

# THE NIH RECORD

Still The Second Best Thing About Payday

## NIH Promotes disABILITY Awareness

By Sharon Ricks

Perhaps they were captivated by the chorus of flying fingers or inspired by the keynote address of pediatric neurologist Jan Brunstrom. Whichever the case, employees



Dr. Jan Brunstrom

attending NIH's annual Disability Awareness Day program recently left Natcher Auditorium knowing one thing: "DisAbility Counts."

The program spotlighted key

disability issues in the NIH community such as career success strategies, accessibility requirements, employment data, and techniques on hiring and promoting people with disabilities. According to Carlton

SEE DISABILITY AWARENESS, PAGE 4

Becomes Lab Research Director

## NHLBI's Balaban To Give Mider Lecture, Feb. 2 in Masur

This year's G. Burroughs Mider Lecture will be given by NHLBI's Dr. Robert Balaban, a leading researcher in heart physiology and energy metabolism. He pioneered the use of noninvasive imaging techniques to study these processes within the cell and in heart muscle. He also helped design a super-fast magnetic resonance imaging (MRI) scanner, which gives real-time pictures of the moving heart. Prior MRI scanners gave heart images too slowly to be of clinical use. The super-fast scanner is being tested in a joint NIH-Suburban Hospital pilot study to see if it can improve emergency diagnosis of heart attack and stroke.

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## Varmus Counsels Successor, Eyes Future in Final Remarks to Press

By Rich McManus  
(Second of two parts)

Just before his 73-month tenure as NIH director ended last month, Dr. Harold Varmus spoke at length about the future of NIH, gave advice to his successor, and discussed gene therapy, campus security and other matters. Even though he takes over as head of Memorial Sloan-Kettering Cancer Center in New York City on Feb. 1, don't be surprised if you bump into him on campus; he advised NIH'ers in an all-hands email on his last official day at work that he is still a special volunteer at NCI and remains in charge of the Varmus Lab in Bldg. 49 until that laboratory migrates to MSKCC in April.

So the Varmus Lab is moving with you?

The whole intention of calling my lab the Varmus Lab was that...(having set it up) I would take it down when I left. Several of the folks in my lab are going to be moving, and there are some new people who are already coming to the new lab. I hope by April we're operational up there. I'm looking forward to it.

Is there anyone else from NIH that you're taking with you?

There are plenty of people I wish I could take with me, but nobody I plan to take.

SEE VARMUS INTERVIEW, PAGE 6

In the Company of Excellence

## The Making of a Lasker Award Winner

By Christina Stile

If you want to learn a new language, some people suggest you spend time in a country where people speak only that language. For instance, living in Germany will help you learn German. But can you apply this same theory to other concepts? If you surround yourself with scientists, for example, are you more likely to learn concepts of science?

You might think so if you examined the life of NIH-supported researcher Bertil Hille, who received the 1999 Albert Lasker Award in Basic Medical Research. He has spent his life surrounded by a virtual *Who's Who* list of scientists that put him on a



1999 Lasker Award winner and NIH grantee Bertil Hille

SEE LASKER WINNER, PAGE 10

## MIDER LECTURE, CONTINUED FROM PAGE 1

Balaban has long served as chief of NHLBI's Laboratory of Cardiac Energetics and recently became director of the Laboratory Research Program in NHLBI's Division of Intramural Research. Last summer, the institute reorganized its intramural division into two programs. Dr. Elizabeth Nabel directs the division's other program, called the Clinical Research Program.

Balaban will present the Mider lecture on Wednesday, Feb. 2 at 3 p.m. in the Clinical Center's Masur Auditorium. Acting NIH director Dr. Ruth Kirschstein will provide the introduction.



Dr. Robert Balaban

The lecture was created by the NIH scientific directors in 1968 to commemorate Mider's distinguished career, which included a term as director of NIH laboratories and clinics. It is awarded to scientists who have made outstanding contributions to NIH biomedical research.

Balaban will speak about the "Domestication of the Mitochondrion for Cellular Energy Conversion." Mitochondria

apparently were incorporated into early cellular organisms millions of years ago through a symbiotic process. Through time, the cell has developed a sophisticated cytosolic control network to regulate the production of adenosine triphosphate, on demand, from the mitochondrion for numerous cellular functions.

Using minimally invasive nuclear magnetic resonance (NMR) and optical imaging devices, Balaban has been studying this basic cellular signaling pathway that controls mitochondrial function. These studies have been performed at many levels of complexity, including the *in vivo* heart, single myocytes and isolated mitochondria.

Balaban earned a B.S. in 1975 in chemistry and biology from the University of Miami and a Ph.D. in 1979 in physiology and pharmacology from Duke University. While at Duke, he began his optical studies on mitochondrial function. The next year, he became a NATO postdoctoral fellow at Oxford University in England, where he participated in many of the first experiments applying NMR to the study of living tissues.

In 1981, he joined NHLBI as a senior staff fellow in the Laboratory of Kidney and Electrolyte Metabolism (LKEM). In 1982, he became a senior staff fellow and then in 1984 a research physiologist, both in LKEM.

His honors include an Award for Excellence in

Renal Research from the American Physiological Society, a PHS Superior Service Award, the Society of Magnetic Resonance Gold Medal, and two NIH Director's Awards.

His professional memberships include the American Physiological Society, the American Society of Nephrology and the Society of Magnetic Resonance in Medicine, of which he served as president.

He has coauthored 190 peer-reviewed papers and more than 600 abstracts, and participated in and helped organize various professional meetings.

For more information about Balaban's Mider Lecture, call Hilda Madine at 594-5595. **R**



*Dancers in authentic ceremonial dress demonstrated a variety of steps during NIEHS Native American Culture Day recently. The event, sponsored by the EEO office, also included singing, storytelling and ethnic food, fry-bread and spiced tea, and the sharing of Native American friendship bracelets.*

## N I H R E C O R D

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### Healthy Women Sought

Healthy postmenopausal women are needed to participate in a study of normal blood. To be eligible, you must have had no abnormal bleeding or clotting in the past. Participants must be willing to stay off any hormone treatment for 9 months. They will also be required to give a small blood sample (about 2 tablespoons) in an initial screening. The study, which takes place at the Clinical Center, involves no hormones or medications. Compensation (\$50) is provided for each blood draw. For more information, call 496-5150.



### Gene Mutation Results in Missing Teeth

Approximately 20 percent of the population are born unable to develop a full set of teeth. Although the underlying causes are mostly unknown, members of a Houston family who lack mainly their first and second molars were found to have a mutation in a gene called PAX9. This is the first report of a human disorder linked to PAX9, one of a family of "master" genes that help determine body shape and organ formation during embryological development. This discovery is an important contribution to understanding the genetics of human tooth development and brings scientists a step closer to someday replicating the process.

Scientists at the University of Texas-Houston Dental Branch and Baylor College of Medicine discovered the PAX9 mutation in a family in which congenitally absent molars were documented in members of three generations. The finding, published in the January issue of *Nature Genetics*, was supported by the National Institute of Dental and Craniofacial Research.

The discovery of the PAX9 mutation began with Dr. Rena D'Souza, an associate professor of orthodontics, directing her students to look for patterns of missing teeth in their patients. One of these students, coauthor Monica Goldenberg, observed a 13-year-old boy missing 14 permanent teeth. Further investigation revealed that the father and two brothers had a similar condition, and out of 43 family members, 21 were determined to have congenitally missing molars. ■



*On Thursday evening, Jan. 27, Sen. John H. Glenn and fellow astronauts from the Space Shuttle Discovery, STS-95, will visit NIH to present "home movies" from their October 1998 scientific research mission. The presentation will take place from 7:30 to 9 p.m. in the main auditorium of the Natcher Conference Center. Seating is limited*

*and is available to the public on a first come, first served basis. NIH and NASA are collaborating on a wide range of research areas. The STS-95 mission studied body changes that are shared by astronauts and older people. The presentation celebrates the 25th anniversary of the National Institute on Aging. On Friday, Jan. 28, scientists of the STS-95 mission will participate in a symposium that will feature scientific sessions about the experiments carried out on their flight. The presentation will take place from 9 a.m. to 4 p.m. in Masur Auditorium, Bldg. 10. Seating is open.*

### NIEHS Centers To Breed Genetically Variant Mice

To help learn more about how human bodies repair their environment-damaged DNA and control their cells' life cycles, NIEHS will fund up to five research centers to develop and breed mice with genetic variations that are more like humans' in these regards. The centers will provide the special mutant mice for scientists throughout NIH and to other research programs as well.

Many cases of human disease are caused or triggered by a natural or man-made substance in the environment, often when an environmental substance causes a genetic mutation or a disturbance in cell growth. Variations in a person's genes make the person more, or less, sensitive to these substances or more, or less, able to resist or repair the damage.

Genetic variations explain why one smoker gets cancer or heart disease from that exposure while another smoker doesn't. Or why some members of a family react to environmental substances and develop asthma, while others do not. NIEHS said that understanding the variations in a mouse's genes better—and modifying the mice to add or subtract a human-like gene with its variations—will help scientists unlock the secrets of these and other human diseases in a variable humankind. ■

### NIAMS Launches Projects in Autoimmunity

The National Institute of Arthritis and Musculoskeletal and Skin Diseases has awarded nearly \$4 million for new projects on autoimmune diseases, conditions in which the body's immune cells mistakenly attack its own tissues and vital organs. The funds are part of a \$30 million allocation from Congress to bolster research in autoimmunity.

The awards enhance NIAMS' commitment in this area, and involve the start-up of nine projects targeted against some 80 serious, chronic, autoimmune illnesses involving almost every human organ system.

"Autoimmune diseases like rheumatoid arthritis, lupus, scleroderma, alopecia areata, and many blistering skin diseases exact a huge toll in human suffering and economic costs," said NIAMS director Dr. Stephen Katz. "But we've recently witnessed exciting research advances in several of these, and we have every intention of pushing our knowledge base further." ■

### Paid Volunteers Needed

Are you 18 to 35 years old? In good health? You may qualify to participate in a study of commonly prescribed medications. The study involves multiple visits over a 3-month period. Men and women may earn up to \$880 and get free medical tests. Call the Uniformed Services University at (301) 319-8204. ■



*Dr. Laurence Wolfe has been named NIAID's chief information officer and director of the institute's Office of Technology Information Systems. He comes to NIH from the General Services Administration, where he started his GSA career in 1989. He served in various capacities, including director of the technology advancement division, director of the strategic information technology analysis division, and the information technology policy division. He also held information technology positions at the U.S. Defense Information Systems Agency, Immigration and Naturalization Service and the Social Security Administration. Wolfe is the author of journal articles on information technology and coding theory as well as a chapter in the book Reinventing Government in the Information Age.*

**DISABILITY AWARENESS, CONTINUED FROM PAGE 1**

Coleman, NIH Disability Program manager, approximately 179 permanent NIH employees have severe disabilities.

"This year, we wanted to focus on breaking down barriers to opportunities for people with physical challenges," said Kay Johnson, an EEO officer at the National Institute on Deafness and



*The Fabulous Flying Fingers from Lucy Barnsley Elementary School perform for the audience.*

Other Communication Disorders and chair of the planning committee. "Our goal was to expand awareness of physical disability issues in the NIH community and to empower employees and job applicants with

physical disabilities to become active and visible participants."

Brunstrom, the keynote speaker, is director of the pediatric neurology cerebral palsy center at St. Louis Children's Hospital. She is assistant professor of neurology and cell biology at Washington University School of Medicine and a neuroscientist funded by the National Institute of Neurological Disorders and Stroke. She is also a mother, a clinician, a scientist, a motivator and an advocate. Oh, and by the way, she has cerebral palsy.

Brunstrom shared highlights of her research project, "The Molecular Mechanics of Neocortical Development."

Her studies involve migration in the developing cortex and the effects of neurotrophins on producing heterotopias and malformations in the brain. This research will be helpful in understanding how brain disorders underlying epilepsy and cerebral palsy (CP) develop.

Brunstrom gave some insight into the needs of youths living with CP. "We must give them a voice so that they can tell us their goals. We must cultivate their strength so that they have the energy to reach those goals, and we must teach them to develop their own strategies to succeed," she said.

She is working toward a black belt in



*NINDS director Dr. Gerald Fischbach speaks at event.*

Kajukenbo and believes physical fitness is essential for independence in people with CP. "Because our muscles are stiff, individuals with CP use at least twice as much energy, compared with able-bodied counterparts, just to move around," she explained. "If you, who are able-bodied, choose to be couch potatoes, you may become out of shape, but you can still get up off the couch and move to get things. But I cannot afford to be a couch potato, and neither can my patients or anyone else with CP."

Brunstrom says chronic pain, fractures, scoliosis, and hip dislocation are all side effects of immobility and nonweight bearing in patients with CP, and that's why her center offers swimming, basketball and martial arts to patients.

Following Brunstrom's address, the stage cradled a chorus of more than 70 hearing and deaf children from Lucy Barnsley Elementary School in Rockville. The chorus, called the Fabulous Flying Fingers, sang in both English and American Sign Language.

The program was sponsored by 10 institutes and OEO. ■



*NIH chapter 123 of the Federal Managers Association recently presented the Children's Inn at NIH with a delivery of toys and a check for \$250. The FMA collected the toys as admission to its annual holiday party. The toys were used for several Santa nights at the inn to help make sure the holidays were special for children who had to stay there during that period. Shown on delivery day are (from l) Art Bonnet, trustee; Rosamond Rutledge-Burns, president; and Steve Griffin, secretary.*

### **Subjects Needed for Cognitive, fMRI Studies**

The Laboratory of Brain and Cognition, NIMH, is recruiting volunteers for functional MRI studies and computerized cognitive testing. Volunteers should be native English speakers, have good vision (or wear corrective lenses) and be ages 20-40. Studies occur throughout the year. Subjects will be paid for participation. For more information, call Lisa at 435-4803 or Jill at 496-6831. ■

PHOTOS: ERNIE BRANSON

## Employees Offered Depression Screening

Depressive illnesses, which affect more than 19 million adults in the United States, can have a devastating effect on individuals and their family members—a fact that led NIMH and the quality of work life (QWL) committee to sponsor the first multi-site NIH employee screening on National Depression Screening Day last fall.

Confirming the importance of such screenings was the first-ever Surgeon General's Report on Mental Health—issued on Dec. 13—with a key message that “mental health is fundamental to health.” This statement, backed by data from thousands of research studies, reflects the fact that untreated mood disorders are not only potentially disabling and reduce quality of life, but can also seriously undermine good health. Depression can lead to bone loss, worsen the symptoms of diabetes and heart disease and contribute to other health problems.

The NIH screening, attended by nearly 90 employees at three NIH sites, sought to help staff members identify symptoms of major depression or bipolar disorder and lead them to sources of help. Both disorders can be effectively treated with medication, certain forms of psychotherapy, or both.

NIH Employee Assistance Program (EAP) professionals, who conducted the anonymous, confidential screening, found that 80 percent of participants met partial or full criteria for major depression (marked by ongoing sad or empty mood) or bipolar disorder (involving swings between depressed mood and euphoric or agitated states). All were directed to organizations providing referrals to mental health treatment specialists.

“We had an excellent turnout for the first multi-site depression screening at NIH,” said NIMH director Dr. Steven Hyman. “People are more willing to seek help now than they were even a few years ago, in large part because of research uncovering the biological underpinnings of mood disorders.” Americans, he said, “are increasingly recognizing these illnesses as real medical conditions instead of character flaws.”

The QWL committee is taking the lead on future mental health screenings, with continued support from NIMH and EAP. Wendy Thompson, QWL committee chairperson, said their decision to sponsor future mental health screenings was based on research that the disorders affecting most Americans are eminently identifiable and treatable.

“Since an unknown percentage of NIH employees suffer from symptoms of treatable mental illnesses, and usually in silence, it only makes sense to continue a program that will enable staff members to benefit from the research mission they contribute to. And, helping them, of course, helps NIH and, ultimately, the health of Americans,” Thompson said.

The next screening is scheduled for Wednesday, May 3, 2000, which is National Anxiety Disorders Screening Day. Participants will view a short video on anxiety disorders; complete a screening questionnaire, which includes a depression symptoms checklist since the two conditions often co-occur; and meet briefly with a mental health specialist to discuss screening results. At the screening sites, participants may also collect NIMH materials on the various anxiety disorders and their treatments. No names are asked at the event, so employee records are not affected.

Check the *NIH Record* in April for schedule and location information of the May 3 event. Or, later that month, go to <http://wflc.od.nih.gov/wflc> on the WFLC Web site or <http://www.nimh.nih.gov/events/index.cfm> on the NIMH site.

Information about depressive and anxiety disorders, and other mental illnesses affecting mood, thought, and/or behavior, are also available on the NIMH Web site at <http://www.nimh.nih.gov/publicat/index.cfm>. To receive materials by mail, call NIMH at 443-4513.

In light of Surgeon General David Satcher's recommendation to “seek help if you have a mental health problem or think you have symptoms of a mental disorder,” concerned employees attending future mental health screenings can begin to get the help they need, whether for themselves or a loved one. (The Surgeon General's Report on Mental Health is available at <http://www.nimh.nih.gov/mhsgrpt/home.html>, with a message from NIMH's Hyman at <http://www.nimh.nih.gov/about/sgmessage.cfm>. For a free copy of the executive summary, call toll-free 877-9-MHEALTH.)

To find out about joining the QWL mental health screening subcommittee, contact Kathleen Moore, chairperson, at 435-2165 or [kmoore@nih.gov](mailto:kmoore@nih.gov).—Sophia Glezos Voit ■



*Dr. Arthur A. Atkinson, Jr., senior advisor in clinical pharmacology to the Clinical Center director and director of the ClinPRAT postdoctoral training program, as well as the course “Principles of Clinical Pharmacology,” has been named a master by the American College of Physicians-American Society of Internal Medicine for his distinguished contributions to internal medicine. The mastership will be presented in April at the college's annual session in Philadelphia. Atkinson has been president of the American Board of Clinical Pharmacology and president of the American Society for Clinical Pharmacology and Therapeutics. He is associate editor of Clinical Pharmacology and Therapeutics and Pharmacological Reviews.*

## Free Wisdom Teeth Removal

NIDCR seeks volunteers in need of wisdom teeth removal to participate in clinical studies evaluating new pain medicines. Patients will have their wisdom teeth removed at no cost by a board-certified oral surgeon using local anesthesia and intravenous sedation. Patients may also choose to participate in another study in which a single wisdom tooth is removed using local anesthesia only. The study involves imaging of the brain following oral surgery using positron emission tomography (PET scanning). Patients are required to make several visits to NIH but will be paid for their time if they complete all phases of the study. For more information contact Michael Burke, 496-6242. ■

VARMUS INTERVIEW, CONTINUED FROM PAGE 1

What's piquing your interest in lab work these days?

The major...themes at the moment are developing better models for studying human cancer in the mouse. This has been an interest of mine for some years, although 10 years ago the technology seemed much more limited because mostly what we were doing was making transgenics and crossing transgenics with knockouts. But now there are new levels of flexibility—conditional genes that can be turned on and off...We've been working with gliomas, and now we're working on breast...We're

seeing an increasing interest in developing therapeutics and even preventive strategies that are based on an actual knowledge of the genes that are abnormal in human cancers. These kinds of interventions are going to be less toxic and more effective, I hope...One of the things that's been deeply lacking in cancer research is a profound understanding of metastasis...The other part of my lab works on the way

in which a set of very important growth factors...called *wnt* proteins send a signal to the nucleus to change the way in which cells behave...

You've spoken of the importance of keeping NIH funding momentum going forward. Please comment.

This is a very important issue. I think the leadership at NIH and the scientific community need to think about a transition back to a less steep growing curve. That, in my view, should happen some time in the range of 4-5 years after this brisk scale-up. And I use that measure because that's the average length of grants...I don't believe, in the midst of this robust economic environment we're in, with incredible opportunities in research, that we should go back to a purely inflationary rate of increase. My own gut feeling is that we should anticipate moving from sequential 15 percent increases over...5 years, to an era in which there are more modest increases but still above the inflationary rate...I think some modeling needs to be done...about what's happening at our major academic health centers, to get a sense of what the right rate of growth might be over the longer haul...

Are you pleased with the new version of the Sharing Biomedical Research Resources guidelines?

In that arena, we're not trying to lay down strict law. What we're trying to do is move the scientific community into a more generous, and ultimately more beneficial mode of behavior...we're trying to

create an environment in which there is at least a movement in the direction of greater sharing...We're not trying to get ourselves into a role of expecting that situations are simple enough that we can anticipate everything that might happen. We're not expecting to be policemen on every corner...

What about your greatest disappointment as NIH director—is there an issue that has just been intransigent?

There have been some. One of the things that I've been working on, but perhaps couldn't expect to see tremendous changes in (during) the course of this short period is increasing the number of investigators from minority backgrounds in science. Now, this is going to take time, but I haven't seen major changes. Perhaps you couldn't in just 6 years...

What advice would you give your successor?

One is to continue the budget fight, second is to take great advantage of the strong advocacy that NIH has. I've been saying to both the scientific advocacy groups and the patient and disease-oriented advocacy groups that they need to work better with each other. NIH, I think, has done a good job working with its scientist constituencies; I think it's done an improved job, and at many of the institutes a splendid job, of working with patient advocates...I think I was slow to appreciate the importance of developing a kind of nonsectarian council of advocacy individuals of the sort that I finally have now with my Council of Public Representatives...I've found my interactions with those folks tremendously useful...I've also tried to remind people of the equity issues...the need to be conscious of health disparities and the need to pay attention to the more general application (of scientific advances), especially as our science becomes heavily technological and potentially very expensive...

Are you going to miss the opportunity as NIH director to address international issues like malaria and tuberculosis, as you've done in the past? Are you going to miss that bully pulpit?

I would miss it if I lost it, but I don't think I'm going to lose it because there are a number of things that I plan to do when I'm no longer at the NIH that I think will still be important. I've been asked to help WHO with their thinking about these issues. I expect still to employ the bully pulpit even though I may be less obviously called; I think I'll still be asked my opinions about things. I plan to continue my interest in malaria—I'm actually traveling to India in a couple of months to look at scientific activities there. I hope to be still involved in the development of PubMed Central, which is an important issue in developing international health because one of the great virtues of developing an electronic publishing network for biomedical research is support of science in the developing world.



At a ceremony in 1996, at the midpoint of his tenure, NIH director Dr. Harold Varmus participated in a mock swearing-in ceremony at which his wife Connie (l) held a copy of Dickens' *Great Expectations* for him to swear upon. At his farewell ceremony last month, Varmus joked that he was glad the book wasn't Dickens' *Bleak House*.

You have advice for the reorganization of NIH—would you want to be on any task force that would deal with that?

Sure. But my own view is that the kinds of changes that are being contemplated are, first of all, reasonably radical. Secondly, they may fly in the face of the interests of advocacy groups and Congress, both of which have been extremely generous to the NIH. I feel that it would be wrong for it to appear that NIH was driving these changes. NIH is a publicly created institution, and it's been successful for that reason. Any sense that NIH is trying to take matters into its own hands and make it more convenient for itself I think could produce some waves of disgruntlement that would serve the institution very poorly. My own advice is that at some point, enlightened members of Congress and the administration who understand some of the difficulties that result from having tremendous proliferation of institutes and centers should consider asking the National Academy (of Sciences) to set up a commission to think, over the course of a couple of years, about the future of the NIH...Our budget is soon going to pass the \$20 billion mark, we have 25 institutes and centers, and there will be more because things never seem to go backwards. As I noted when I first came here, when you create new institutes, it's like the spring is coming out of a little peanut brittle can and you never stuff things back in. You can't deal with this issue piecemeal—it's very apparent to me that the small institutes simply can't operate with the kinds of efficiencies and carry out some of the tasks the bigger institutes can carry out...I can see an NIH in which there are, basically, five or six organizations or clusters of organizations that work very effectively together and make the whole process of running the NIH one that is much more effective.

You've talked about how costly medicine is becoming, and the average person's increasing inability to afford some high-tech treatments. Do you have a solution?

I think there are a number of solutions. One is that what's high-tech today will become much lower tech...it costs over \$1,000 to have your BRCA1 gene sequenced but that's going to change, there's no doubt about it. The technological developments that are occurring through the use of DNA chips and other new methods are going to drive those costs down to the point where I would not be surprised if it cost no more than \$50 or \$100 20 years from now to have genomic assessment as you go off to college, or at some point in your relative youth, to get a pretty wide cut on what your risks are of disease in later life. Some of the therapeutics that are coming down the pike are now, and for the foreseeable future, going to be expensive...We have a problem in the country in that there's nothing people place higher value on than healthy life, but I'm

concerned about two things—the number we allocate to health becoming just too great to sustain even for people who are relatively well to do, but more troubling is the idea that we're going to cut a very significant portion of our population out of the benefits of certain kinds of approaches to health that were paid for by public money and ought to be publicly accessible.

Was there anything you couldn't do as NIH director that you will now be able to do?

Sure...I will answer to fewer bosses—that's good. My schedule will be more my own. My interactions with the private sector can be more flexible. I frankly enjoyed my interactions with the pharmaceutical and biotechnology activities before I came here, not because of the financial compensation...but because that's a very vibrant part of the world...Right now my intention is not to be involved in any companies in any obvious way...What I'm most energized about is the idea of just having a good deal more liberty, and being in a less closely watched situation...

What advice do you have for NIH on gene therapy as the appropriation hearings approach?

...There's no doubt that public opinion would be shifted by announcements of real cures...I think we're going to see some of those—the recent announcement of what seems to be an effective treatment for a small number of patients with hemophilia B is a definite encouragement—and I think we'll hear about other things in the not too distant future. The public will have to be reminded that adenovirus vectors—very much in the news because of Jesse Gelsinger's death—are not, in the minds of most of us, the prime candidates for gene delivery, compared to adeno-associated viruses, or lentiviruses or other retroviruses. My sense is that the public will respond favorably to the steps that we at NIH and our colleagues at the FDA have taken in response to some unfortunate events that happened in the University of Pennsylvania study.

Does society do an adequate job of appreciating and weighing the ethical dimensions of emerging topics such as embryo research? Commissions are always lamenting that "science is ahead of society."

Science will always be ahead of society—that's the nature of the beast. But I think we do a much better job (nowadays). Think back to 25 years ago when the recombinant DNA issue was laid on the table. People were pretty shocked. No one had really thought much about ethical issues in biology. They had thought about the atomic bomb as an ethical issue that science had engendered. But the notion that complicated biology could be the fodder for dinnertime conversation was a big surprise to most people. Since then we've had lots of other discus-



*Dr. Gillian Einstein has joined the Center for Scientific Review as scientific review administrator of study section 2 in the molecular, cellular, and developmental neurosciences integrated review group. This section reviews grant applications pertaining to neurodegenerative diseases. Einstein did a postdoctoral fellowship in the department of neurobiology and physiology at Northwestern University. She then went to Duke University as a research associate in the anatomy department, becoming an assistant research professor in the department of neurobiology in 1989. There, her research was primarily on Alzheimer's disease and the effects of estrogens on the aging brain. Einstein was also involved with student programs and was a gifted teacher—she received the Duke Alumni Distinguished Undergraduate Teaching Award.*



*Dr. Anthony D. Carter recently joined the National Institute of General Medical Sciences as a program director in the Division of Genetics and Developmental Biology, where he will manage grants dealing with chromosomal organization and gene regulation. He is a molecular biologist who comes to NIGMS from the Center for Scientific Review, where he had served as a scientific review administrator since 1995. At CSR, he reviewed research grant and fellowship applications in the areas of cell and molecular biology and biotechnology resources. Carter has also maintained an interest in science education outreach. Under an educational supplement grant from the National Science Foundation, he created the KEYS (Knowledge and Experience for Young Scientists) Outreach Program to promote interactions between minority scientists and elementary school students.*

CONTINUED FROM PAGE 7

sion—*in vitro* fertilization, heart/lung transplant, cloning, embryo research. I would say, in general, we're much better at this...

If you were around for another 6 years as NIH director, how would you improve the intramural program?

Part of it is location. I'm concerned about having significant components of our program in less than ideal space, and too far removed from centers of activity. I think we're going to have tremendous flowering of the program as a result of the new Clinical Center and Bldg. 50, but there are still outlying groups that worry me. The campus up in Bayview (Baltimore) is going to become more self-sufficient; as we bring the three components that are up there together, they'll have a nucleus of activity. I am worried that we do have pieces, and sometimes almost all of certain other programs not well organized. One of the most promising things that I've strongly supported and have helped to get under way is the concept of having a Neuroscience Center on campus, with some new and renovated buildings in the Bldg. 35-36 complex that will help to bridge some of the chasms that currently exist between some of the institutes, even though they do very similar things.

The FY 2000 budget mentions a need for increased security on the Bethesda campus. Can you say why that's important?

I haven't found this to be an enormous problem. This campus is reasonably safe, but there are people who are worried that it is not optimally safe. I have always been less than enthused about the idea of putting chain fences around the campus. I do think we can improve card access to buildings, ensure that loading docks are really locked at the end of the day. I think the campus has responded quite well to the idea of wearing identity cards...One of the things that we simply cannot prevent entirely are events that occur between angry people. We've been pretty lucky so far. I think that the changes that would result from chainlinking our campus and requiring metal detectors at every entry point just don't have the payoff—they change the atmosphere very dramatically.

Is that what someone is actually proposing—something that dramatic?

The idea of having a fence around the campus has been proposed many times in the past. There's lots of interest in that. And there are many federal institutions that do look that way. I think they isolate themselves quite quickly, and the atmosphere on campus is changed dramatically. It doesn't feel like an academic institution. We're not in the center of a high-crime district here—we ought to remember that. We're in a reasonably safe neighborhood, we

don't put chain links around stores and post offices...it creates an air of secrecy and will actually create other kinds of problems for us if we're perceived as being a high-security institution that's doing secret work and excluding the public. ■

### Program on Cancer Research, Feb. 22-23

The National Cancer Institute and the U.S.-Japan Cooperative Research Program will present "Common Frontiers in Cancer Research," on Feb. 22-23 at the Natcher Conference Center. The program is free and includes seminars in cancer genetics, biomarkers/early detection, apoptosis and angiogenesis. Speakers include Masaaki Terada, Tyler Jacks, Caryn Lerman, Yusuke Nakamura, Hynda Kleinman and others. To register for the seminar, fax your name, affiliation, email address and telephone number to (202) 331-0111 or email the information to [sdolibois@courtesyassoc.com](mailto:sdolibois@courtesyassoc.com).

### 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>.

The NIH Contractor Performance System	2/2
Electronic Forms Users Group	2/2
Java	2/2, 4
Introduction to HTML	2/3
CRIMS	2/7
Seeking Information on the Web	2/8
NIH Data Warehouse Budget Tracking	2/8
The NIH Contractor Performance System	2/8
WIG - World Wide Web Interest Group	2/8
Creating Animated Web Presentations with PowerPoint	2/9
DWAnalyze: HR	2/9
Fundamentals of Unix	2/9-11

*Employees of the Farm Credit Administration (from l) Philip J. Shebest, Mary Garver and Brian*



*Harrington recently visited the Children's Inn at NIH to donate candy, cards and decorations for the holidays. More than a dozen FCA workers gather every year to prepare holiday cheer for inn residents and their families.*

**NINDS Mourns Sarah Broman**

Dr. Sarah H. "Sally" Broman, a research psychologist and program director in the systems and cognition neuroscience cluster of the Office of Extramural Research, NINDS, died Nov. 2 after suffering a massive brain hemorrhage.

A native of Hattiesburg, Miss., Broman was born in 1926. She earned her bachelor's degree in psychology from Vassar College in 1946. In 1957, she earned her master's degree, and in 1965, her doctorate, both from Tulane University.

She came to NIH in 1967 as a member of the National Collaborative Perinatal Project and acting head of the section on behavioral science, NINDS. She later became a health scientist administrator in the institute's extramural Division of Fundamental Neuroscience and Developmental Disorders.

Before coming to NIH, Broman held many positions at Tulane including research assistant in the Urban Life Research Institute, psychologist and field supervisor on a multidisciplinary study conducted by the department of pediatrics, and assistant professor in the psychology department. She also taught at Louisiana State University in New Orleans.

Broman's other activities included serving as a research associate at the American Psychological Society; as a psychologist on a collaborative child development project and as the chief psychologist on a child development study, both at the Charity Hospital in New Orleans; and, from 1966 to 1967, as a psychologist at the Harvey Mental Health Center in Harvey, La.

Throughout her career she received many accolades, including a Public Health Service Special

Recognition Award, and an NIH Award of Merit in recognition of her exceptional efforts to further the goals of the Department of Health and Human Services "Healthy People 2000" initiative.

Broman coedited and coauthored numerous publications including *Atypical Cognitive Deficits in Developmental Disorders*, *Traumatic Head Injury in Children*, *Preschool IQ: Prenatal and Early Developmental Correlates*, *Low Achieving Children: The First Seven Years*, and *Retardation in Young Children: A Developmental Study of Cognitive Deficit*.

As a tribute to her hard work and dedication to neuroscience, her colleagues dedicated the recent 2-day NIH workshop titled "Adaptive Learning: Interventions for Verbal and Motor Deficits" to Broman. On day 1 of the meeting, friends and colleagues gathered at a reception to pay tribute to her as a scientist, colleague and friend. There, Dr. Martha Denckla, current member of the National Advisory Neurological Disorders and Stroke Council, summed up Broman's most important and consistent contribution to the field: "No matter how accomplished one was as a neurologist and clinician, you could always count on Sally to hold you to the most rigorous of scientific standards."

And, according to Broman's longtime colleague, Dr. Charlotte McCutchen, program director in NINDS's systems and cognition neuroscience cluster, "Her dedication to these ideals helped establish lasting validity for her fast-growing field."

Broman is survived by her daughter, Noel Alexandra Corry Miles of New Orleans, and two grandchildren.—Shannon E. Garnett



NIH grantee Dr. Helen M. Blau recently received the 1999 Excellence in Science Award from the Federation of American Societies for Experimental Biology. The award is presented to one woman annually to recognize outstanding achievement in the biological sciences. Blau, professor and chair of molecular pharmacology at Stanford University School of Medicine, was honored for research that has had a fundamental impact on the understanding of how cells become and remain differentiated during development. The award was presented at the annual meeting of the American Society for Cell Biology; it included a \$10,000 unrestricted research grant, funded by Eli Lilly and Co., and a recognition plaque. Blau has received support from NIGMS, NICHD, NIA and NCI.



The Bethesda Little Theater recently presented a check for \$4,500 to the NIH Patient Emergency Fund and a

check for \$1,500 to Special Love Inc., which will be utilized for Camp Funshine, recreational programming for children undergoing treatment for AIDS. The theater company is a volunteer organization sponsored by the NIH Recreation and Welfare Association. Shown are (from l) Chris Hurley, Clinical Center nurse, representing Camp Funshine; Randy Schools, R&W president; Adrienne Farrar, director, social work department; Teddi Pensinger, SAMHSA and Bethesda Little Theater; Alice "Frankie" Smyth, Bethesda Little Theater; Charles Butler, rehabilitation medicine department; and Brian Campbell, SAMHSA and the Bethesda Little Theater.

**Wednesday Afternoon Lectures**

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Marc Tessier-Lavigne, professor, departments of anatomy and of biochemistry and biophysics, and HHMI investigator, University of California, San Francisco, on Feb. 9. He will discuss "Wiring the Brain: Molecular Mechanisms of Axon Guidance in Vertebrates."

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

**Free Treatment for TMDs**

NIDCR is currently evaluating two new classes of drugs for treatment of temporomandibular disorders (TMDs). Patients will receive a thorough evaluation at NIH and be followed for up to 6 weeks if placed on a study. For more information, contact Dr. Lauren Ta at 402-6437. ■



*Dr. Michael Num is the new scientific review administrator of the molecular, cellular, and developmental neurosciences 6 study section in the Center for Scientific Review. This study section reviews applications pertaining to developmental neurobiology. As a pre- and postdoctoral student in the department of molecular biology at the University of California at Berkeley, he analyzed the genetic structures of avian and murine leukemia and sarcoma viruses, and discovered the ets oncogene. After 3 years postdoctoral training at the Salk Institute for Biological Studies, he next spent 3 years as a staff scientist at Pharmacia Genetic Engineering. In 1994, he became a senior staff fellow in the Laboratory of Molecular Biology, NIMH, where he investigated the role of a viral gene product in the pathogenesis of HIV-1.*

**LASKER WINNER, CONTINUED FROM PAGE 1**

direct course for scientific excellence. The Lasker award not only commends Hille's extraordinary cellular research, but also honors him as an equal to the great scientists who have long been his mentors.

As a child, Hille's home was alive with science, logic and language. His father, a well-known Yale University mathematician, and mother, the "intellectual wife of a faculty member," entertained an impressive list of intellectuals, including Lars Onsager, winner of the 1968 Nobel Prize in Chemistry, and Edgar J. Boell, a renowned Yale zoologist and embryologist. It seemed only natural, then, for 16-year-old Hille to work in the lab of his family friend Boell, who was then chairman of the zoology department.

"Working with [Boell] was like a first-love experience, where everything is fresh and wonderful," Hille said. "He introduced me to science and to research. My involvement with him was certainly a defining moment."

Boell taught Hille the essentials of studying science, like the fun of discovery and respect for the work of others. Hille remained with Boell until 1962, when he graduated from Yale with a zoology degree. Working with Boell stirred Hille's interest in studying cell membranes, the fence-like barriers that determine the boundaries of a cell. At the time, aside from their existence, little else was known about cell membranes. Scientists could only guess at how things moved from one side of a membrane to the other. Membrane permeability would become key to Hille's research career.

Hille continued his graduate studies at Rockefeller University in New York, where he enjoyed the same connection to intellectuals. He met classmates Harvey Lodish, now at MIT's Whitehead Institute for Biomedical Research; David Sabatini, currently chair of the department of cell biology at NYU Medical College; and David Hirsch, now chair of the biochemistry and molecular biophysics department at Columbia University during his first week at Rockefeller. The four became fast and close friends. They shared classes with the likes of: Chuck Stevens, now with the Salk Institute for Biological Studies; Alan Finkelstein, presently at Albert Einstein College of Medicine; and David Baltimore, currently president of California Institute of Technology and winner of the 1975 Nobel Prize for his discovery of reverse transcriptase.

As a graduate fellow, Hille tried to answer the question of how things, specifically ions, move through cell membranes. Ions are molecules that have either gained or lost electrons, giving them an electric charge. Hille found that the cell membranes had pore-like spaces in them, which he called "channels," that allowed ions to pass through. For its day, Hille's discovery was revolutionary. The theory at that time was that any ion could pass

through a membrane at any point. Clay Armstrong, who would eventually share the Lasker award and other honors with Hille, was one of the only other researchers at that time to embrace the idea of ion channels. In fact, Hille and Armstrong were among the first to use the word "channel" to describe the pores in the cell membrane. The two were considered "rebels" in the research community.

"We've been interacting since we started in the 1960's," Hille said of his relationship with Armstrong. "It's been wonderful to have a 'sparring partner.' We agreed with each other and didn't try to save our secrets because there were so few of us. We shared as much as we could, which made it enjoyable."

After receiving his Ph.D. in life sciences from Rockefeller in 1967, Hille traveled to the U.K. to do postdoctoral work at Cambridge University. He continued ion channel studies under Sir Alan Hodgkin, who won the 1963 Nobel Prize in Medi-

**"I view population as a serious issue for our planet. As a basic scientist, it was important to me to find out what options there were for people in terms of reproductive choice."**

cine or Physiology for his work with ionic mechanisms and membrane transport. Hille calls Hodgkin "a demanding postdoctoral advisor.

"I was a little afraid of him," Hille admitted, "because by that time he was famous."

In 1968, Hille moved back to the U.S. and accepted a position at the University of Washington School of Medicine. He has been a professor in the department of physiology and biophysics there since 1974. During his first few years there, Hille made another breakthrough when he found that the size of an ion channel was specific to the type of ion the channel allowed to pass through.

Throughout the last 30 years, Hille has made great strides in understanding more about how ion channels behave. His work with blocking agents, materials that prevent nerve impulses from reaching their intended nerve cells, provided a basis for further study in anesthesia. His work also led to a greater understanding of how certain drugs function in the heart to regulate an irregular heart beat, a condition called arrhythmia. In 1984, Hille published *Ionic Channels of Excitable Membranes*, a standard text for students in biology, physiology, chemistry and biochemistry.

Hille's research focus has also shifted to include ion channel regulation mechanisms. At the suggestion of Robert Steiner, Hille joined the Specialized Cooperative Center in Reproductive Research at UW. Under the directorship of Dr. William Bremner, Hille has been studying the mechanism of action of gonadotropin releasing hormone (GnRH) on a

pituitary cell that allows the pituitary glands to "talk" to the gonads, the sex glands. More specifically, GnRH tells the pituitary cells to release other hormones that are essential to the production of eggs, sperm and sex hormones. His task was to determine how the GnRH makes the pituitary release these other hormones.

More recently, Hille's work has addressed questions of male contraception. Since the invention of the condom 200 years ago, Hille said little research has been done on options for male reproductive activity and fertility. He indicates that one approach to male contraception focuses on regulating hormone secretion by altering ion channels on the pituitary gland, which can stop the production of sperm. Another approach, and an additional area of study for Hille, uses ion channels on the sperm themselves to influence the fertility of the sperm.

"I view population as a serious issue for our planet," he explained. "As a basic scientist, it was important to me to find out what options there were for people in terms of reproductive choice. My decision to join the [Specialized Cooperative Center in Reproductive Research] was more of a philosophical choice for me than a scientific choice and I will stick with it for that reason."

October 1999 proved to be an eventful month for Hille. The Lasker award panel, made up of internationally renowned scientists, honored Hille, Clay Armstrong, and Roderick MacKinnon for their remarkable work in clarifying the functional and structural architecture of ion channel proteins. After decades of anonymity, Hille and Armstrong were finally recognized for their discoveries about ion channels in the 1960's.

"The remarkable thing about getting the award is that at one time no one cared about it," Hille said. "In 1964, there were only 10 papers about ion channels; now there are over 5,000 new ones every year. I guess it's 'made it' in terms of being recognized. It's very fulfilling."

Despite his remarkable accomplishments, Hille remains unassuming. When asked if he felt that he, too, had "made it" by winning the Lasker award, his answer was simple.

"I would much rather recognize the accomplishments of others and encourage them than blow my own horn," he said.

Hille is currently on sabbatical from his professorship at UW to finish the third edition of his *Ion Channel* textbook. He likes teaching and plans to continue "as long as it goes well." With Mt. Rainier practically in his backyard, Hille and his wife enjoy hiking and the outdoors.

"It's actually been rather fun to have new techniques brought in every few years. We get to try something new. The basic question is the same, but the techniques change," he noted. "I am very lucky to get paid for something I love to do." ■

### Intern Program Develops Leaders For the 21st Century

The NIH Management Intern Program is celebrating its 43rd anniversary. So if you're looking to change careers, this is a program with a proven track record. Many of the interns have gone on to obtain successful, high level managerial positions with NIH and other federal agencies.

The program uses entry-level career development training designed for outstanding men and women who have a clear interest

in and commitment to a career in public service. Via rotational assignments, interns are introduced to potential administrative career tracks, i.e., grants and contracts management, general administration, human resources management, budget, legislation, information technology, human resource management, public affairs, legislative analysis and program/management analysis.



NIH recently welcomed seven new NIH Management Interns. They are (top, from l) Jason Donaldson, VerLyn Francisco, Allyson Browne, Julie Townshend and James Washington. In front are (from l) Shelma Grant and Wendy Hadfield.

This year's program will open on Feb. 14 and close Mar. 14. The application process will be online at <http://internships.info.nih.gov>. The Web site will be available for viewing on Feb. 10, but applicants may not enter their applications until Feb. 14.

To apply you must be a U.S. citizen; be willing to work full-time; be a current Department of Health and Human Services employee at the GS-5 level or above or wage-grade equivalent and currently employed in either a career or career-conditional appointment or be on a veterans readjustment appointment, severely physically disabled (Schedule A) appointment or any other appointment that offers noncompetitive conversion entitlement.

Detailed program information will be provided at the information sessions listed below. Applicants are encouraged to attend one of the sessions before completing their application package.

#### Management Intern Information Session Schedule

Date	Location	Time
Feb. 8	Natcher, Conf. Rm. C1/C2	11:30 a.m.-1:30 p.m.
Feb. 9	Rockledge II, Rm. 9104	11:30 a.m.-1:30 p.m.
Feb. 15	EPN, Conf. Rm. C	11:30 a.m.-1:30 p.m.
Feb. 17	NSC, Conf. Rm. A1/A2 (6001 Executive Blvd.)	noon-2 p.m.
Feb. 22	Bldg. 1, Wilson Hall	11:30 a.m.-1:30 p.m.
Feb. 24	Bldg. 10, 2C-116	11:30 a.m.-1:30 p.m.

More information about the program may be obtained by calling 496-2404. ■

## 'Jolly Green Giant' Visits NIH

When DES Director Tony Clifford looked up and saw a bright yellow helicopter flying over his house early one Sunday morning, he knew exactly where it was headed. Clifford and his 11-year-old son Brian were about to leave for the same place—parking lot 10H behind the Clinical Center. They were eager to see history being made, an NIH first—a helicopter lift of mechanical equipment to the roof of Bldg. 10.

Designated the HH-3E Jolly Green Giant by the U.S. Air Force, the Sikorsky S-61 copter is a reliable machine. Once used to rescue shot-down aircrew during the Vietnam war, they are used today by the U.S. Marines to ferry dignitaries to the Pentagon.

The mechanical equipment to be lifted was a 7,060 lb. air handling unit for the new NIAID air system



The "Jolly Green Giant" helicopter touches down on parking lot 10H behind the Clinical Center.

being constructed for the solarium portion of Bldg. 10. This area has become hot property for meeting and conference rooms, but its air

conditioning is inadequate. According to Norm Jones, project officer for the new air system, the project is designed to provide 100 percent of the outside air for the solarium's current and future needs.

In the past, such equipment at NIH has been placed by crane. But the new South Entry to Bldg. 10 put the solarium roof out of reach of mobile cranes. Jones and his construction quality manager Carlisle Bean of GRD Construction Consultants, Inc., checked out the possibility of transporting the unit in pieces up the freight elevator and through building corridors to the roof, as many had suggested. But this option was thwarted by the inadequate size of corridor and elevator doorways. The only way left was by air.

While placement of mechanical equipment by helicopter is routine on major construction projects throughout the country, it had never been attempted at NIH. There is a big difference between flying equipment across an open construction site and carrying it over an occupied hospital. And it is rare for helicopters to touch down at NIH—it happened in July 1967 when President Lyndon B. Johnson came to visit and once when a Maryland State Police copter participated in NIH Fire Prevention Week activities. (When President Clinton comes, he usually lands at the Naval Hospital and drives over

by motorcade.)

But Jones, a former Air Force officer, believed in the helicopter lift, and was confident it would save the government thousands of dollars.

Ultimately, the operation came off without a hitch.

The lift took place on a Sunday, when activity on campus was at its lowest.

According to a special timetable, the chopper

(painted yellow, not jolly green, by contractor Carson Helicopters) would be in the air only during 15-minute periods, separated by half-hour downtimes. These intervals were necessary to allow intermittent resumption of traffic and patient care activities. It was also agreed that if a Code Blue or Code 100 emergency occurred within the Clinical Center, any lift in progress would be immediately aborted. Five lift periods were scheduled to provide for this possibility.

At exactly 8:15 a.m., the powerful turbines of the S-61 roared into life. Slowly, the craft rose from the tarmac, turning gently until it was directly over the mechanical equipment. The first piece was hooked up, a signal given and the Jolly Green Giant climbed noisily into the air until it hovered directly over Bldg. 10, where it appeared to float motionless while the equipment was wrestled into position and secured on the solarium roof. When the harness was released, the chopper swooped back down for another load. In all, three pieces were moved during the first lift, and the other two during the next.

Promptly at 9:45, the aircraft rose for the final time over NIH, turned slowly toward the east, and disappeared over the treetops. History had been made. Helicopter placement of mechanical equipment had proven to be fast, efficient and safe. ■

## Healthy Males Needed

The Clinical Brain Disorders Branch, NIMH, seeks healthy, college-educated males between the ages of 29 and 40 to participate in a 2-day genetic study. Tests include clinical interviews, neuropsychological testing, a neurological exam, neuroimaging, evoked potentials, eye tracking and a blood draw. Stipend available. For details call Kayleen Hadd at 435-8970. ■



Copter hovers above Bldg. 10 as it places its payload atop the roof.