

THE NIH RECORD

Still The Second Best Thing About Payday

NIGMS Hosts Workshop on Basic Biology of Stem Cells

By Alison Davis

In many ways, the most pressing problem facing the field of stem cell research is the same question biologists have been asking for years. What basic properties inside cells make them behave the way they do?

True, stem cells are unique in having the ability to choose between making exact copies of themselves or developing into any type of cell in the body. However, they possess much of the same molecular machinery as do cells that have "decided" what tissue type to become.

"All problems in stem cell biology are problems of basic biology," said Dr. Margaret Goodell of Baylor College of Medicine, who studies adult stem cells in muscle and blood, and who spoke at a recent NIGMS-sponsored workshop on the basic biology of mammalian stem cells. The June 9-10 meeting, organized by Dr.

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Rosenberg To Give Inaugural NCCAM Series Lecture

Dr. Charles E. Rosenberg, a medical historian who is both professor of the history of science and Ernest E. Monrad professor in the social sciences at Harvard University, will speak on "Alternative to What? Complementary to Whom? On Some Aspects of Medicine's Scientific Identity," at 3 p.m. on Thursday, July 18 in Masur Auditorium, Bldg. 10. His talk launches a new lecture series at NIH, Distinguished Lectures in the Science of Complementary and Alternative Medicine.

There is great interest in complementary and alternative medicine. According to a 1999 survey, an estimated 29 percent of American adults used at least one CAM

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

July 9, 2002
Vol. LIV, No. 14

'Research at the Frontier'

Liotta, Zerhouni Kick Off Summer Lecture Series for Interns

By Rich McManus

As if cancer researcher Dr. Lance Liotta's talk on inventing new tools to detect cancer-host interactions at their earliest moments wasn't attraction enough, the summer students who packed Masur Auditorium June 11 for the kickoff of an



NCI's Dr. Lance Liotta

eight-lecture series for interns were also treated to introductory remarks by NIH's new director Dr. Elias Zerhouni, who advised them to follow their imaginations, take advantage of the "largest concentration of top biomedical scientists in the world," and dare to "use the side roads and explore—don't use I-95."

The highway reference is hard-won; Zerhouni commutes daily to Bethesda from the greater Baltimore area. But he was serious about avoiding the main drag. "It really is a great pleasure to

SEE SUMMER LECTURES, PAGE 6

Help for 'Diet War' Veterans

Panel Weighs In on 'Diet, Fat & Cholesterol'

By Carla Garnett

If you've ever worried about how much fat to eat, whether you should diet or the difference between "good" and "bad" cholesterol, then the recent seminar, "Promoting Healthy Lives:



ORWH's Dr. Vivian Pinn (l) talks with guest lecturer Dr. Pamela Peeke.

Diet, Fat & Cholesterol," was tailor-made for you. Sponsored by the Office of Research on Women's Health as part of its 2001-2002 seminar series, the event featured three experts to present the facts, and—perhaps more importantly—refute the innumerable myths that swirl perpetually around these three topics.

"Controversy on how much fat we should eat and what type has been debated since

SEE DIET WARS, PAGE 8

Children with ADHD Needed

The Pediatric and Developmental Neuropsychiatry Branch, NIMH, seeks boys and girls 6 to 13 years of age, diagnosed with attention deficit hyperactivity disorder (ADHD), to participate in a movement study. Volunteers should have no history of other medical or neurological disorders (including seizures and hearing problems), and should not be taking any prescribed medications. Participation involves neurological examinations, single and paired-pulse TMS tests, and hearing tests. Participants will be compensated for their effort and time (approximately 3 hours). For more information, call Mark Choa, 496-5323.

ROSENBERG, CONTINUED FROM PAGE 1

therapy in the 12 months prior to the survey. Furthermore, the public wants to know whether these therapies are safe and effective. The National Center for Complementary and Alternative Medicine, sponsor of the new lecture series, was established, in part, to explore CAM practices using rigorous scientific methods to evaluate their effectiveness, and to share this information with the public. As part of the mission, NCCAM will bring two leading figures in science or medicine per year



Dr. Charles Rosenberg

to NIH to speak on CAM and key issues such as practice, research, policy, history or public use. Rosenberg will provide a historical context for understanding CAM by discussing the roots of CAM and Western medicine, and examining the changing scientific identity of medicine over time. According to Rosenberg, much of the controversy surrounding what is now called complementary and alternative medicine can be understood in terms of CAM's historical context.

He has written widely on the history of medicine and science, including *Cholera Years: The United States in 1832, 1849, and 1866*; *No Other Gods: On Science and American Social Thought*; and *Explaining Epidemics*. He is now at work on a history of conceptions of disease during the past two centuries.

Rosenberg has received many awards, including the William H. Welch Medal of the American Association for the History of Medicine and the George Sarton Medal (for lifetime achievement) from the History of Science Society. He is a member of the Institute of Medicine and a fellow of the American Academy of Arts & Sciences.

Members of the NIH community and public are invited to hear the lecture. For more information visit www.nccam.nih.gov/news/lectures. For reasonable accommodation, contact Valeria West at 402-9686. ■

Healthy Children Needed

NINDS is seeking healthy children, ages 6-17, to participate in a sweat measuring study. The sweat measuring test is non-invasive. Participation involves one hour-long outpatient visit. Compensation is provided. Call 1-800-411-1222 (TTY 1-866-411-1010) email prpl@cc.nih.gov. ■

NIH Communicators' Products Honored

The National Association of Government Communicators recently held its annual Blue Pencil and Gold Screen award competition to honor the best public affairs products in the country. Several NIH information offices were honored.

The employment recruitment video, *NIAID: Come Join Us*, won a Gold Screen Award by placing first in the sales/marketing category.

Sharing a second place Blue Pencil Award in the brochures/booklets category were *Microbes in Sickness and in Health* by NIAID and *The Structures of Life* by NIGMS; the latter title also won second place in Most Improved category.

Honored with first place in the category Soft-cover Books (over 50 pages) was the NIA publication, *El Ejercicio Y Su Salud*.

In the Special Communications category, NEI took first place for a CD-ROM titled Interactive Multimedia Touchscreen Program.

And in Visual Communications, in the Calendars category, a second place award went to NIDA for *Walking a Good Path - 2002 Calendar*. ■

Study Needs African Americans

NIDDK is seeking healthy African-American males and females to participate in a study to understand the formation of white blood cells. Procedures include a blood draw and limited physical and medical history. You may be eligible if you are between 18-50 years old. Compensation is provided. Call 1-800-411-1222 (or use TTY 1-866-411-1010). ■

NIH RECORD

Published biweekly at Bethesda, Md., by the Editorial Operations Branch, Division of Public Information, for the information of employees of the National Institutes of Health, Department of Health and Human Services. The content is reprintable without permission. Pictures may be available on request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through Sept. 30, 2002.

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ClinPRAT Training Program Open

The NIH Clinical Pharmacology Research Associate Training (ClinPRAT) Program is a 3-year postdoctoral research fellowship sponsored by the Clinical Center and the National Institute of General Medical Sciences. It emphasizes the application of laboratory pharmacology, biostatistics, pharmacokinetics and chemistry to the study of drug action in humans.

Postdoctoral training positions are available starting July 1, 2003 and in subsequent years. Candidates must have an M.D. and, in general, have completed 3 years of residency training, and be board-eligible in a primary medical specialty. Candidates must be U.S. citizens or permanent residents of the United States.

Candidates' qualifications are evaluated by the



Dr. Elizabeth S. Lowe, the first ClinPRAT fellow to complete the 3-year research training program, receives her certificate from Dr. Arthur J. Atkinson, Jr., senior advisor in clinical pharmacology at the Clinical Center and ClinPRAT program director.

clinical pharmacology steering committee. Selection is highly competitive and preference will be given to applicants with outstanding potential. Most successful candidates either have had Ph.D. degrees in addition to their M.D. degree or substantial prior research experience. The stipend is determined by the candidate's educational and professional experience. For more information visit <http://www.cc.nih.gov/OD/clinprat/> or call Donna Shields at 435-6618. ■

Study of Heart Disease

An NIH study seeks males 21 or older and postmenopausal women. If you smoke or have high blood pressure, or high cholesterol, or diabetes, call: 1-800-411-1222 (TTY: 1-866-411-1010). Compensation is provided. ■



During his second week on campus, new NIH director Dr. Elias Zerhouni (l) dropped in on a May 31 symposium in Lister Hill auditorium called "Julie at 90," which honored NIMH scientist emeritus and Nobel laureate Dr. Julius Axelrod (c). NIDDK's Dr. John Daly (r) was among the presenters. Zerhouni joined attendees in singing Happy Birthday.

Chamber Players End Season

The Rock Creek Chamber Players will give their last concert of the 2001-2002 season on Sunday, July 21 at 3 p.m. in the 14th floor assembly hall, Bldg. 10. The program will include solo piano works by Bach and Chopin, three motets by Hindemith for soprano voice and piano, a divertimento by the Danish composer Kjell Roikjer for flute and viola, and Haydn's "Farewell" symphony. For more information about this free public concert, sponsored by the Clinical Center's recreation therapy section, call (202) 337-8710. ■

Dr. Carolyn Best of the pathogenetics unit, Laboratory of Pathology in NCI's Center for Cancer Research, is the first winner of the Sallie Rosen Kaplan Fellowship. Best's studies address the molecular profile of human prostate cancer, with



the long-term goal of aiding in diagnosis and treatment. The award, sponsored by the Foundation for the National Institutes of Health and NCI, supports women postdoctoral fellows conducting cancer research and is administered by NCI's Fellowship Office.

While future years will feature a national competition for a starting fellow, in this initial year of the program the award was made to extend the work of a current postdoctoral fellow. The award honors the memory of Sallie Rosen Kaplan, a woman who had a deep interest in education and in making opportunities available for others.

Study of Dystonia

Researchers at NIH are conducting a study to determine if amlodipine can improve the effects of botulinum toxin injections for individuals with cervical or focal hand dystonia. Call 1-800-411-1222 (TTY: 1-866-411-1010).

STEM CELLS, CONTINUED FROM PAGE 1

Judith Greenberg, acting director of NIGMS, was intended to stimulate thought and discussion between basic scientists and stem cell biologists and identify areas in need of further research.

Endless Questions

Greenberg kicked off the meeting by posing a few seemingly simple, but still unanswered, questions about stem cells. Among them:

“What mechanisms keep stem cells in an undifferentiated state? Is there a unique complement of genes expressed in embryonic stem cells? Do all embryonic stem cell lines have the same properties? How do embryonic stem cells differ from adult stem cells?”

“The questions are endless,” Greenberg said, “but the answers are essential if we are to rationally manipulate embryonic and adult stem cells for therapeutic uses.”

Greenberg, who is also director of the NIGMS Division of Genetics and Developmental Biology, conceived the idea to hold a meeting to bring together stem cell biologists and basic biologists, including scientists working with model organisms such as roundworms and fruit flies. The workshop, and the discussion that followed, brought

one important message to the fore: Scientists working in many disciplines need to get together to move the promising field of stem cell biology forward. Anticipated benefits include improved experimental systems for fundamental biological studies about health, potential tools for drug discovery and testing, and potential sources for transplantation therapies.

“It’s an incredibly multidisciplinary area,” said Dr. James Thomson of the Wisconsin Regional Primate Research Center of the University of Wisconsin, encouraging biologists and other biomedical researchers to think together about research problems. A pioneer in studies of embryonic stem cells and one of the workshop’s co-chairs, he gave the first keynote address, updating the audience on the field of stem cell research.

Culture Shock

Hard work from all sorts of biologists, chemists, and even engineers, physicists and computer scientists is especially needed for one particular task that has not been easy to accomplish: figuring out how to get finicky stem cells to grow well in the lab. Scientists have had great difficulty culturing stem cells efficiently and reliably, and this has caused a bottleneck in the field.

What’s especially challenging, veteran stem cell researchers say, is getting stem cells not to change, or differentiate, into other cell types.

In a half-day discussion session that followed the

meeting, Harvard University cell biologist Dr. Marc Kirschner said that taking steps to learn how to culture stem cells systematically has great potential to make stem cells an attractive model system for probing basic biology. “Low-tech” research is what’s needed, he said, referring to the labor-intensive process of determining workable culture conditions in which stem cells can thrive while staying undifferentiated, or pluripotent. Doing so requires getting well-trained senior scientists to work out those difficult issues.

“It takes someone who’s trying to think like these cells,” said Kirschner.

He delivered a second keynote talk on some of the ways basic biology underlies stem cell research. According to Kirschner, by focusing on the characteristics unique to multi-celled organisms (metazoans), scientists may be able to unveil some of the secrets of stem cells, such as how cells make choices to become different, forming biological compartments such as tissues, and how and why some tissue types (like skin) can regenerate, whereas others (like the brain) cannot.

Back to Basics

“We need to better understand the molecular logic of developmental plasticity,” said Dr. Kenneth Zaret of Fox Chase Cancer Center, who also co-chaired the workshop. His research examines cellular communication events that lead to development of the liver and pancreas. Advances in stem cell biology can enhance basic science, Zaret said, by leading to better experimental systems.

Cells’ molecular logic drives many important cellular processes: the cell cycle, transcription, genomic imprinting, and chromosome structure and function, to name just a few. Dr. Richard Young of the Whitehead Institute for Biomedical Research spoke about his efforts to understand transcriptional regulatory networks—a dynamic form of measuring gene activity—in living cells.

He discussed his recent studies aimed at understanding how cell-wide

control of gene activity can weave together the many different functions in cells. That’s especially important because scientists are becoming increasingly aware that cellular processes do not take place independently of each other. A major challenge to



“The questions are endless,” said Dr. Judith Greenberg, acting director of NIGMS.



“It takes someone who is trying to think like these cells,” said NIGMS grantee Dr. Marc Kirschner. (Photo: Stu Rosner)

understanding cell behavior—for stem cells or any cells—rests with piecing together data obtained from separate processes into a meaningful context.

According to Young, an important step in meeting such challenges will be to train a new generation of scientists who can attack biological problems using computer-based methods.

“It’s extraordinarily valuable to co-mentor students in computer science and biology,” he said, “so they can feel comfortable in both environments.”



Dr. James Thomson encouraged biomedical researchers to work collaboratively in the area of stem cell research. (Photo: Jeff Miller)

Several workshop speakers discussed ongoing fundamental research aimed at understanding how chromatin, the complicated packaging system that keeps DNA wound inside chromosomes, plays important

roles in regulating gene activity. Some of this control, said Dr. Timothy Bestor of Columbia University, may have a major impact on stem cell-related research. For example, he hypothesized, the poor success rates and severe growth abnormalities observed in cloned animals may be caused by incorrect “marking” of DNA in chromatin at early stages of development.

Future Therapies?

Other speakers discussed more applied aspects of stem cell biology. Dr. Pamela Gehron Robey of NIDCR presented experiments in which she has identified skeletal stem cells, some of which have the ability to make bone, circulating in blood. She described the extreme plasticity of these adult stem cells with regard to their ability to change back and forth between bone and fat tissue.

Dr. Ron McKay of NINDS addressed the promise of pluripotent stem cell research to advance knowledge in diseases of the nervous system, such as Parkinson’s disease. He presented results showing that midbrain stem cells can generate functional, dopamine-producing neurons.

One prediction echoed by many workshop speakers, including McKay, is that studying stem cells will have a profound future influence on medicine. Indeed, embryonic stem cells have the ability not only to make identical copies of themselves, but also to become anything in the body. These properties make them tantalizing as possible therapies to treat many ravaging human diseases.

But Thomson stressed that such therapies may not arrive soon, citing “astronomical” costs in obtaining sufficient numbers of cells required for patient-specific therapy, as well as weighty challenges in evaluating the benefits and risks of treating diseases, especially chronic disorders such as diabetes.

It seems that for the foreseeable future, embryonic and adult stem cells hold great promise in serving as increasingly important model systems to study fundamental biological problems. According to Thomson, since stem cells are so-called “primary” cultures, they offer an advantage over using cell lines, which by nature have altered growth properties or problems with their chromosomes. Also, Thomson added, access to primary tissue isn’t always the best option for studying normal human biology, with cultures often being derived from diseased or damaged human tissues.

Another exciting use for stem cells may be as an important model system for drug discovery and testing. Thomson and others predicted that this particular use of stem cells may partially obviate the need to use research animals in drug toxicity studies.

For summaries of all the speakers’ talks and general discussion topics from the meeting, visit <http://www.nigms.nih.gov/stemcellworkshop/>. 



Dr. Mark Mattson (r), chief of NIA’s Laboratory of Neurosciences, recently received the Santiago Grisolia Chair Prize in Valencia, Spain. The award, named for a famous Spanish scientist, is given to a scientist who has made major discoveries in physiology and medicine. Mattson was chosen by a selection committee that included 17 Nobel laureates. He presented a series of lectures over 3 days, highlighting his contributions to the fields of aging and neuroscience. Also shown are Grisolia (c) and prize co-recipient Dr. Juan Lerma.

Healthy Children, Teens Needed

NIMH is seeking healthy children, ages 6-17, to participate in a mood and emotion study. Children may be eligible if they do not have a history of medical or psychiatric problems or take any prescribed medications, or have first-degree relatives with psychiatric problems. Participation involves 3 outpatient visits, at-home forms and 2 monthly followup visits. Compensation is provided. Call 1-800-411-1222 (TTY 1-866-411-1010).

SUMMER LECTURES, CONTINUED FROM PAGE 1

meet students," he began, then quipped: "At Johns Hopkins, where I was executive vice dean, they were always worried that I'd say something wrong to the students, so they didn't let me speak until it was time for graduation."

He said a defining moment in his own career as a scientist occurred in ninth grade, when an inspirational math teacher—who was used to giving his charges interesting problems—gave Zerhouni and his peers, unbeknownst to them, Fermat's Last

Theorem to solve. The teacher never let on that the theory had gone unproven for 300 years, and Zerhouni was perhaps predictably stumped.

"We spent about a month and a half trying to figure it out," he said. "But the experience taught me something: This is science. This is what it means to be explorers of the unknown...Don't expect your teachers to give all the answers. The problems you choose are important—pick ones worth going after."

He admitted he still doesn't understand the proof of Fermat's Last Theorem that was elaborated several years ago, but doesn't regret having been a searcher. "Don't be conventional," he urged. "Take advantage of your opportunities. We're counting on you to find out what it is we don't know."

Liotta, who is chief of NCI's Laboratory of Pathology, which employs about 20 youngsters every summer, said that DNA, as encoded in the genome, is merely an information archive, but that proteins do all the work. "The information flow is mediated by and through proteins," he said, then modified the signature quote of the 1967 film *The Graduate*: "The future is proteomics."

By studying how proteins signal one another and interact, scientists can discover the "wiring diagram" of cells, Liotta said. "It's a very, very hard field, but it promises direct patient benefit."

He said a new paradigm in cancer diagnostics is emerging, which is fortunate because "cancer is usually diagnosed when it's too late—once cancer has metastasized, it's too late, even for today's advanced treatments."

Liotta and his colleagues, including Dr. Emanuel Petricoin of the Food and Drug Administration, are trying to take advantage of the comparatively lengthy premalignancy phase. "Ten, 20, 30 years can elapse before diagnosis of an overt lesion," he said. Two techniques developed in his lab offer windows into this phase: laser capture microdissection enables researchers to carve out a specific nexus of normal and premalignant tissue for detailed analysis of the molecular "microecology." And a single drop of blood can yield physical evidence of its donor's tendency toward cancer in a new system

Liotta and collaborator Dr. Emanuel Petricoin of FDA run the world's first joint proteomics program, and invite visitors to see the operation.



NIH director Dr. Elias Zerhouni counseled summer students to avoid the metaphorical Interstate 95 in choosing scientific paths.

PHOTOS: ERNIE BRANSON

that marries the pattern-recognition power of software (from the field of artificial intelligence) with mass spectrometry.

In Liotta, the summer students heard an impassioned medical detective, carefully building the case for how such studies might help patients, ceaselessly asking of the proteins under his surmise, "Who's talking to who, who's modifying who? What signaling pathways are dominant, which are de-regulated?"

A central question in cancer biology asks if the big clumps of unstoppably growing cells are caused by a faster growth rate or a slower death rate; Liotta's group has found, through elevated levels of the Akt protein, that some cancers take advantage of healthy cells by suppressing the normal signal telling the cell to die. "So in the premalignant lesion, it's not an increase in growth, but a suppression of death that characterizes the cells."

Liotta foresees in the near future an array of microchips—"baited" with normal, premalignant, and cancerous protein samples—that can help doctors diagnose cancer and then tailor treatment to individual patients, determining whether their interventions are hitting the mark or not. "We will be able to attack the signaling pathway at a variety of points, with lower doses and lower toxicity."

The blood-drop analysis, or SELDI (surface-enhanced laser desorption and ionization) process, yields multiple proteomic patterns in serum, subpatterns of which can signal cancer in tissue, Liotta said. His lab has teamed with a private firm, Correlogic, whose specialty is pattern-recognition in the service of terrorist detection. The NCI lab is using the company's algorithms to seek "cellular terrorists." The single drop of blood required for the test, which blasts specimens with a laser, then measures "time of flight" of proteins, yields "tens of thousands of protein peaks for each drop...Certain key peaks seem to be associated with cancer," Liotta said.

The assay has been applied first to prostate cancer; patients who test positive for prostate-specific antigen (PSA) are enrolled to see whether SELDI can produce a characteristic "signature" of disease. So far, in a 62-patient "training set," the new technology has yielded seven key mass-charge values that appear to distinguish cancer patients from normal

controls. Scientists have no idea yet which proteins are responsible for the peaks, but they have been 95 percent successful in predicting prostate cancer (later confirmed by biopsy), which can help a doctor manage a patient who presents only with a marginally elevated PSA level.

Liotta said ovarian cancer is also being studied for telltale proteomic patterns. Normally a "silent killer" that goes undetected until it is too late, ovarian cancer could be far better managed if found early. Emerging tests have been "very specific, and very sensitive" in detecting the cancer, Liotta reported. "This looks very promising. We hope to move detection to earlier stages (I and II, for example, rather than III and IV, by which time remission rates are far harder to attain).

"This system will become smarter and more accurate as time goes on," predicted Liotta, who plans to make the diagnostic system available on the Internet. "It's a new concept in diagnostics. We

CIT Offers New Classes in Summer Session

Registration is now open for the summer 2002 term of computer classes in the CIT Training Program. New courses are available, and many favorites are returning. As always, NIH'ers may attend classes free of charge. Up-to-date training will help you make effective use of computing, networking and information systems on the job.

New classes have been added in response to student requests. In addition to the current class on the dial-up Parachute service, a new class, "Life After Parachute—Cable Modems and DSL," will now look at options and configurations for using broadband methods to access the NIH intranet. After a series in "XML Basics," students asked for more advanced topics. "Hands-on XML Schemas" will be offered in a 6-day course through July and August 2002. Finally, the popular "mAdb Basic Informatics" will be joined by an intermediate course.

For those with web interest, there are a number of new courses. Seekers of employee and scientific information should enjoy "Introduction to NIH Information Resources on the Web." People who need to create web content can attend "Writing for the Web," a brief seminar that will examine some differences between writing for the web and writing for print media.

There are also options for people making decisions about web services. Anyone who has contemplated deploying Content Management Server (CMS) should attend the class taught jointly by CIT and Microsoft. This class will look at the technical aspects of CMS as well as the specifics of how it is being used at NIH. Finally, "Competing Visions of Web Services in J2EE and .Net" will examine the Sun and Microsoft approaches to these products.

Apple Computer will present three topics: "Pre-

foresee a new era of personalized molecular medicine."

He then invited anyone interested to spend time this summer in labs of the joint FDA-NCI Clinical Proteomics Program, which is the first of its kind in the world, said Liotta. "It's the only program that is applying proteomic technology to actual patient research."

The lecture series, sponsored by the Office of Education, has four remaining talks, all in Masur Auditorium, Bldg. 10, from noon to 1 p.m.: July 9, "Beyond Transcription: Novel Mechanisms for Regulating a Bacterial Development Switch," Dr. Susan Gottesman, NCI; July 16, "Bioinformatics and Its Role in Biological Discovery," Dr. Tyra Wolfsberg, NHGRI; July 23, "Stem Cells and the Central Nervous System," Dr. Mahendra Rao, NIA; and July 30, "Protein Structure Determination Using Electron Microscopy," Dr. Jacqueline Milne, NCI. ■

sentations: From PowerPoint to DVD" will demonstrate how to combine a PowerPoint presentation with video and audio tracks to create a DVD movie. Next, "Porting Unix Applications to OS X" will discuss how to use your Macintosh as a Unix environment. Finally, "Interoperability: Mac OS X, Windows, and Unix" will look at using a Mac in the type of multi-platform environment common at NIH.

Other new courses include "Understanding the Grants Process," "Introduction to Java Programming," and a variety of classes on the new EHRP (Enterprise Human Resources and Payroll) system. Also, CIT is still working on bringing courses on both the SPSS and S-Plus statistical packages.

Looking to the fall 2002 term, the training program is preparing for the CIT move to 10401 Fernwood (near the Rockledge buildings). CIT will keep two of its three on-campus classrooms and gain two classrooms in the new Fernwood facility.

The training staff, while primarily based at Fernwood, will have on-campus office space and spend time in both places. Scientific classes will stay on-campus while others will vary, depending on the location of the majority of those interested in the topic. There will be ample free parking at the new location.

Read course descriptions and register online at <http://training.cit.nih.gov> or call 594-6248 (GOCIT internally). ■

Calcium Study Seeks Subjects

An NIH study is seeking healthy overweight adult volunteers to examine the health effects of calcium supplementation over 2 years. Call 1-800-411-1222 (TTY 1-866-411-1010). Compensation provided. ■



Dr. John Meyer has been named director of the Office of Review at the National Center for Research Resources. He will oversee the office where, for the past 4 years, he has served most recently as deputy director and before that as a scientific review administrator. He will provide direction and coordination of the initial scientific and technical review conducted at NCCR involving applications for grants and contract research. Meyer has a long tenure at NIH, with 27 years of federal service. Before coming to NCCR, he served as an SRA with the Division of Extramural Activities, NCI; executive secretary with the Division of Extramural Activities, NIAID; executive secretary with the Division of Research Grants; and research scientist at NIDCR. Before joining NIH, he was a consultant with the Mayo Clinic and Mayo Foundation.

DIET WARS, CONTINUED FROM PAGE 1

back in the 1950s," began Dr. Frank Sacks, a professor of cardiovascular disease prevention at Harvard School of Public Health who also runs a clinic in hyperlipidemia at Brigham and Women's Hospital. "Not every issue has been solved and we're far from having it nailed down yet."

Questions remain, he continued, concerning the ideal amount of fat in the diet to help prevent cardiovascular disease, whether low-fat or moderate-fat diets are better for healthy weight loss, and how physical activity factors in the equation. What is clear, he said, is that these questions and many others must be resolved in order to reduce the

PHOTOS: ERNIE BRANSON



The topics of cholesterol, diet and fat drew a full house to Lipsett Amphitheater as (from l) Dr. Frank Sacks, Dr. Gary Foster and Dr. Pamela Peeke tackled the thorny questions of what to eat.

burden of such disorders as heart attack, stroke, diabetes and obesity.

The Truth About Cholesterol

Sacks also tackled the complex issue of "good" and "bad" cholesterol. Cholesterol, he explained, is an essential molecule produced naturally by the liver. The molecule travels via lipoproteins through the bloodstream. Harmful lipoproteins LDL and VLDL—popularly referred to as the "bad cholesterol"—take cholesterol to unhealthy places in the body. HDL—the so-called "good cholesterol"—is beneficial because it transports cholesterol out of the body. The liver makes enough cholesterol so that we never need to eat any. In fact, Sacks said, problems begin when we overload the liver with cholesterol we consume.

"Cholesterol is one molecule that can be carried in different directions," he said. "We're worried about cholesterol being delivered by LDL and VLDL to the artery wall and thereby leading to atherosclerosis. HDL is protective. It reflects cholesterol being carried out of the artery wall, reversing atherosclerosis."

Guidelines for bad cholesterol amounts in the blood for adults have been established by NHLBI's National Cholesterol Education Program. In general, LDL below 100 is optimum. High HDL—a reading at 60 or above—is considered to be a health benefit.

Sacks said researchers have developed a formula

called the "Metabolic Syndrome" to determine risk for such problems as hypertension and diabetes. Data in five categories—abdominal obesity (waist circumference), triglycerides (fat), HDL, blood pressure and fasting glucose—are collected; undesirable levels in any three of the five constitute the syndrome. Prevalence of the syndrome—which Sacks called "a combination of age, genetic susceptibility and our habits"—has increased considerably worldwide over the past 10 years. An estimated 40 percent of the U.S. population has the syndrome that he said "is increasing because of things we do to ourselves. It represents a real challenge for us to solve."

Sacks concluded by discussing how the formulas and measurements can be used to achieve the ultimate goal—preventing disease. He said despite developing an ideal equation, several obstacles block the goal: poor communication with patients, economics of healthcare, heavy marketing of unhealthy foods and incentives for gluttony.

Optimize Mind as Well as Body

On the issue of dieting, Dr. Gary Foster, clinical director of the Weight and Eating Disorders Program at the University of Pennsylvania School of Medicine, proposed a societal mind change in body image perception.

"What's relevant here is how we think," he said. "Obesity has become somewhat of a moral issue. There's this moral connotation associated with eating. Some people even talk about cheating on their diets. It's part of the vernacular. How do you equate a 220-calorie decision with your morality? Clean up that cognitive ecology. Some people see it as a cosmetic issue. Professionals see it as a health issue. It's certainly not accurate or effective to view obesity as some lack of will power, or to see obese people as weak-willed, lazy or undisciplined. The data just don't support that. The biggest challenge we face is: How do we get ourselves at peace with not weighing what the fashion models weigh?"

How the nation arrived at this critical health juncture is simple, Foster said, showing slides of ever-increasing portion sizes of popular foods. In 1950, the standard soft drink serving was 8 oz. In 1970, the 12-oz. can came along. These days, a 20-oz. bottle is popular, not to mention the 32-oz. and 64-oz. sizes available at almost every venue. "What's happened is that we eat more and move less," he explained.

Sharing a term—"obesogenic"—that explains society's role, Foster said, "The environment is quite toxic" and exacerbating the problem is that "we place a premium on energy-saving devices," such as escalators and remote controls, which reduce opportunities to burn off excess calories. "We don't have to give up these things," he said, "but we do have to realize that there are consequences."

Given the culture's obsession with unreasonably small body images, Foster suggested that individuals adjust their interiors before addressing their exteriors.

"You probably can't lose as much weight as you want," he concluded. "Behavior makes a difference, but biology matters too. To diet or not to diet? My suggestion is to make small changes that last and avoid dramatic changes that don't last. Think about health, not just about weight. This has to be a positive process—something you're doing for yourself and not against yourself. If you're punishing yourself for being bad by going on this restrictive diet, it's not going to work. And, finally, take your life off hold. Live your life now. If you take nothing else away from this talk, take this: do not make your weight part of your self-esteem."

Fat: Where It's At, Where It's Going

"Okay, so how many of you are completely confused about what to eat and what you are supposed to do for your bodies?" asked Dr. Pamela Peeke, only half-joking but correctly reading the many perplexed faces in the audience. "How many of you are veterans of the diet wars?" she pressed. As several attendees hesitantly raised their hands, a grinning Peeke quipped, "All of the rest of you are liars!"

A former NIH senior research fellow and an internationally recognized expert on nutrition and stress, Peeke opened her presentation with a humorous quote from Mark Twain: "'The only way to keep your health is to eat what you don't want, drink what you don't like and do what you'd rather not.' What we'd like to do is give a few data bites so that you might go home and realize that you don't have to have this kind of an attitude," she explained. "What you want to do to optimize your body—and your mind at the same time—is quite doable. It's just that you don't want to turn yourself into a science fair project."

Delving into her lecture, "Facts About Fat," Peeke said the key to understanding the true nature of fat is knowing what kind to eat, and where it ends up on your body. "We all realize after quite a bit of media hype that this issue of 'fat as bad' is just ridiculous...The fact that we're eating potentially too much of certain fats, and the forms of fat we're eating and the way those fats are processed—that's really where the topic should begin."

The prevalence of obesity in the U.S. is increasing, she lamented, and the U.S. is "probably number one in the world now." According to the Centers for Disease Control and Prevention, for the first time in history, there are more overweight and obese people in the nation than people of normal weight.

"The saddest part about this is what is happening to the children," she said. "One out of four is quite overweight and obesity is rising, as are the conse-

quences. Children with type 2 diabetes are much more prevalent. This used to be an old person's disease (that means over 50, she said with a wink). We're now diagnosing this at ages 7, 10, 15. The incidence of type 2 diabetes between ages 30 and 40 has increased 70 percent."

Peeke mentioned that while researchers were heartened several years ago when a gene for obesity was identified, they also realize that genes are not solely responsible for obesity.

"In certain families, there is no question there is a strong predisposition," she acknowledged, "but what I like to say is 'genetics may load the gun, but environment pulls the trigger.'"

Supporting Foster's conclusion that today's culture offers little help, Peeke noted that in the U.S., 41 percent of food dollars are spent outside the home. In the 1950s, Americans spent only 19 percent of their food dollars outside the home. These days, she said, 34 percent of our calories are consumed outside the home; in 1977, only 18 percent.

The solution, Peeke advised, is for individuals to take control of what they eat. Fat has an important role in digestion and production of energy for the body, she said, but it's the type of fat that makes all the difference.

To see a broadcast of the full seminar via computer, visit <http://videocast.nih.gov>. ■



Peeke (l), Foster (c) and Sacks weigh in on weight issues at the recent ORWH-sponsored seminar on Promoting Healthy Lives. Part two of the series—scheduled for Sept. 10—will address exercise and diet.

Montgomery College Courses for Fall

All Montgomery College courses offered at Executive Plaza South this fall require readiness levels in English, reading, and, in some cases, math. If you haven't completed an associate's degree (or higher) or a college freshman composition/English and/or appropriate college math class with a grade of "C" or higher, you will need to take an assessment exam. Exams are given on campus throughout the summer. For instructions, preparation and registration information about MC courses, send questions to enroll@mc.cc.md.us. Include your name and office telephone number. ■

Vaccine Volunteers Needed

The Vaccine Research Center is recruiting men and women between the ages of 18 and 60 who do not have HIV. They are asked to participate in a study to test the safety of an experimental HIV vaccine. Participants will be compensated and receive free medical exams and tests. The vaccine will not infect participants with HIV. Call toll free 1-866-833-LIFE to help scientists develop an HIV vaccine. ■

Healthy People Needed

NIDCD is seeking healthy people with normal hearing, ages 30-50, for a listening study. English must be first language. Study involves a single 3-hour visit to the University of Maryland for a hearing test, written language test and a series of listening tests. Compensation is provided. Call 1-800-411-1222 (TTY 1-866-411-1010) email prpl@cc.nih.gov.

OCL Director Hedetniemi Retires

By Terry LaMotte

Last month, NIH said goodbye to the first director of the Office of Community Liaison, Janyce Hedetniemi. After nearly 8 years in the position, she retired on June 30. At a farewell open house, colleagues, county and state officials, friends and family acknowledged her 25-year career at NIH.

"NIH is losing a talented community relations spokeswoman," said NIH deputy director Dr. Ruth Kirschstein. "Her guidance and direction over the years have helped NIH form important partnerships with neighboring communities, serving as a model for other federal agencies to emulate."



Janyce Hedetniemi

Hedetniemi worked to improve relations between NIH and its neighbors. "The success of the office belongs to Jan, who has worked tirelessly with the community," said Community Liaison Council co-chair Ginny Miller. "Her interpersonal relationship skills, experience and dedication to constantly improving communication between NIH and the community have been outstanding." The CLC is NIH's key connection to its neighbors, allowing area residents to provide input into NIH activities.

In September 1994, when OCL was established, Hedetniemi's first charge was to work with the community on such concerns as an incinerator, growth and construction on campus, and mitigation of lighting and noise from an NIH parking garage. Since then, she has presided over negotiations with the community regarding the campus master plan; construction and location of buildings; traffic and parking; environmental concerns; tree preservation; and NIH security, to name just a few issues.

At the suggestion of her office, NIH built a lighted footpath to offer safe access through campus and to the farmer's market; planted trees to shield the parking lot from residents along Battery Lane; and advocated on behalf of a civic association when its storm sewer program needed attention from the county.

Hedetniemi rarely shied away from requests for her time and expertise. In addition to OCL duties, she also served on NIH's speaker bureau, chaired leadership conferences and training programs on biomedical research and the environment and bioterrorism, and served on numerous steering committees.

She was also active off-campus: Hedetniemi is a member of the board of governors for the Chelsea

School, serving children with learning disabilities; participated in programs by Leadership Montgomery and Leadership Maryland; and chaired a work group for the Montgomery County transportation policy task force on effective regional transportation solutions. She is also past president of the Bethesda chapter of the Kiwanis Club.

Hedetniemi twice won the NIH Director's Award and was twice a recipient of the NIH Merit Award. She also received the Community Hero Award of the Montgomery County Civic Federation, mentored almost 30 interns, and was named Outstanding Mentor by the Management Intern and Presidential Management Intern programs.

Hedetniemi began her NIH career in 1977, and worked primarily in planning, evaluation and program analysis. She worked on the long-range research plan for NICHD; coordinated planning and review for NHLBI; and established the Office of Program Analysis and Evaluation for NIGMS. Prior to joining OCL, she served as chair of the Conference to Establish a National Action Plan on Breast Cancer for HHS in 1993.

Before joining NIH, Hedetniemi was a member of the senior staff of the President's Biomedical Research Panel. She was also special assistant to the chairman of the D.C. City Council, director of development for Mount Vernon College and assistant dean of women at the University of Maryland.

She holds a bachelor's degree in psychology and English literature from Carnegie Mellon University and has a master's degree in counseling and guidance and psychology from Indiana University.

Hedetniemi looks forward to spending more time with her friends and family, but admits she will miss her NIH colleagues and community partners. "My years at NIH have been memorable, especially these last eight in community liaison. I have benefitted from unique partnerships and lasting friendships that I will miss very much." ■

Healthy Women Needed for Study

NICHD is seeking healthy women, ages 18-32, to participate in a bone mineral density research study. You may be eligible if you have no medical conditions, or an irregular menstrual cycle, are not pregnant, nursing or planning pregnancy over the next 3 years, do not use oral contraceptives or prescribed medications, smoke fewer than 2 cigarettes per day and drink fewer than 2 alcoholic drinks per day. Participation involves four visits over a 3-year period, blood test, bone density and urine tests and cognitive testing. Compensation is provided. Call 1-800-411-1222 (TTY 1-866-411-1010) or email prpl@cc.nih.gov. ■

NIMH's Richard Wyatt Mourned

Schizophrenia researcher Dr. Richard Jed Wyatt, Chief, Neuropsychiatry Branch, National Institute of Mental Health, died June 7, at age 63, after a long bout with cancer.

"Although we now take for granted that schizophrenia has a biological basis, Richard was one of the early pioneers in the intramural research program who championed this view and brought research on schizophrenia into the lab," said NIMH scientific director Dr. Robert Desimone. "He was the prototypical translational researcher, and he trained and mentored many of the leaders in this field."



Dr. Richard Jed Wyatt

After joining the NIMH intramural program as a clinical associate in 1967, Wyatt broke with his psychoanalytic training to create, eventually, a model program in biological psychiatry research. He first served an apprenticeship in the laboratory of soon-to-become Nobel laureate Dr. Julius Axelrod. Wyatt then moved to NIMH's former research center at St. Elizabeths Hospital, where he worked for most of his career, authoring some 800 scientific publications and 6 books. His interest in the course and causes of schizophrenia led to wide-ranging studies on mood disorders, Alzheimer's disease, brain grafts for Parkinson's disease, neurochemistry, sleep and neuroplasticity. More recent projects

focused on early intervention in psychotic illnesses.

Wyatt's work served as "a critical early beacon," illuminating the path for a younger generation of neuroscience-minded psychiatry researchers, said former NIMH director Dr. Steven Hyman at a day-long "Neuroscience and Psychiatry" symposium held in Wyatt's honor May 30, 2001. NIMH schizophrenia researcher Dr. Daniel Weinberger, who worked with Wyatt for many years at St. Elizabeths, recalled that "he created a supportive environment where scientists of many disciplines and stripes literally worked at the same bench, all focused on a common goal: to understand the biology of schizophrenia."

"The broad spectrum of approaches that Richard brought to the study of schizophrenia—neuropharmacology, neuropathology, brain imaging, animal models—are the same approaches that researchers are still using today," noted Desimone.

Among many awards and honors, Wyatt received the Stanley R. Dean Research Award from the American College of Psychiatrists, the McAlpin Mental Health Research Achievement Award from the National Mental Health Association, and the Silvano Arieti Award for Schizophrenia Research from the American Academy of Psychoanalysis.

Wyatt also co-produced (with his wife, Dr. Kay Jamison) a series of programs about manic-depressive illness and creativity that aired on public television. In his cover story in the *Washington Post* Health section, Feb. 13, 2001, Wyatt related some of his experiences battling cancer for the third time.

Female Volunteers Needed

The Behavioral Endocrinology Branch, NIMH, is seeking female volunteers ages 18-55 to participate in studies of the effects of menstrual cycle hormones on brain and behavior. Volunteers must have regular menstrual cycles with no changes in mood in relationship to menses, be free of medical illnesses and not taking any hormones or medication on a regular basis. They will complete daily rating forms and be offered participation in one or more protocols. Payment will be in accordance with the duration of each visit and the type of protocol. For more information, call Linda Simpson-St. Clair, 496-9576.

CIT Computer Classes

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

Introduction to FrontPage 2000	7/11
Budget Tracking	7/11
Data Warehouse Analyze: Budget & Finance	7/11
AFNI (Analysis of Functional NeuroImaging): Hands-On Introduction	7/12
Writing for the Web	7/16
Creating Presentations w/PowerPoint for the Mac	7/16
Fundamentals of Unix	7/16-18
Introduction to Perl for Biologists	7/16-18
DSG - Desktop Support Group	7/17
Porting Unix Applications to OSX	7/18
SPSS Basics	7/18
Parachute for Windows	7/18
Outlook 2000 Tips and Tricks	7/19
Introduction to HTML	7/19
Data Warehouse Query: Budget & Finance	7/19
Intermediate mAdb	7/22
Interoperability: Mac OS X, Windows & UNIX	7/23

Competing Visions of Web Services in J2EE and .NET	7/23
Using Photoshop to Work with Scientific Images	7/23
Using SQL to Retrieve DB2 & Oracle Data	7/24-25

HRDD Class Offerings

The Human Resource Development Division 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 496-6211 or visit http://LearningSource.od.nih.gov .	
Basic Position Classification	7/15-26
Adventures in Attitudes	7/16
Positive Approaches to Difficult People	7/17
Valuing Differences	7/17
Budget Execution	7/18, 19
Teams: The Path to Creative Solutions	7/22, 23
Winning Negotiations	7/22, 23
Impac II Population Training Module	7/23
Intermediate Project Management	7/24, 25
The Professional Office Manager I	7/24, 25
The Power of Conversations	7/25, 26

New Pond Proposed for NLM Lawn

A large pond to manage stormwater runoff is proposed for the southeast lawn of the National Library of Medicine, near the Woodmont Ave. cutoff leading into Bethesda. Construction is set to begin in fall 2003.

Montgomery County officials and representatives from the Office of Research Services gave a design presentation on the proposed pond at the June meeting of the Community Liaison Council. Attendees learned about the configuration, impact and attributes of the stormwater management facility. The Stoney Creek Pond, as it is called in the memorandum of understanding between the county and

NIH, will help control stormwater flows, and filter and remove contaminants from runoff originating in the downtown Bethesda business district. The pond will help manage the quantity of water that flows from buildings, roads and parking lots. These waters discharge into storm drainage piping systems and streams surrounding the NIH community

that make up the Stoney Creek watershed. Water flowing too rapidly can erode stream banks and eventually cause damage to property. If the water is not properly managed, the ecosystem in the surrounding community and the Chesapeake Bay that eventually receives run-off from this area could be harmed, said ORS.

The county's department of environmental protection and NIH have therefore formed a partnership to pursue construction of the pond. The Stoney Creek Pond is being designed and constructed to be safe, aesthetically pleasing and sensitive to its environment, ORS said. "Significant strides will be

made toward the county's regional stormwater management initiatives from construction of this pond that will essentially serve the Bethesda business district," said Clarence Dukes, a program manager at ORS' Office of Facilities Planning. "The NIH will also benefit from this project and be able to achieve a good percentage of its 20-year campus development and environmental goals identified in the master plan."

Funding for the initiative is provided under the Transportation Equity Act, a cost-sharing grant between Montgomery County and the State of Maryland.

The county, in coordination with the NIH Office of Community Liaison, will hold a public meeting for neighborhood residents and other parties interested in the facility. Notice of the meeting will be posted soon. ■

Dr. Ernest D. Marquez, associate director for special populations, NIMH, has received an honorary Doctor of Science degree from his alma



mater, California State University, Fresno, in recognition of "his outstanding national leadership and dedication to the improvement of the quality of life for all citizens."

The graduation activities included a special ceremony honoring this year's 500 Latino graduates. Marquez has been with NIH since 1990, holding executive and administrative positions with several institutes, including NIGMS.

Sailing Club Open House, July 28

The NIH Sailing Association will hold an open house at Selby Bay Sailing Center in Mayo, Md., on Sunday, July 28 from 11 a.m. to 4 p.m. There will be demonstration sails for adults in the club's 19-ft. Flying Scot sailboats. Fall sailing classes begin soon; this is a good chance to preview the boats and meet the members. At the open house you can join NIHSA, sign up for adult sailing classes that start Aug. 21, and enjoy a barbecue chicken picnic with various salads for \$7.50. For directions to the event, visit www.recgov.org/sail. ■

Have Breast Cancer?

Consider taking part in studies at NIH. There is no charge for study-related care. For more information: 1-800-411-1222 or 1-866-411-1010 TTY. ■

