH Black Scientists Association John W. Diggs Lecture before an enthusiastic crowd in Masur Auditorium recently.

Her topic was "Dissection of Cooperating Genetic Pathways Involved in Aggressive Early Onset Breast Cancer Reveals Mutually Distinct Roles for BRCA1 and HER-2/neu Genes." This research is focused on trying to understand the genetic risk factors involved in the development of breast cancer in black women.

"The most important risk factor in developing breast cancer is being a woman," she said. More than 190,000 women are diagnosed with breast cancer each year, but Olopade's research is more specifically designed to understand why black women tend to develop breast cancer that is more aggressive than that found in white women. She reminded the audience that in black women, breast cancer has an earlier onset, is more likely to be bilateral and is also more likely to recur after initial treatment.

Olopade reviewed the history of the identification and characterization of the breast cancer susceptibility genes, BRCA1 and BRCA2. While most of the hereditary data regarding the prevalence of mutations in these cases of breast cancer were from studies of Ashkenazi Jews, she was able to identify mutations that occur within non-related black families. Additionally, she reported that black women who suffer from breast cancer are "unlikely to receive genetic counseling" in attempts to explore patterns of inherited susceptibility. This factor may result in decreased vigilance among black women with an unidentified high risk of breast cancer due to familial factors.

Olopade ended the lecture with a discussion of the association of BRCA1 mutations with other tumor markers. "There is an association between BRCA1 and HER-2/neu, as breast tumors that exhibit mutations in either of these genes show similarities in their pathophysiology." She has also linked BRCA1 mutations with estrogen receptor and c-myc expression. These associations led to a model for breast cancer tumorigenesis that involves initial mutations in caretaker genes such as BRCA1 and BRCA2, followed by mutations in gatekeeper proteins such as cell-cycle mediators, tumor suppressors and oncogenes.

Prior to Olopade's lecture, the Black Scientists Association awarded the Cheryl Torrence-Campbell Memorial Scholarships, presented each year to two graduating seniors from District of Columbia high schools who intend to pursue an education in the sciences. The recipients were Brionna Hare of Benjamin Banneker High School, who will attend Brown University, and Kaima Howard of St. John's College High School, who will attend Loyola University. The awardees were presented with a $1,000 scholarship check and a plaque commemorating their achievement.

The John W. Diggs lecture, first given in 1995, is an annual event that honors the former deputy director for extramural research at NIH. Diggs was well respected for his contributions to the NIH community and to the scientific community at large, and especially for his efforts in advancing underrepresented minorities in the biomedical sciences.

OCL's Annual Community Health Forum Set

The NIH Office of Community Liaison will host its fourth annual community health forum, "Share the Health: An Exposition of Health Resources from NIH to Its Neighbors," on Saturday, Oct. 26 from 8:30 a.m. to 3 p.m. at the Natcher Conference Center. Activities include free seminars on health promotion and disease prevention, and discussions on health topics by leading NIH physicians and scientists. Work out with popular exercise host Margaret Richard, producer of PBS television's Body Electric program; explore the "Drunken Brain," the National Institute of Alcohol Abuse and Alcoholism's interactive exhibit featuring a giant brain model with flashing lights; tour NIH fire engines and ambulances; learn about good nutrition, Halloween safety, and fire prevention; and watch trained police dogs sniff out hidden explosives and firearms.

Sign language interpretation will be provided. For reasonable accommodation, call Terry LaMotte at (301) 650-8660 (TTY, call the Federal Relay Service at 1-800-877-8339) or email tlamotte@palladianpartners.com by Oct. 11.
Computer Training Fall Classes Available

The CIT Computer Training Program is offering over 100 different classes this fall. The classes are, as always, free of charge to NIH staff. A full list, with course descriptions, can be found at http://training.cit.nih.gov.

Statistical packages will be well represented among the more than 20 new classes being offered this term. The SAS Institute will offer an SAS Day in Bldg. 1’s Wilson Hall, where participants will have an opportunity to learn about SAS tools. In addition, two hands-on courses are scheduled. “Accomplishing Tasks in SAS Using Enterprise Guide Software” will target end users who are not programmers but who need to retrieve information from different sources, summarize it, and present it in tables and graphs. “The SAS Output Delivery System” is designed for experienced SAS programmers who would like to use this new tool for producing output.

A specialized class in S-Plus, another major statistical package, “Microarray Data Analysis Using S-PLUS 6” will offer a morning lecture and an afternoon hands-on lab session. It will include examples involving the analysis of cDNA and Oligo (Affymetrix) microarray data.

There will also be many other new classes for scientists. CIT’s Helix group will present a class on “Easy Large-Scale Bioinformatics on the NIH Biowulf Supercluster.” The class will demonstrate user-friendly tools available for scientists with hundreds or thousands of sequences to analyze. NCBI will be offering classes on “Locus Link” and “Making Sense of DNA and Protein Sequences” and will be repeating classes on Blast, Structural Analysis and MapViewer.

Several scientific software providers will be coming to NIH to give classes on their tools. Affymetrix is bringing a hands-on “Understanding Affymetrix GeneChip Data using Data Mining Tool (DMT) and the NetAffx Analysis Center.” Bitplane is bringing three offerings: “Imaris and Imaris Surpass Basics,” “Measurement Pro, Imaris Time, and Advanced Features of Imaris and Surpass,” and “Deconvolution – Huygens.”

Microsoft’s .NET and Sun’s J2EE are competing tools for enterprise development and deployment of web-based applications. During its summer training program, CIT offered a brief seminar comparing the two. This fall, two new courses have been scheduled in response to requests for more technical information. Microsoft will present a 2-day hands-on “.NET for Developers;” and Sun Microsystems will present “J2EE.”

The travel portion of the new business system will be rolling out at NIH in February. With a need to train more than 2,000 students in a short time, CIT will coordinate registrations for all of the many locations that will be required to accommodate participants. The program will comprise both computer-based self-study and a day of hands-on classroom work. Also, the Data Warehouse trainers will teach a class on the conversion of the Data Warehouse tool involved with the NBRSS.

Other new classes will cover Flash, Active Directory at NIH for developers, Linux and many returning favorites.

New Classroom Locations

Many CIT offices have moved out of Bldg. 12A, but classes are still offered at that site. There is also off-campus classroom space at 10401 Fernwood, the new home for many CIT personnel. Visitor parking is free; the Rockledge shuttle drops passengers off next to the Fernwood Bldg.; and CIT now runs a special shuttle directly between Bldg. 12A and Fernwood. Visit http://training.cit.nih.gov/notes/fernwood/fernwood.html for more information about schedules, maps and parking. For more information call 594-6248 (GOCIT internally).

NHLBI Chemist Highet Dies

Dr. Robert J. Highet, 76, an NHLBI organic chemist who specialized in nuclear magnetic resonance (NMR) studies of natural products, died of colon cancer on July 15 at Holy Cross Hospital in Silver Spring.

He retired in 1994, after more than 41 years in NHLBI’s Laboratory of Chemistry. While in the lab, he was instrumental in bringing to NIH the first chemist-oriented NMR instrument, called the Varian A-60. Highet was well-known for his skills in interpreting the instrument’s complex signals to a wide variety of natural products. Most recently, he collaborated with NIDDK scientist Dr. Herman Ziffer on substances from the plant Artemisia annua, which is used in the treatment of malaria.

Highet was born in Springfield, Ill., and served in the Pacific during World War II. After the war, he received a bachelor’s degree from the University of Illinois and then attended the University of Wisconsin in Madison, earning his Ph.D. in 1953. While at the university, he studied with famous steroid chemist, Dr. William S. Johnson.

Highet, a long-time Bethesda resident, is survived by his wife, Patricia, who worked at NHLBI and NIDDK for 35 years and retired in 1999, and daughters Joan Highet of Silver Spring, Cathy Highet of Berkeley, Calif., and Suzanne Kaiser of Pasadena, Calif.
Dream Anatomy Exhibition Opens at NLM

Who we are beneath the skin amazes and scares us, entertains, repels, fascinates, inspires. Since 1500 A.D., when illustrations of human anatomy first began appearing in print, artists have employed fantastic settings, bizarre juxtapositions, mischievous poses, intense colors and fanciful metaphors to display scientific knowledge of the body and its interior—a dream anatomy that reveals as much about the outer world as it does the inner self. Dream Anatomy, a new exhibition at the National Library of Medicine, will run from Oct. 9 until July 31, 2003.

NIH staff are invited to an opening program, “Anatomical Visions: Past, Present, Future,” in Lister Hill Auditorium, Bldg. 38A on Oct. 9. After coffee in the lobby from 3 to 3:30 p.m., the program will begin with Dr. Ynez Violé O’Neill from the UCLA School of Medicine discussing the revolution sparked by the father of modern anatomy, Andreas Vesalius (1514-1564). She will be followed by Dr. Michael Sappol, NLM historian and curator of the Dream Anatomy exhibition, who will describe the show’s themes and contents. Finally, New York artist Alexander Tsiaras will move the proceedings into the 21st century with his discussion of contemporary anatomical visualization. Tsiaras’s work is featured in Dream Anatomy, as are Vesalius’s remarkable representations of the human form.

Drawn almost entirely from the library’s collection, Dream Anatomy shows off the anatomical imagination in some of its most spectacular incarnations, from 1500 to the present. The exhibition has three sections:

Anatomical Dreamtime focuses on the early modern era. In the 1500s and 1600s, artists employed visual metaphors and iconographic references, making use of all the artistic styles and genres available to them, to depict human anatomy. The resultant images, playful and rich in social meaning, featured fanciful scenes and bizarre juxtapositions.

Getting Real examines the movement to dispense with metaphor and fancy. Between 1680 and 1800, anatomists began calling for a more realistic “scientific” anatomy. They argued that metaphor, death imagery and theatrical gestures did not belong in anatomical illustration. Realistic scientific illustration no longer employed bizarre juxtaposition, metaphor and theatricality, but had its own dreaminess: it featured intense color, sumptuous textures, radical partitioning of the body and sometimes blatant ugliness.

Visionary & Visible looks at fanciful anatomical images in the period from 1800 to the present. In fine art, popular science and popular culture, anatomical representation continued its long association with death imagery, allegory and aesthetics. Currently, artists and scientists are exploring and rethinking the boundaries between art and science. Advances in the technology of anatomical imaging, including NLM’s Visible Human Project, are inspiring new anatomical visions.

Dream Anatomy is displayed in the first floor exhibition space of Bldg. 38. Hours are Monday through Friday, 8:30 a.m. to 5 p.m., with extended hours Thursdays til 9 p.m. The exhibition can also be viewed Saturdays from 8:30 a.m. to 12:30 p.m. A web version of the exhibition is located at www.nlm.nih.gov/dreamanatomy. To schedule tours and for other information about Dream Anatomy, contact Jiwon Kim at 496-5963 or educator@nlm.nih.gov.

Director’s Town Meeting, Oct. 4

On Friday, Oct. 4, NIH director Dr. Elias Zerhouni will host his first NIH Town Hall Meeting in Masur Auditorium, Bldg. 10, from 1 to 2 p.m. It will be an opportunity for him to communicate his vision for NIH and address issues of importance to the NIH community. The session will be followed by a question-and-answer period.

All NIH employees are invited to attend. Seating will be available on a first-come, first-served basis. Sign language interpretation will be available and accommodations can be made for persons needing special assistance. The event also will be videocast and can be viewed from your office computer at http://videocast.nih.gov. For more information contact Carol Jabir at jabirc@od.nih.gov or 496-1776.