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"Still The Second Best Thing About Payday"

The NIH Record

Staunch Patron of NIH, Research

Bldg. 36 Renamed in Honor of Lowell Weicker

By Rich McManus

Gov. Lowell P. Weicker, Jr., of Connecticut came to the renaming of NIH's Bldg. 36 in his honor on May 30 with a sober and humble message to America—it's a shame we spend so little on biomedical research.

Carrying no prepared remarks, the 20-year veteran of Congress spoke instead from his heart.

"I doubt many people in this country know about NIH or about this building," he said, downplaying whatever personal grandeur NIH may have hoped to bestow on him. "But this little plot of land is our only hope to relieve death and disease."

Though pleased to see his name emblazoned above the entrance by act of Congress, Weicker said that, after the hoopla, he was "just going out in the field to do what I do best—articulate your brilliance, so that health and life become the number one priority of the United States of America."

"It is hard to imagine a stauncher friend and more determined advocate of NIH than Lowell Weicker," said NIH director Dr. Bernadine Healy, who introduced him. "Over the 20 years that he served in the Congress he held to the unyielding conviction that bio-

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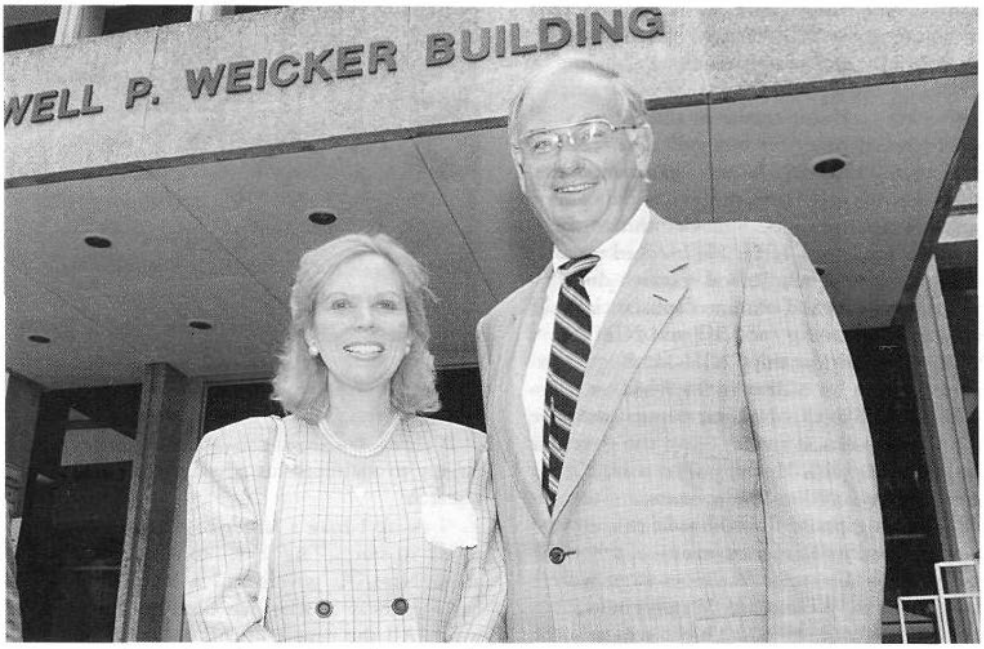

Standing in front of the former Bldg. 36 at a dedication ceremony on May 30 are NIH director Dr. Bernadine Healy and Gov. Lowell P. Weicker, Jr., of Connecticut, whose 20 years in Congress as a friend of NIH were memorialized. A plaque inside the building honors Weicker's advocacy of biomedical research.

DCRT Networks Campus, World for Research

By Anne P. Enright

Imagine that an NIH researcher has just sequenced a fragment of DNA and must send it immediately to a collaborating scientist who works on the west coast. Instead of copying the sequence on a diskette, filling out an overnight mail request, and sealing it in an envelope, the researcher simply swings around to the computer and enters a national electronic communications network. Within minutes, the data are rushing to the shores of the Pacific.

A picture from the lab of the future? Hardly. For NIH scientists, such capability has been available since the beginning of this year through the new campuswide computer network, NIHnet. This comprehensive networking system connects scientists in each NIH building, both on and off campus, with each other and with universities and research institutions the world over, putting biomedical computing resources at investigators' fingertips.

A mixture of hardware, software, and

(See NETWORK, Page 6)

'Quality Together'

Clinical Center Adopts Corporate Management Style

By Carla Garnett

All of a sudden, the whole Clinical Center got excited about (of all things!) management. And not just any management but "total quality management"—TQM, for short. These days the corporate strategy has infiltrated every CC department, process and service in the hospital and clinics. What's more, employees seem to have embraced the intrusion.

Just 6 months have passed since the introduction of TQM—or quality together (QT), as CC's TQM process is called—to the Clinical Center and fervor for the "grass roots" management process has yet to wane. For TQM leaders—individual department representatives formally dubbed "facilitators," who are responsible for getting their coworkers involved in TQM—a little enthusiasm goes a long way.

"As long as you have that momentum," explained Elaine Ayres, clinical nutrition specialist and nutrition department TQM facilitator, "you don't let it drop. We wanted to hit the ground running."

In March, the nutrition department had "Committed to Quality," one of the Clinical

Johnnell Branch applies TQM to her duties in CC's outpatient department.

Center's largest and grandest TQM kickoffs, complete with door prizes, balloons and campaign-like speeches and slogans. The kickoff involved all 135 employees from the department—just like all CC department facilitators hope TQM will sweep their coworkers.

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WEICKER

(Continued from Page 1)

medical research was absolutely vital to the future of this nation. And, as any senator can tell you, Senator Weicker was not someone you willingly opposed when he was holding an unyielding conviction."

Weicker's 18-year tenure in the Senate was marked by advocacy for biomedical research. For 4 years, 1983-87, he was chairman of the Labor, Health and Human Services Subcommittee of the Appropriations Committee, in effect the purser for NIH. He blocked spending cuts aimed at biomedical research during the Reagan years and obtained substantial increases in spending for NIH and NIMH. During his chairmanship, NIH funding increased from $4 billion to $6.7 billion.

"Nothing like this has ever happened to me in my long political career," said the governor who, together with Healy, pulled a cord unveiling the building's new name.

Redirecting praise from himself to the people who work in NIH labs, many of whom were peering out at the festivities from windows in Bldgs. 35 and 36, Weicker said, "I want you to know how much the nation owes to you (the audience of dignitaries), and to the people who work in this building.

"It must be discouraging to do your work, succeed at it, and get no recognition whatsoever," he said, lamenting the country's evidently low priority on research. "The best hope of this nation overcoming its health care costs lies on this campus and in what you do here."

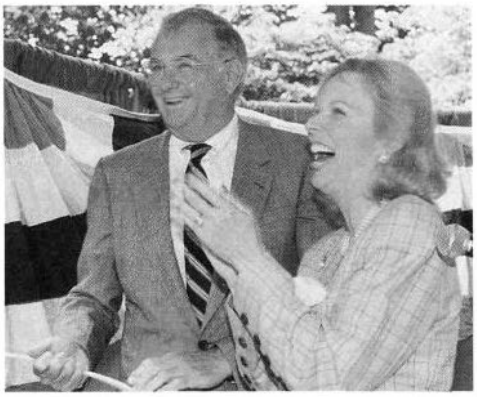
Weicker said the country's recent interest in the high cost of health care has long been his concern.

"All of a sudden the country has discovered that health care costs are too high. Well, I thought they were too high last year, and the year before that, and the year before that. We spend $700 billion on health care every year in this country, both publically and privately, and only 3 percent of that sum goes to research.

"The disgrace is not the high cost of health care. It is the low investment in research—that is the disgrace."

Before he ran successfully for governor of Connecticut last fall as an Independent, Weicker had been founding president of Research!America, a grass roots organization aimed at increasing public awareness of the importance of biomedical research. His message there was the same as it is today—the key to lowering health care costs lies in boosting funds for basic research.

"The mechanisms are in place to fund biomedical research," he said. "What it needs now is the funding. I read about the difficulties that the research community has encountered in recent years. What is needed by the nation is an understanding of this whole process."



Weicker and Healy collaborated on pulling the cord that unveiled the new Lowell P. Weicker Bldg. on campus.

Weicker said he got back into politics largely to maintain his advocacy of medical research.

"I think I have a larger role (than governor) to all 50 states," he said, "to educate them about NIH. As governor, I will continue to hammer away at what has been my life's work. All the people of this nation should treasure NIH and the work that goes on here."

Before leaving the podium to a standing ovation from an audience of NIH officials who had congregated under a tent erected outside the Weicker Bldg., the governor said, "Thanks for putting the Weicker name on the greatest endeavor of our government."

During his brief remarks, Weicker expressed confidence that, in Bernadine Healy, NIH's mission was "in very good hands."

In her introduction, Healy had said, "It seems fitting that Congress decided to name this building after someone whose daring and caring is so much at one with NIH's style and substance. With the same independence and innovation, the same tenacity and vigilance, NIH and Lowell Weicker have been one in pursuing the business of hope."

The Weicker Bldg. is currently home to basic research laboratories belonging to NINDS, NIMH and NICHD. Three of NIH's intramural Nobel Laureates have offices there, and two were on hand for the ceremony—Dr. Marshall Nirenberg and Dr. Julius Axelrod.

The plaque to be installed in the building reads: "By Act of Congress... this building is designated the Lowell P. Weicker Building. Representing the state of Connecticut for 20 years in the Congress, Senator Weicker has tirelessly advocated that better health research means better health for Americans. His legislative accomplishments in support of biomedical research created a legacy of discoveries that have advanced the frontiers of science."

The Weicker Bldg., completed in 1968 at a cost of $13.4 million, comprises 184,217 square feet, "which is just a little larger than the state of Connecticut," quipped Healy. □

NINDS Annual Summer Lecture Series Begins June 20

Epilepsy, viral-induced disorders of the central nervous system, and other topics related to neurological diseases are on the agenda for the NINDS Annual Lecture in the Neurological Sciences for Summer Students. The series will begin June 20 with a lecture by Dr. Clarence J. Gibbs Jr., deputy chief of the NINDS Laboratory of Central Nervous System Studies, who will discuss "mad cow disease"—a fatal disorder that has affected thousands of cattle in Great Britain—and other conventional and unconventional viral-induced CNS disorders. The lecture is scheduled for 11:30 a.m. in Lipsett Amphitheater, Bldg. 10. All NIH summer students are welcome to attend. □

NICHD Needs Volunteers

NICHD seeks healthy volunteers ages 18-45 to participate in evaluation of a new vaccine against *Staphylococcus aureus* infections. Volunteers will be tested for HIV, hepatitis, and abnormal liver functions. Females will also be tested for pregnancy. Positive test for any of the above will exclude participation. For information call Dottie Allor, 301-496-1185. □

The NIH Record

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NICHD Creates Laboratory of Molecular Embryology

By Birgit An der Lan

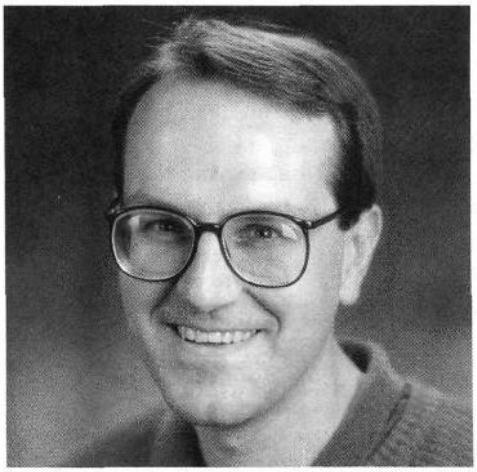
During the past few years, the NICHD has been expanding its research to understand how the development of the embryo is controlled at the level of the gene. And in June, a new laboratory was founded that is devoted entirely to this question. The mandate of the Laboratory of Molecular Embryology is to study the genetic control of differentiation, the process whereby an embryo changes from groups of unspecialized cells into specialized tissues such as muscle, blood, bone or liver. During very early stages of development, the cells of an embryo have the potential to become any cell in the body. But as development progresses, their fate becomes fixed because sets of their genes are permanently switched off.

NICHD has recruited the young British scientist Dr. Alan Wolffe to head the new lab. Despite his youth—he is one of the youngest lab chiefs at NIH—Wolffe has already had a distinguished career in the molecular biology of embryology. "Alan has established a powerful research program in one of the most compelling areas of modern biology," said Dr. Arthur S. Levine, NICHD scientific director, "and he is one of the few molecular biologists today who is studying gene expression and chromosome structure in an integrated fashion."

Wolffe graduated with highest academic honors from Oxford University in 1981. As an undergraduate he worked on the physicochemical aspects of histone/DNA interaction (histones are proteins responsible for packaging DNA). He completed his doctorate at the National Institute for Medical Research in London under the distinguished British biochemist Jamshed Tata, studying the hormonal induction of gene expression.

In 1984 he came to the United States on an EMBO fellowship to the laboratory of Donald Brown at the Carnegie Institution in Baltimore. Here he began to study the role of histones in the control of gene expression, work that has garnered him an international reputation. In 1987, the Laboratory of Molecular Biology at NIDDK, known worldwide for its pioneering work on chromatin structure, invited him to start a new program to investigate the interaction of transcription factors with chromatin, and how this interaction controls gene expression.

Transcription factors are proteins that control the activity of genes—they bind to DNA to switch genes either on or off. In addition to these transcription factors, which make the genes responsive to the day-to-day needs of the organism, the DNA of all eukaryotes (creatures whose cells bear a nucleus) is bound to an equal mass of histones, and in this form is known as chromatin. Histones help organize



Dr. Alan Wolffe

and package the fragile, tremendously long DNA molecules into compact units—if the DNA of each nucleus had the thickness of string, it would stretch from here to Boston—try to keep the tangles out of that!

Wolffe believes that histones are not just acting as spools on which to wind the DNA, but that they have another important function—controlling the access of transcription factors to the DNA. His research indicates that both types of protein, histones and transcription factors, compete to bind to the DNA. If certain kinds of histone win out, a gene is switched off, but if the transcription factors get in early enough and bind, the gene continues to function.

When cells divide, all of their genes are duplicated; to give the DNA replicating machinery access to the DNA, the packaging material and transcription factors have to temporarily lift off. Wolffe and his colleagues have shown that this is the window of opportunity for histones and transcription factors to vie for access to the gene—before the DNA and its packaging is reassembled. They have also made some important discoveries about how cells maintain their identity through cell division, that is, how the configuration of switched on and switched off genes is preserved: Active genes replicate during the early phase of cell division, the available transcription factors keeping the histones at bay; genes that should stay switched off tend to replicate later when there are only histones left to bind to, ensuring that they remain inactive.

In his new position Wolffe will be expanding his program of research aimed at determining how transcription is regulated in its chromosomal context, and how this regulatory process differs between the embryo and the fully developed organism. □

Computer Courses Offer Variety

The DCRT Computer Training Program began its summer session June 10. More than 10 new courses and seminars are being offered. Altogether, the summer 1991 program includes 42 seminars and courses on topics ranging from the Andrew File System to DB2, WYLBUR, and the new features of version 6.06 of SAS. Prospective students only need to complete the one-page application to register.

Two of the new classes, given by Kevin Haney and Curt Bland, PCB, DCRT, deal with *computer viruses* that affect the PC and Macintosh. Students who attend these seminars will learn what computer viruses are, how they can be avoided, what antiviral programs exist, and how they work.

In addition to teaching the popular *ENTER BBS* seminar again, Steven Gearinger, CCB, DCRT, will offer a new workshop for students who have some experience with the electronic bulletin board system. The workshop will include hands-on exercises and discussion.

A new course on *SPSS*, a comprehensive and integrated system for statistical data analysis, is being taught by Jean Daugherty, LSM, DCRT. Students will learn to write SPSS programs, define and analyze data, manipulate files, perform statistical computations, create and use SPSS system files, and interpret error messages and SPSS output.

Later this month, Dr. John Fletcher, LAS, DCRT, will present a 4-part seminar on *PC-MLAB*, a high-level modeling and data analysis language for evaluating mathematical models by simulation, graphics, and curve-fitting.

LabView, a Macintosh-based graphical programming environment that allows students to acquire analog signals, control instrumentation, sequence tasks, and execute user-defined operations, will be described in a seminar by Mark Vivino, CSL, DCRT.

GenBank, a database for the Convex, will be taught in Lipsett Amphitheater. Dr. Dale Graham, PCB, DCRT, will discuss how to download GenBank sequences and how to deal with them on the Macintosh or other microcomputers.

To help programmers realize improved software quality, productivity, and maintenance, a seminar on *Computer-Aided Software Engineering* is being introduced this summer. Marvin Katz, DMB, DCRT, will address concepts in software engineering, including diagramming techniques and methodologies.

A 2-day seminar on topics related to *flow cytometry* will be moderated by Luther Barden, CSL, DCRT, and will feature several speakers from the intramural research community.

For more information, call 496-2339. □

QUALITY

(Continued from Page 1)

"Once they get the notion that change can help them," Ayres said, "then they want to do it."

What TQM is exactly is hard to put into words. The concept means a lot of different things to people hearing and experiencing it for the first time.

"A lot of people thought it would be boring," says Jill Deuel, facilitator for the medical records department. "Everyone is thrilled. TQM allows employees to use their own creativity to accomplish goals."

Dr. Lynn Gerber, chief of CC's rehabilitation medicine department, who recently completed a week of TQM training, says her experience with the process was definitely positive.

"I came away with the sense that I had learned something new and had developed some new assessment tools with which to improve our product and our work environment," she says. "As a product of the sixties, I believe if you're not a part of the solution you're part of the problem. TQM is a method designed to solve problems and help us remain the premier biomedical research facility in the world."

TQM facilitator Elaine Ayres ushers CC's nutrition department toward the new management style.

Johnnell Branch, quality assurance and training coordinator for CC's outpatient department, agrees that for departments like hers, the management strategy can be as basic as providing a favorable work environment, something from which everyone can benefit.

"We recognize that in doing our jobs we have a lot of different consumers," she says. "First, we have patients and their families, then we have investigators, contractors, other allied health professionals and coworkers." TQM, she says, necessarily cuts across department lines and hierarchical divisions and joins all employees for the good of the institution.

That is probably the most universally important and understandable goal of TQM—individuals working as a group.

"You try to get everybody to perform as a team," says Tony Gaither, material management department facilitator. "If everybody buys into the concept and gets involved and gives input, TQM will work."

Begun several years ago in Japan, the TQM concept was launched and implemented more recently in the United States by such business giants as IBM, Ford Motors, Digital Equipment, General Motors, AT&T and the 3M Corporation. According to experts, as many as 15 percent of all major U.S. corporations are currently involved in quality management.

The philosophy espouses the idea that quality is a matter of meeting and exceeding customer expectations and eliminating all defects. It also encourages pushing decision-making capability downward into the organization and emphasizes a strong top level management commitment.

"At the Clinical Center we're totally committed to serving the needs of our customers," said Dr. Saul Rosen, CC acting director. "For some time now, we have perceived a need to make the Clinical Center more efficient and responsive to our patients, our fellow employees, our colleagues from the institutes, and the public. We see QT as a positive and effective way to achieve these goals."

CC contracted with 3M, which had recently developed a program with Rush Presbyterian Hospital in Chicago that was specifically tailored to hospitals, to implement the program here.

"At first it was really overwhelming," recalls Ayres. Facilitator training included intensive, week-long sessions combining group discussions, situation analyses and role play.

Alberta Bourn (l), chief of CC's nutrition department, congratulates food service worker Doris Grajeda, who won a door prize at the department's recent TQM kickoff.

In addition, process novices learned to speak "TQM-ese," a new management language that redefined many old terms. For instance, according to TQM, a "failure" is an "opportunity to learn." Likewise, "problems" are "opportunities to improve."

"There were a lot of concepts and ideas being tossed around pretty quickly," Ayres says. "What we had to do was find ways of integrating them and applying them in our own departments at the nitty-gritty level."

TQM's grass roots approach—the fact that every CC employee, at all levels, is urged to participate in decisionmaking and responsibility—is the process's unique selling point.

"TQM does not assume that the person who has the answer is always at the top," Branch emphasizes.

Branch, Deuel, Gaither and Ayres agreed that in order for TQM to work, all employees must embrace CC's TQM slogan and get "on the QT—quality together."

Jill Deuel, TQM facilitator for the medical records department, promotes the fun of the process.

"It's probably going to take some time before we see overwhelming results," said Branch. "Things are not going to change overnight. TQM requires a commitment to doing things well."

The major obstacle to implementing TQM, she says, ultimately will be attitude, not training or knowledge.

"You can teach people things they don't know and they can practice to get to do them better," she said, "but attitude changes take a lot longer."

Other NIH entities, continually searching for ways to enhance quality and production, have also seen TQM's light. Recently, top

Anthony Gaither, emphasizes TQM teamwork.

staff members of NIH's Division of Engineering Services embarked upon the first stages of TQM training, a move that precedes division-wide implementation of the management process.

"The heart and soul of TQM is meeting the expectations of the customer, employee empowerment and continuous improvement," says Arturo Giron, DES assistant director for technical training and employee development. DES has recognized the same goals for itself, he said.

"What TQM is focusing on is ways we can do what we do better," concludes Branch. "We know we are among the best research facilities in the world and what we're looking for are ways we can be even better." □

String Quartet Concert, June 14

The Leontovych String Quartet from Kiev, Ukraine, will perform in a benefit concert for victims of the Chornobyl nuclear disaster on Friday, June 14 at 8 p.m. in Masur Auditorium, Bldg. 10.

Formed in 1971, the quartet was introduced to audiences in this country during the summer of 1988, when it appeared at Harvard, Princeton and at Music Mountain in Connecticut. The June 14 concert will feature five works by such composers as Mozart, Sylvestrov and Lyatoshynsky.

Tickets at the door are $15 per person, $25 per couple, $10 for students and seniors; children under 12 will be admitted free. Concert is sponsored by R&W, the Washington Chornobyl Committee and the Washington Group. □

Toddlers, Mothers Sought

The NICHD seeks toddlers 21- to 24-months-old and their mothers to participate in a study of the development of play and language. For more information call Anne O'Reilly, 496-6832. □

Waldmann Wins Artois-Baillet Latour Health Prize

The 1991 Artois-Baillet Latour Health Prize has been awarded to Dr. Thomas Waldmann, chief of NCI's Metabolism Branch, for his contributions to the development of monoclonal antibodies in diagnosis and immunotherapy.

"Dr. Waldmann is a brilliant scientist and physician who is internationally recognized for his research at the interface between basic cellular and molecular immunology, and clinical immunology," said NCI director Dr. Samuel Broder.

He began his career in immunology by studying factors controlling immunoglobulin metabolism in normal and malignant conditions. He described the metabolic rates, as well as patterns of distribution and transport, for the five major immunoglobulin classes and the four immunoglobulin G subclasses. Immunoglobulins are the proteins that function as antibodies directed against foreign invaders.

Waldmann also developed laboratory procedures that allowed him and other researchers to analyze the functions of T lymphocytes, the white blood cells primarily responsible for cellular immunity.

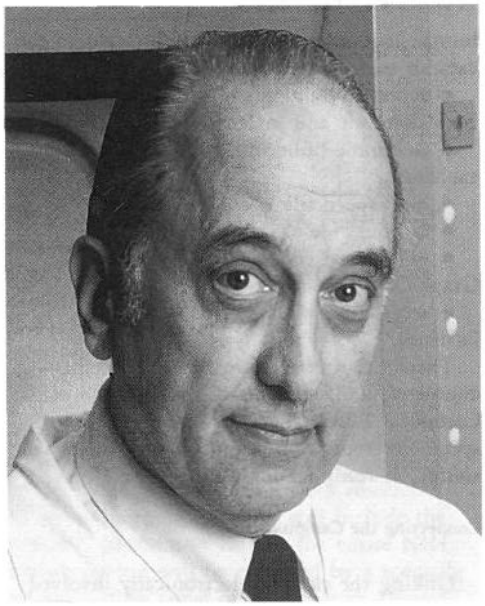
"Dr. Waldmann's landmark discovery of active suppression of immune responses by human suppressor T lymphocytes and macrophages revolutionized the thinking about the pathogenesis of immunodeficiency disease and autoimmunity," Broder noted.

In more recent work, Waldmann has focused on the interleukin-2 (IL-2) receptor, a molecule that appears on the surface of T lymphocytes in a variety of disease states. In addition to characterizing the IL-2 receptor, he and his associates developed the first monoclonal antibody to the receptor. The antibody, called anti-Tac, can be modified or combined with molecules such as bacterial toxins or other antibodies to create novel therapeutic agents.

"One of Dr. Waldmann's most crucial contributions was his recognition that the interleukin-2 receptor represents an extraordinarily versatile therapeutic target," Broder said. Waldmann and his collaborators are working toward the development of therapeutic agents to treat leukemias and lymphomas, autoimmune diseases such as lupus and rheumatoid arthritis, and to prevent transplant rejection.

His latest major achievement is the production of a "humanized" version of the anti-Tac antibody, containing both mouse and human portions. Because it is less likely to be rejected by a patient's immune system, the new antibody is expected to be more effective in treating disease. He hopes to begin testing it in patients later this year.

Waldmann received an A.B. degree from the University of Chicago and an M.D. degree from Harvard University. Since 1956 he has been on the staff of NCI, where he assumed his present position in 1971.



Dr. Thomas A. Waldmann

The prize of 5 million Belgian francs (about $150,000) is awarded every 2 years by Artois Breweries of Belgium, through a foundation established by the late Count Alfred de Baillet Latour.—**Tom Reynolds** □

Former NIH director Dr. Donald Fredrickson recently lectured on NIH history—the topic of a book he is preparing—at NLM's Billings Auditorium. Combining scholarship and humor ("NIH's central files in the basement of Bldg. 1 are a fantastic treasure...where NIH's chief cooks have buried their unsuccessful souffles"), his talk focused on the origins of the Clinical Center, the central personalities involved in NIH's growth at mid-century, and NIH's pivotal role in American science.

NETWORK

(Continued from Page 1)

human ingenuity, NIHnet has brought to the campus such features as:

- access to hundreds of scientific databases, both domestic and international;
- electronic bulletin boards for scientific exchange;
- high-speed file and data transfer;
- campuswide electronic mail;
- high-speed connectivity for Silicon Graphics workstations;
- access to printers and mass storage facilities.

Thanks to a team of computer specialists, engineers, and scientists in the Division of Computer Research and Technology, high-speed electronic communication, or "connectivity," is ready for the asking.

Connecting the Campus

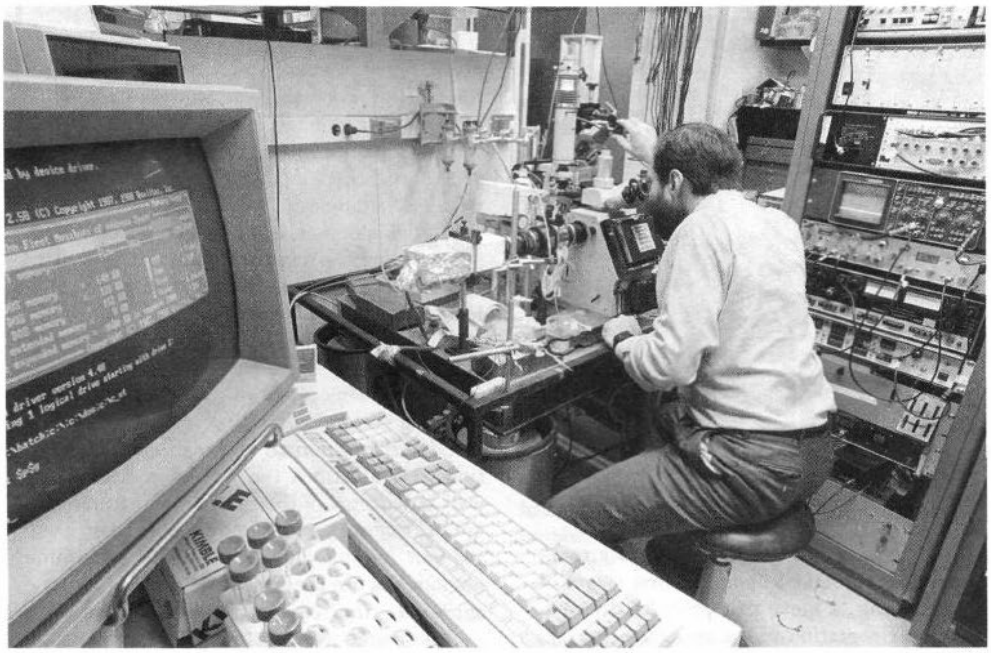
Linking the campus electronically involved much more than simply laying cable. Among the less-obvious aspects of network development coordinated by DCRT were: hardware selection, procurement, and installation; software development; database establishment; maintenance and upgrading considerations; and training of personnel to help others use the network.

"It is of utmost importance to have a coordinated plan for providing the best mix of networking technologies for the NIH and the management and operation of NIHnet," says David Songco, chief of DCRT's network task group (NTG).

Early plans for networking the campus centered on a "beltway" communications concept, using NIH's old pneumatic tube system for cable distribution. This idea slowly gave way to a "star"-type architecture—more of a "Metro" configuration in which each building had a separate link to a DCRT "Metro center." Consisting of both copper and fiber-optic connections, the star system (sometimes called the network "backbone") allows expandable service to areas of heavy network traffic, alternate routing in the event of interrupted service, and greater ease of updating. Building on a telecommunication design already in progress in the division's Computer Center Branch (CCB), DCRT began the work of making connections across the entire campus.

As the different aspects of network establishment were developed, one challenge to successful connectivity was simply locating people interested in joining a campuswide network. Local area networks (LANs) existed all over campus, but there was no comprehensive listing of the people involved in these smaller networks or of the computer equipment each network used.

Administrative officers were enlisted to help locate the LANs within the ICDs. A representative from each smaller network, called the technical LAN coordinator (TLC), was chosen to work with DCRT staff to bring the network connections to fruition. The nearly 60 LANs identified by late summer 1990 were linked to the network by the end of the year.



Scientists such as NICHD's Joshua Zimmerberg (above) note that networking adds a new dimension to the use of computers by allowing for transfer of data to other NIH machines for analysis and storage.

Not only were existing local networks difficult to find, but their connection to NIHnet was also complicated by the variety of "protocols," or communications methodologies, they used. This diversity did not readily allow users on LANs with different protocols to speak to each other. The DCRT/LAN coordinator team located and identified users and protocols. Instead of overhauling the entire system and requiring users to change to a common protocol, the team worked within the existing systems and designed software to allow LANs on different protocols to communicate. Now, for example, when a network user sends a document or electronic mail message to someone using a different protocol, the message goes through a "mainframe gateway" where it is translated and sent to its intended recipient. "The beauty of this system is that the mainframe does all the work," notes CCB's Bill Jones.

Collaboration Is Key Factor

From the start, networking the NIH campus has been a multifaceted effort involving people from many ICDs. In the design stages of NIHnet, DCRT groups pooled their efforts on overall network strategy. The Computer Center Branch, led by Joseph Naughton, lent its networking experience and assumed primary responsibility for the physical connections joining LANs across campus and around the world. An enormous construction project, during which more than 8 miles of fiber-optic cable were laid on campus alone, made connectivity possible. The NIH Telecommunications Branch—directed by Chief Edward Brown—played a considerable role in this installation.

NTG, the engineering team responsible for the high-speed, research-oriented network, was formed in May 1989 to increase emphasis on network development and implementation at NIH. NTG, which cooperated closely with CCB in the project, also provides guidance and support to the locally managed LANs, including the local network serving DCRT itself.

In the early stages of networking the campus, the DCRT Computer Systems Laboratory played a part by contributing to the conceptual framework for how the system would best serve the NIH community. Today, key network personnel meet regularly to discuss issues of concern to NIH networkers.

"I think it was, and still is, essential to have cooperation within DCRT and across the campus in the networking effort," remarks Harold Ostrow, who heads the NTG engineering team. "In order to have a functioning NIHnet, groups had to collaborate."

An Integrated System

The NIHnet of today boasts two complementary units reliably serving the campus: NUnet (NIH Computer Utility Integrated LAN and Workstation Support Network) and RESnet (Research-oriented network).

NUnet is a wide-reaching communication system that joins LANs to each other via a special connection that enters each building, on or off campus. A LAN usually consists of a number of people from the same ICD who are already connected to each other's computers. By joining NUnet, this small group immediately has access to people and information from every area of NIH, and many outside NIH. Currently, NUnet consists of more than 60 networks—many of them international—connecting a total of more than 3,000 workstations.

The chief architect of the NUnet system, CCB's Roger Fajman, worked closely with his DCRT colleagues to implement an interconnecting campus system that uses telecommunications technology. Through an extensive monitoring system, a network support team keeps a close watch on network operations to diagnose and resolve operational problems, sometimes intercepting problems before they happen.

RESnet, the other main component of NIHnet, provides high-speed communication for selected users who work with more complex applications. Thanks to a backup system, the main RESnet backbone boasts nearly 100 percent reliability: When failures on channels seem imminent, the network automatically reroutes messages along other working channels until DCRT's support services can correct the problem. The result is that the user may not know that anything out of the ordinary has happened. People on LANs connected to RESnet also have the on- and off-campus connectivity provided by NIHnet.

NTG's Joe Kabara designed the routing and management system for RESnet, which presently operates on 35 LANs in eight NIH buildings. The high-speed connectivity of RESnet serves the particular networking requirements of the Clinical Center. "Because of its size and specialized needs," explains NTG's Ostrow, "the Clinical Center presents the opportunity to standardize networking for a large segment of the campus."

By collaborating with CC management—particularly Dr. Thomas Lewis, chief of the information systems department—DCRT originally installed a specialized network, called CCnet, to connect 10 molecular graphics workstations. Today, CCnet—designed by NTG's Jim Brunetti—allows 20 LANs and 13 molecular graphics workstations to communicate. Plans are under way for a more comprehensive infrastructure to permit transfer of digital images and clinical and laboratory data.

Through today's network system, users are able to exchange messages, updates and announcements by way of electronic mail. In a surprising offshoot of campus linkage, use of WYLBUR's ENTER MAIL system has increased greatly in recent months, according to CCB's Bill Jones. Increased awareness of NIHnet apparently has resulted in people not even connected to a LAN realizing how easy it is to send messages electronically.

Now that the network is serving thousands of scientists and administrators across campus, DCRT branches work together to provide management and support for the system and those who use it. The DCRT connectivity group is "composed of people from all over the division who are concerned with networking across the campus," notes Roger Fajman, cochair of the group. Some members are more concerned with the engineering aspects of networking, while others are primarily interested in using networks to enhance their work environments. The group, which formed nearly 4 years ago, continues to meet regularly to discuss various aspects of networking and to generate solutions to potential problems.

Moving Forward Together

Naturally, the task of networking is never complete. For example, plans to carry the network to even higher speeds are already being tested. The fiber data distributed interface (FDDI) promises to relay messages up to 10 times faster than the highest speeds of the present system; that is, up to 100 megabits per second. FDDI, coordinated by NTG's Merike Kaeo, is already being used in two campus buildings.

By encouraging an active partnership, DCRT is laying a strong foundation for carrying NIHnet into the next century. For example, DCRT director Dr. David Rodbard's new policy of peer review for both research and service/support activities will include the network. "In the near future, the entire NIH network project will be reviewed by a specially convened *ad hoc* panel of experts from around the country," relates William Risso, associate director, DCRT.

DCRT network leaders are interested in hearing more from those who currently are involved with or are interested in joining the system. "This is a joint venture," emphasizes CCB chief Naughton. "If we expect the system to evolve with today's technological advances and continue to meet the needs of the NIH community, we must be always seeking user input."

If you are interested in joining NUnet, the campuswide system, call 496-2339; for information on connecting to the more scientific networks, RESnet or CCnet, call 402-1547. □

Teamwork propels the campuswide NIHnet. Joining DCRT director Dr. David Rodbard (standing, c) are networking team members (standing, from l) William Risso, Roger Fajman, Frances Halverson, Joseph Naughton, Joseph Kabara, David Songco. Seated are Oliver Morton (l) and Robert Brunelle.

DCRT Offers PC-MLAB Course

A beginning course on PC-MLAB, the high-level modeling and data analysis language, will be given by DCRT June 17, 18, 19, 20, and 24 from 9 a.m. to 11 a.m. in Bldg. 12A, Rm. B45.

The class in PC-MLAB, a package used to evaluate mathematical models by simulation, graphics, and curve-fitting, is designed for persons with no previous MLAB experience. Exercises and examples will be at an elementary level, and will emphasize fitting mathematical models to experimental data.

Some familiarity with PC-DOS and college mathematics is presumed. After completion of the course, the attendees should be able to enter data, express a model in mathematical form and fit the model to experimental data. If time permits, more advanced features of MLAB will be introduced. Interested persons should contact the Training Unit, 496-2339 or Dr. John Fletcher, 496-1121. □

NIH Hosts Annual Tribute to Asian-Pacific Heritage

A Filipino performer raises her voice in song during an evening of music and dance performed by Asian artists.

"HOALOHA," the Hawaiian portion of the Asian/Pacific American Heritage music and dance program, featured ancient chants set to music as well as contemporary music.

Photos: Ernie Branson

Korean dancers perform the "Fan Dance" (above) and the "Kokdo Kacci Dance" (below) in the evening program of "Beautiful Horizon," NIH's Asian/Pacific American Heritage observance.

The cast of the Tanghalang Pilipino, Inc. company performed various songs and dances made famous in the Philippines in an NIH program that also included music from Cambodia, China, Hawaii and Korea.

Hawaiian hula dancers model the traditional islan

Krishna Jain (r) of NIH's Division of Research Grants and a member of the NIH Asian/Pacific Islander American advisory committee demonstrated how to drape and wear Indian saris.

This dancer from the Khmer Classical Art Group performed the somber and mellow Cambodian dance that features two girls playing by a stream.

garb of leis, sarongs (l) and thatch accessories (r).

NIDR Scientists Show Saliva Contains HIV-Infected Cells

Cells infected with the human immunodeficiency virus (HIV) are present in the saliva of most, if not all, people who are seropositive, suggests a study by researchers in NIDR's Laboratory of Oral Medicine.

HIV is readily detected in most body fluids of infected persons. Efforts to find the virus in saliva, however, have met with mixed results. Some studies have found HIV in the oral cavity while others have not.

Dr. Yasuhiro Goto and his coworkers at NIDR used the highly sensitive polymerase chain reaction (PCR) to look for evidence of HIV infection in saliva. They collected whole saliva from a total of 26 seropositive patients and tested the samples for HIV proviral DNA, which is the form the virus takes once it has infected a cell.

In their first set of experiments, the investigators tested a single saliva sample from each of 20 seropositive patients. Using PCR, they probed for three HIV proviral DNA sequences. The sequences were selected from highly conserved regions of the long terminal repeat (LTR), gag, and env portions of the viral genome. HIV proviral DNA was found in the saliva of half (10) of the patients.

The proviral DNA most likely came from infected leukocytes that entered the mouth from gingival blood vessels or through the oral mucosa, said the researchers. These cells escape when the gingiva are inflamed, as in gingivitis or with breaks in the mucosal barrier. The number of leukocytes in saliva varies from one individual to the next, and changes during the course of the day.

Therefore, the researchers conducted a second set of experiments in which they collected multiple saliva samples from another group of six seropositive patients. Four samples were collected from each patient, at intervals ranging from 5 to 60 days. All of these patients had HIV proviral DNA in at least two saliva samples.

Of the 26 seropositive patients who participated in the study, about half were asymptomatic. A third of the patients with symptoms had Kaposi sarcoma, and the rest suffered from lymphadenopathy or opportunistic infections. Most were being treated with interferon or AZT or both. There was no obvious relationship between a patient's clinical condition and the detection of HIV sequences in the saliva.

"The fact that repeated sampling and a technique as sensitive as PCR were needed to detect HIV indicates that the number of infected cells in saliva is low," said Dr. Abner Notkins, NIDR scientific director and an author of the study.

This, together with the finding from other studies that saliva contains factors that inhibit HIV, may account for the apparent lack of transmission of the virus by saliva. Large studies of health-care workers and household members who have been exposed to HIV-infected patients have shown no evidence of transmission by casual contact, including casual contact with saliva.

Notkins and his coworkers noted, however, that the question of whether HIV could be transmitted by prolonged and repeated contact with saliva in a sexual context remains unanswered and requires further investigation.

Goto, Notkins, and Drs. Chih-Ko Yeh of NIDR and Bellur Prabhakar, formerly at NIDR and now at the University of Texas at Galveston, reported their findings in the March 1991 issue of *AIDS Research and Human Retroviruses*.—Susan Johnson □

Cancer Prevention Classes Set

The cancer prevention and control academic course will be held July 8 through Aug. 23 at Executive Plaza South, Conf. Rm. T-41, sponsored by NCI's Division of Cancer Prevention and Control.

Offered as part of training for the Cancer Prevention Fellowship Program, the course is taught in modules lasting 1 week each. The early modules emphasize fundamentals such as epidemiologic methods, cancer statistics, genetics and cancer biology. Later modules focus directly on concepts, methods, issues and applications of cancer prevention and control.

For more information, contact Barbara Redding, 496-8640. □

NINDS Council Gains Five

Five new members have been named to the National Advisory Neurological Disorders and Stroke Council. The new members, who will serve 4-year terms, are:

Dr. Lawrence F. Eng, professor of pathology, Stanford University School of Medicine, and chemistry section chief, laboratory service, VA Medical Center, Palo Alto; Dr. Robert A. Ratcheson, professor and director of neurological surgery, Case Western Reserve University School of Medicine; Dr. Miriam M. Salpeter, professor of neurobiology and behavior and professor of physics, Cornell University; Marilyn Price Spivack, president, MPS Associates, Framingham, Mass., and former president and chief executive officer of the National Head Injury Foundation; and Eric W. Springer, attorney-at-law, of Horty, Springer & Mattern, P.C., Pittsburgh. □

NIH Honors Employees for Outstanding Achievements

NIH staff members will be recognized for their outstanding achievements and contributions at the 21st annual NIH Honor Awards Ceremony, 1:30 p.m. on June 19 in Masur Auditorium. Dr. Bernadine Healy, director, NIH, will present the awards in three categories: the NIH Director's Award, the Outstanding Service Medal and the EEO awards.

The following staff members will be recognized for their achievements:

NIH DIRECTOR'S AWARD

CLINICAL CENTER

Dr. Charles Natanson
Medical Officer (Internal Medicine)
Critical Care Medicine
"For groundbreaking studies on the pathogenesis and physiology of septic shock which have provided important insights into the management of septic shock in humans."

CC Group Award:

Dr. John L. Foy
Medical Officer
Information Systems Department

Dr. Thomas L. Lewis
Associate Director for Information Systems

Gerald C. Macks
Management Analyst
Office of the Director
"For extraordinary leadership in clinical informatics activities at the Warren Grant Magnuson Clinical Center which support patient care and research."

DIVISION OF COMPUTER RESEARCH AND TECHNOLOGY

William L. Risso
Assistant Director for Computer Engineering and Technology
Office of the Director
"For exceptional contributions to the planning and completion of DCRT's modernization initiatives, particularly in the areas of scientific computing."

DCRT Group Award:

Robert Brunelle
Chief, Systems Research and Development Section

Frances Halverson
Chief, User Services and Assistance Section

Roger A. Fajman
Computer Scientist, Computer Center Branch

Joseph Kabara
Electronics Engineer, Computer Systems Laboratory

Dr. Robert Klein
Computer Specialist, Computer Center Branch

Oliver B. Morton
Computer Specialist, Computer Center Branch

Harold Ostrow
Electronics Engineer, Network Task Group

David Songco
Chief, Personal Computing Branch
"For excellence in the design and implementation of a sophisticated computer network system in support of laboratories, clinics and offices throughout NIH."

DIVISION OF RESEARCH GRANTS

Dr. Melvin M. Ketchel
Health Scientist Administrator
Special Review Section
"In recognition of organizing reviews for a major program of laboratory and animal breeding facility construction and for sustained outstanding performance as Health Scientist Administrator."

NATIONAL CANCER INSTITUTE

Dr. Peter M. Blumberg
Chief, Molecular Mechanisms of Tumor Promotion Section
"In recognition of outstanding scientific achievements in studies of natural products which have provided insights into the mechanisms involved in tumor promotion and inflammation."

Dr. Gladys Block
Epidemiologist, Applied Research Branch
"In recognition of outstanding contributions to the fields of epidemiology and nutritional assessment, and innovative leadership in cancer prevention and control."

John P. Campbell, Jr.
Chief, Research Contracts Branch
"In recognition of exceptional leadership, resourcefulness, and contributions to the research and development contracting community at the National Institutes of Health."

Dr. Carrie Pearl Hunter
Program Director, Community Oncology and Rehabilitation Branch
"For outstanding contributions of clinical guidance and sustained leadership to NCI's black/white cancer survival study."

Dr. Harvey I. Pass
Chief, Thoracic Oncology Section
"In recognition of research and clinical contributions to the fields of Oncology and Thoracic Surgery."

Evelyn M. Shambaugh
Director, SEER Quality Control Field Studies
"For exemplary and sustained leadership in promotion of quality control standards and excellence in the profession of tumor registration."

Dr. Thomas A. Waldmann
Chief, Metabolism Branch
"In recognition of far-reaching innovative studies on the IL-2 receptor system representing a dramatic advance toward more specific, effective, controlled immunotherapeutic strategies using monoclonal antibodies."

NCI Group Award:

Dr. Sankar Adhya
Senior Research Geneticist
Laboratory of Molecular Biology

Dr. Vijay Chaudhary
Visiting Associate
Laboratory of Molecular Biology

Dr. David Fitzgerald
Microbiologist
Laboratory of Molecular Biology

Dr. Ira H. Pastan
Chief, Laboratory of Molecular Biology

Dr. Mark Willingham
Chief, Ultrastructural Cytochemistry Section
"For creative combination of genetics, biochemistry and state-of-the-art morphological analysis to develop chimeric toxins for the treatment of cancer and AIDS."

NATIONAL CENTER FOR RESEARCH RESOURCES

Carolyn P. Brown
Chief, Library Branch
"For exceptional leadership in carrying out activities to improve the library's programs and services for the benefit of the NIH community."

Joseph F. Fessler
Instrument Maker
Biomedical Engineering Instrumentation Program
"In recognition of outstanding contribution to the development and fabrication of custom instrumentation systems in support of the NIH Intramural Research Program."

Jane W. Leitch
Program Management Officer
Office of the Director
"For outstanding contributions in planning and implementing the NCRR reorganization to ensure a continuing high level of research support for NIH Intramural Programs."

Barbara N. Perrone
Deputy Director, Office of Science Policy
"For leadership and resourcefulness, exceptional initiative and outstanding performance in developing and managing the analysis and reporting of scientific outcomes of NCRR's research resources programs."

Ronald B. Winterrowd
Chief, Medical Arts and Photography Branch
"In recognition of superb leadership, dedication, and innovative artistic approaches in providing the NIH community, and others, with outstanding visual communication services."

NATIONAL EYE INSTITUTE

Lilyan E. Atkinson
Supervisory Grants Technical Assistant
Extramural and Collaborative Program, Extramural Services Branch
"In recognition of sustained superior performance in providing support functions for the National Eye Institute Extramural Programs, particularly preparation for National Advisory Eye Council meetings."

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE

Robert B. Best
Deputy Chief, Contracts Operations Branch
"In recognition of exceptional performance, resourcefulness and contributions to the management of the National Marrow Donor Program."

Allan W. Czarra
Chief, Program Planning and Prevention Branch
"In recognition of perceptive approaches and superior performance in the development and management of the programs of the Division of Blood Diseases and Resources."

Sue Goo Rhee
Research Chemist
Laboratory of Biochemistry
"For contributions to understanding how intracellular activities are regulated in response to extracellular signals."

Dr. James R. Sellers
Research Biologist
Laboratory of Molecular Cardiology
"For elucidating the mechanism by which phosphorylation regulates contractile proteins and for obtaining important new information on how muscle filaments move."

NATIONAL INSTITUTE ON AGING

Dr. Andrew A. Monjan
Deputy Associate Director
Neuroscience and Neuropsychology of Aging Program
"For creative leadership and sustained contributions to the development of research in treatments of Alzheimer's Disease."

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

Martha J. Mattheis
Microbiologist
Division of Microbiology and Infectious Diseases
"In recognition of extraordinary management of the complex regulatory issues of the Acellular Pertussis Vaccine Clinical Trials for the NIAID."

Dr. John J. McGowan
Supervisory Microbiologist
Basic Research and Development Program
"In recognition of superb leadership, resourcefulness and innovation in modifying and directing the Basic Research and Development Program of the Division of AIDS, NIAID."

Patricia S. Randall
Supervisory Public Affairs Specialist
Office of Communications
"In recognition of exceptional leadership, initiative and judgment in directing AIDS outreach activities to promote public understanding of the NIH AIDS Research Program."

Patricia L. Runyon
Secretary (Typing)
Division of Intramural Research
"In recognition of contributions in support of the work of the Division of Intramural Research, National Institute of Allergy and Infectious Diseases."

NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES

Dr. Stephen L. Gordon
Health Scientist Administrator (General)
Musculoskeletal Diseases Branch
"For inspired leadership, creativity, and dedication in furthering musculoskeletal diseases research in the National Institute of Arthritis and Musculoskeletal and Skin Diseases."

NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT

Dr. Dolores J. Patanelli
Physiologist, Contraceptive Development Branch
"For exceptional scientific and administrative leadership in implementing an extensive program for the development and clinical testing of new and improved barrier contraceptives."

Dr. Fernando Cassorla
Clinical Director, NICHD
"For significant contributions to pediatric endocrinology research, while serving with great distinction in an important administrative role."

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

Dr. Maureen I. Harris
Director, National Diabetes Data Group
"In recognition of exceptional scientific initiative and leadership in advancing our understanding of the epidemiology of diabetes mellitus and its complications."

Elizabeth H. Singer
Director, Office of Health Research Reports
"For sustained and superior leadership of the communications program of NIDDK over the past decade, especially the outstanding management of events recognizing its fortieth anniversary."

NATIONAL INSTITUTE OF DENTAL RESEARCH

Dr. John D. Townsley
Chief, Craniofacial Anomalies
Pain Control and Behavioral Research Branch
"For exceptional scientific and administrative leadership of the NIDR's Craniofacial Anomalies, Pain Control and Behavioral Research Branch."

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES

Dr. Bernard A. Schwetz
Chief, Systemic Toxicology Branch
"In recognition of outstanding leadership to the National Toxicology Program and developing and strengthening national research efforts in reproductive and developmental toxicology."

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES

Patricia P. Driscoll
Program Specialist
Office of Program Activities
(Currently with NINDS)
"For exceptional initiative and leadership in establishing a networking group for NRSA Payback Activities."

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE

Dr. W. Watson Alberts
Deputy Director, Division of Fundamental Neurosciences
"For extraordinarily effective service as Deputy Director, Division of Fundamental Neurosciences, National Institute of Neurological Disorders and Stroke."

NATIONAL LIBRARY OF MEDICINE

Dr. Jeanne L. Brand
Chief, International Programs Branch
"For outstanding leadership in promoting scholarship in the history of medicine through the grant programs of the National Library of Medicine."

Sheldon Kotzin
Chief, Bibliographic Services Division
"For outstanding contributions to the rapid and effective dissemination of the results of biomedical research."

OFFICE OF RESEARCH SERVICES

Janet C. W. Pritts
Program Analyst
"In recognition of outstanding initiative, skill, and thoroughness in improving the coordination, communication, and responsiveness of the Office of Research Services."

Dave H. Epley
Electrical Engineer
"For extraordinary initiative, perseverance and technical skills in developing an innovative program leading to an essential upgrade and expansion of the NIH East Electrical Substation."

OFFICE OF THE DIRECTOR

Regina Robinson
Purchasing Agent
"For outstanding service as a purchasing agent in terms of quantity and timeliness for the Division of Procurement and the Office of Director."

Della Z. Wilson
Supervisory Accounting Technician
"In recognition of exceptional initiative and leadership as a supervisor in the commercial payments area, and superior overall performance over a sustained period of time."

(Continued on Page 12)

(Continued from Page 11)

Alan D. Mason
Grants Management Specialist
"For sustained superior performance in developing and implementing grant administration policy and serving as an exceptionally able advisor for NIH and the research community."

Gary Barbarash
Assistant Director for Small Purchase Policy and Oversight
"In recognition of effective leadership in improving the NIH acquisition program while simultaneously maintaining cost efficiency, regulatory compliance, and responsiveness to NIH's research mission."

Betty J. Beveridge
NIH Committee Management Officer
"For sustained superb leadership in setting and maintaining the highest standards for committee management at the NIH."

Dr. John G. Miller
Director, Division of Animal Welfare
"For uncommon dedication and extraordinary service in developing standards for humane care and use of laboratory animals and promotion of their appropriate use in science."

OD Group Award:
Dixie L. Kanagy
Secretary (Steno)
Beverly W. Jelks
Secretary (Typing)
Kimberly S. Kurilla-Gray
Secretary (Typing)
"In recognition of team work in providing superb secretarial support to the National Institutes of Health acting director for twenty months."

HARVEY J. BULLOCK, JR. AWARD FOR EQUAL OPPORTUNITY ACHIEVEMENT

Cheryl Stahle
Administrative Officer
Administrative Management Branch
Division of Cancer Etiology
National Cancer Institute
"In recognition for outstanding service as the NCI EEO Chairperson and for promoting the advancement of EEO goals in laboratory support positions."

NIH EQUAL EMPLOYMENT OPPORTUNITY OF THE YEAR AWARD

Susan Connors
Head of Office Services
Office of the Director
National Cancer Institute
"In recognition of overall leadership and commitment to the principles of equal opportunity throughout her career at the National Cancer Institute, National Institutes of Health."

OUTSTANDING SERVICE MEDAL

CLINICAL CENTER

Dr. James H. Shelhamer
Deputy Chief, Critical Care Medicine Department
"For outstanding leadership in assuring high quality clinical care in the ICU and for groundbreaking study in pulmonary physiology."

NATIONAL CANCER INSTITUTE

Kenneth H. Cowan
Head, Medical Breast Cancer Section
Division of Cancer Treatment
"For clinical and laboratory investigations on mechanisms of drug resistance in breast cancer and for the development of new approaches to breast cancer treatment."

Mary C. Fraser
Senior Clinical Nurse Specialist, Family Studies Section
Environmental Epidemiology Branch
(Presently with the Clinical Center)
"For outstanding leadership in enhancing the role of nurses in the prevention and early detection of cancer."

Charles E. Land
Health Statistician
Radiation Epidemiology Branch
Division of Cancer Etiology
"For outstanding and creative contributions to the study of cancer risk among Japanese Atomic bomb survivors."

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE

Dr. George J. Nemo
Chief, Blood Resources Branch
Division of Blood Diseases and Resources
"For exceptional service in providing outstanding leadership in the establishment and management of extramural research programs in transfusion medicine."

Dr. Robert O. Bonow
Deputy Chief, Cardiology Branch
"For his major contributions to our understanding of normal heart function, and our understanding of coronary artery disease, hypertrophic cardiomyopathy, and valvular heart disease."

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

Dr. George T. Curlin
Deputy Director, Division of Microbiology and Infectious Diseases
"For exceptional leadership ability in the direction of the research programs of the Division of Microbiology and Infectious Diseases."

Dr. Howard B. Dickler
Acting Deputy Director, Division of Allergy, Immunology and Transplantation
Chief, Clinical Immunology Branch
"For distinguished contributions to understanding the mechanisms whereby antibody regulates B lymphocyte responses, and for exceptional service to the NIH, national, and international immunologic communities."

Dr. David H. Margulies
Chief, Molecular Biology Section
Laboratory of Immunology
"For distinguished contributions to the understanding of the structure of major histocompatibility complex molecules and of their function in the control of immune responses."

Dr. Dean D. Metcalfe
Head, Mast Cell Physiology Section
Laboratory of Clinical Immunology
"For outstanding achievement in the elucidation of food allergies, the biology of murine and human mast cells and the classification, manifestations and treatment of mastocytosis."

Dr. Herbert C. Morse, III
Chief, Laboratory of Immunopathology
"For outstanding contributions to the understanding of retrovirus biology in relation to development of neoplastic and immunodeficiency diseases."

NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES

Dr. Paul H. Plotz
Chief, Connective Tissue Diseases Section
"For exceptionally innovative and rigorous studies on the etiology and pathogenesis of myositis involving molecular genetic techniques in integrated clinical and laboratory investigations."

NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT

Dr. Gordon B. Cutler, Jr.
Head, Section on Developmental Endocrinology
"For exceptional research achievements and outstanding leadership in the development of a research program concerning the endocrine disorders of children."

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE

Dr. Thomas N. Chase
Chief, Experimental Therapeutics Branch
Clinical Neurosciences Program
Division of Intramural Research
"For discoveries leading to the clinical introduction of safer and more effective drugs for the treatment of Parkinson's disease."

NATIONAL LIBRARY OF MEDICINE

Dr. David J. Lipman
Director, National Center for Biotechnology Information
"For creative leadership, as Director, in establishing the National Center for Biotechnology Information as a national focal point in the field of biomolecular computing."

OFFICE OF RESEARCH SERVICES

Robert J. Ostrowski
Deputy Director, Division of Safety
"For sustained service in creating and maintaining a technical and administrative environment fostering excellence by Division health and safety professionals and support staff."

OFFICE OF THE DIRECTOR

Dr. Stephen C. Groft
Special Assistant to the Associate Director for Science Policy and Legislation
"For outstanding leadership and management of the National Commission on Orphan Diseases and establishment of the rare disease program at the National Institutes of Health."

COMMENDATION MEDAL

CLINICAL CENTER

Gladys M. Campbell
Dr. Robert L. Danner
Johnnell Branch
Dr. Anthony F. Suffredini
Anthony J. Brooks
Janice M. Rary
Carolea Logun
Susan Simmons-Alling

DIVISION OF COMPUTER RESEARCH AND TECHNOLOGY

James S. Del Priore

NATIONAL CANCER INSTITUTE

Dr. Mark H. Schiffman
Dr. Joost J. Oppenheim
Dr. Ilan R. Kirsch
Dr. Thomas A. Marciniak
Dr. Angelo Russo
Dr. Charles E. Land
Dr. Edward A. Sausville
Dr. Dwight C. Kaufman
Carl D. Reed
Michele M. Morin
Barry A. Miller

NATIONAL CENTER FOR RESEARCH RESOURCES

Paul F. Schulze
Dr. Stephen B. Leighton
Dr. Kathryn A. L. Bayne
Howard D. Metz

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE

Dr. David J. Gordon
Dr. Jeffrey M. Hoeg

NATIONAL INSTITUTE ON AGING

Dr. Evan C. Hadley

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

Dr. Donald L. Lodmell
Dr. Jon M. Ranhand
(currently with NHLBI)
Dr. Thomas B. Nutman

NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT

Dr. Bruce H. Howard
Dr. Ephraim Levin
Dr. Robert Spirtas

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

Dr. Raphael D. Camerini-Otero
Dr. Stephen J. Marx
Dr. Frank A. Hamilton
Gladys H. Hirschman
Van S. Hubbard

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES

Dr. Michael R. Elwell

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES

Dr. Lee Van Lenten

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE

Cheryl A. Seaman
Dr. Philip H. Sheridan

OFFICE OF RESEARCH SERVICES

Lynn E. Jenkins

OFFICE OF THE DIRECTOR

Dr. Melody H. Lin
Dr. Walter T. Schaffer
Dr. Clifford C. Scharke

UNIT COMMENDATION

CLINICAL CENTER

Carolyn C. Blackwood
Alberta C. Bourn
Pamela L. Brye
Sara Elaine Gillis
Ainslie S. Pitcher
Janice M. Rary
Patti A. Riggs

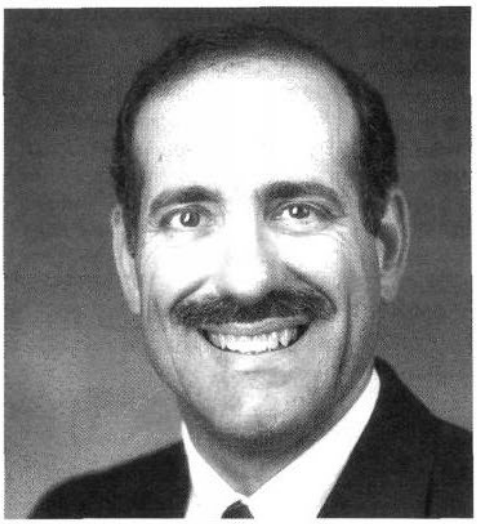
NATIONAL CANCER INSTITUTE

Dr. Bruce E. Johnson
Dr. James L. Mulshine
Dr. John D. Minna

Dr. Frederick P. Li
Dr. Margaret A. Tucker
Mary C. Fraser
Dr. Joseph F. Fraumeni, Jr.

Dr. William A. Blattner
Dr. Robert J. Biggar
Dr. Paul H. Levine
Dr. James J. Goedert
Dr. Angela Manns
Dr. Stefan Z. Wiktor
Dr. Charles S. Rabkin

Raymond F. Greene
Janet M. Morgan
Anastasia E. Nasis
James W. Wilson, III □



Dr. Robert J. Lutz of the Biomedical Engineering and Instrumentation Program, NCRR, has received the 1990 Washington Academy of Sciences Award for Outstanding Achievement in the Engineering Sciences. The award was given "for his creative applications of engineering science and practice of biomedical research. Especially noteworthy are his contributions to the fluid mechanics of vascular models and physiological and pharmacokinetic models of drug and toxin distribution in man."

Personnel Expert Helen Stafford To Retire

Many of Helen Stafford's friends think that the major leagues lost a first class umpire when Helen decided to make personnel work her career. She has never hesitated to "call them as she sees them," and her gift for reading people is such that she probably could have guessed in advance what the pitcher would be throwing 9 times out of 10. But baseball's loss has been the government's gain.

Stafford began her government career in 1959 as a GS-3 clerk-typist at Fort Eustis, Va. She moved to Fort Meade in 1964 and worked her way through the system to become the assistant military personnel officer, a position that previously was held only by military officers.

Her 21-year tenure at NIH began May 31, 1970, when she signed on as a personnel management specialist. In 1973, Stafford was selected as the personnel officer for NICHD, NEI, and DRR. Her outstanding performance in this three-unit assignment earned her a departmental Superior Service Award in 1975. The next year she was promoted to the post of assistant director for operations of the Division of Personnel Management.

In her new position, Stafford soon became well-known for her frank and honest advice as well as the wise, fair, and sometimes innovative ways in which she used her thorough knowledge of federal personnel procedures. Since 1976, she has served as executive secretary of numerous NIH-wide search committees charged with finding suitable candidates for some of the principal NIH positions. She was awarded the Sustained High Quality Performance Award in 1979 and again in 1981. She was given the EEO Special Achievement Award in 1983 and the Director's Award in 1986.

Helen Stafford

Dr. Donald S. Fredrickson, who was NIH director from 1975 to 1981, commented that "Helen is one of the great stalwarts of NIH and its people."

Among her NIH-related voluntary activities is her membership on the nominating and personnel committee for the Children's Inn.

In outside activities she served during 1983 as foreman of the Montgomery County grand jury. She now is secretary of the Washington Hearing and Speech Society.

When Stafford leaves NIH June 30, her husband Leon will retire from his position as director of the department of school services of the Montgomery County Public Schools. They will move into a new home being built to their design in Hampton, Va.

A retirement party for Stafford will be held June 27 from 2 to 4:30 p.m. in Wilson Hall, Bldg. 1. Contact Toni-Ann Riley, 496-3561, for information. □

The NIH R&W Theatre Group recently presented a $3,500 donation to the Clinical Center's Patient Emergency Fund. The group donates all proceeds from its performances to the PEF. Shown are (from l) Charlotte Brown; Randy Schools, R&W general manager; Alice Page-Smyth; Dr. James Sayers, social work department chief; Paul Weiss, Mary Graham and Millie Fenton.

GA Seminar Series Seeks Nominees

Each year, the Health Scientist Administrator Development Program (HSADP) Office, in the Office of Extramural Programs, manages a series of seminars to complement the training assignments of the grants associates (GAs) and HSA trainees and the working experiences of the HSAs.

The HSADP office is accepting applications for its FY 1992 GA seminar series, scheduled to begin on Friday, Sept. 27. The seminars are held weekly on Fridays through June 1992 in Bldg. 31, 8:30 a.m. to noon. For approximately 10 Fridays during the series, seminars are also conducted in the afternoon.

The series addresses a broad spectrum of philosophical, political, and policy issues relevant to the administration of federal programs in support of biomedical and behavioral research. Topics to be covered include the roles and interactions of DHHS, NIH, other PHS and non-PHS agencies; policy and ethical considerations in research; factors affecting extramural programs and their administration; program planning and evaluation; and the legislative/budget process.

HSAs with 1 to 3 years' experience are expected to profit most from and contribute to the series. Nominees with less than 1 year's NIH extramural experience must have taken the "Fundamentals of NIH Extramural Activities" course to be considered.

Interested individuals should send a memo stating their interest as it relates to their current duties through their supervisor to their ICD director, together with a current CV. Include current title, ICD organizational component and office address. ICD directors are asked to forward no more that three nominations with the above information and other supporting documents by Monday, July 1, to Dr. Donald G. Murphy, director, HSADP, Bldg. 31, Rm. 5B35.

Only a limited number of participants can be accommodated. All nominees whose documents reach the HSADP office by the deadline will be notified of final action approximately in late August.

For further information, contact Murphy or Susan O'Brien, HSADP program assistant, 496-1736. □

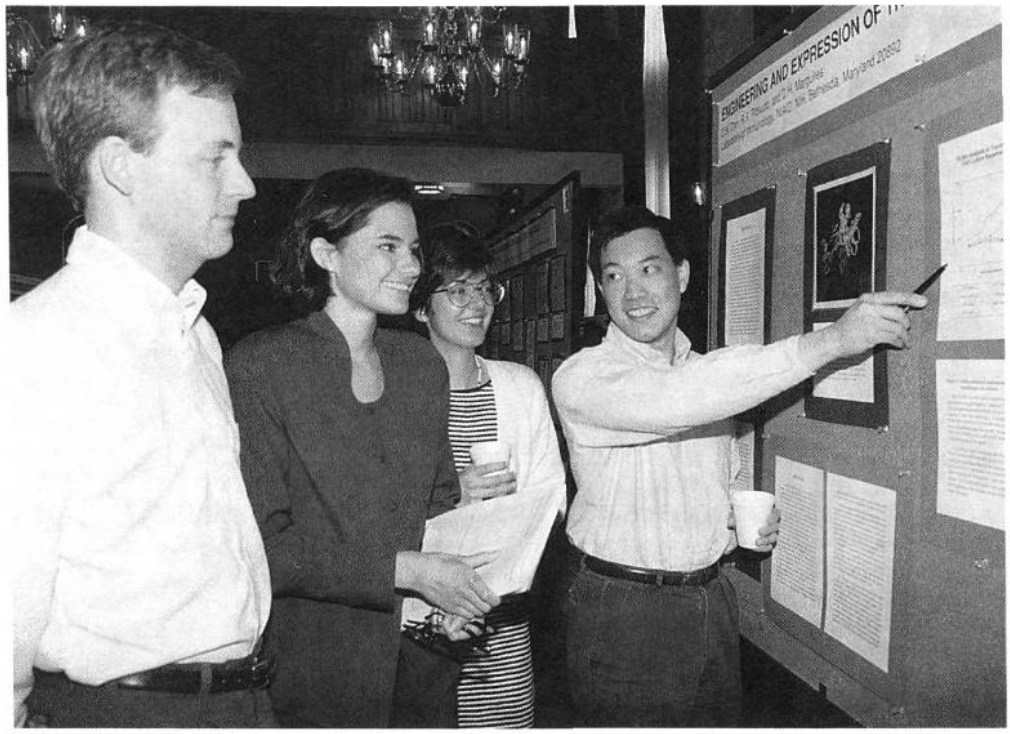
R&W Offers 'Superfest' Tickets

R&W has tickets to the "Superfest" concert at RFK stadium on July 5, beginning at 6:30 p.m. On the bill are Bell Biv Devoe, Ralph Tresvant, LL Cool J, Johnny Gill, High Five, Digital Underground, and Pebbles with Babyface. Tickets are $29 on the field and $27 in the stands; price includes service charge. □

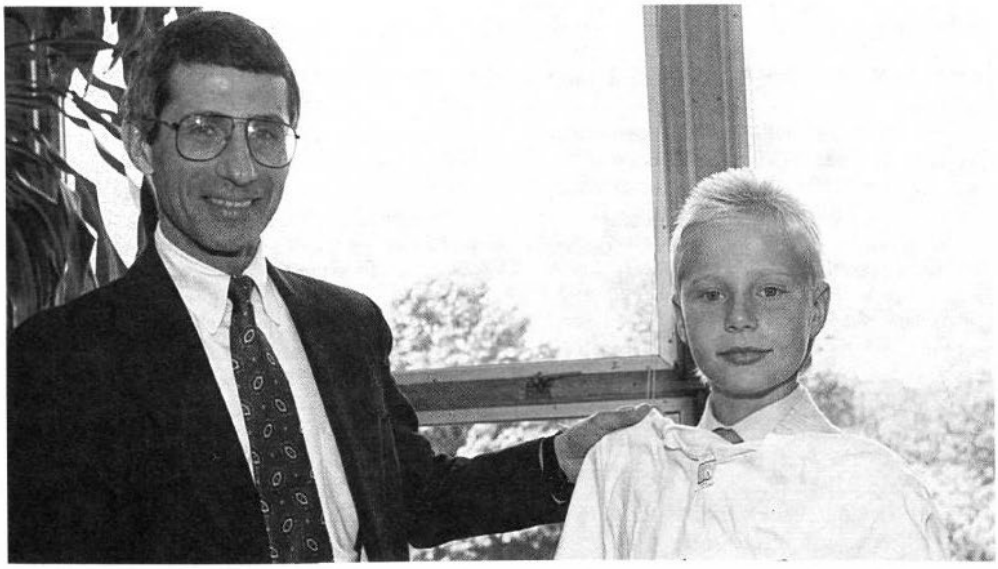
TRAINING TIPS

The NIH Training Center of the Division of Personnel Management offers the following:

Courses and Programs	*Starting Dates*
Personal Computing Training 496-6371	
Welcome to Macintosh	7/1, 7/24
Intro to Word Perfect (Mac)	8/6
Advanced Word Perfect (Mac)	8/19
Intro to Microsoft Word (Mac)	8/12
Filemaker	7/25
Excel Level 1	7/8
Excel Level 2	7/12
Excel Level 3	6/21
Excel Level 4	8/7
FoxBASE-Level 1 (Mac)	7/10
MacDraw II	6/25
Intro to DeltaGraph	7/26
Intro to Pagemaker 3.0	6/24
Intro to PowerPoint II	7/31
HyperCard Programming-Level 1	8/13
HyperCard Programming-Level 2	6/26
3Com PC Network-Level 1	7/11, 7/29, 8/1
3Com PC Network-Level 2	7/22
Introduction to Personal Computing for New Users	8/2
Introduction to PC Keyboarding	7/10
Improving PC Keyboarding Skills	8/1
Introduction to DOS	7/12, 7/26, 8/5
Introduction to WordPerfect 5.1	7/9, 7/22, 8/7
WordPerfect 5.1 — Advanced Topics	7/16, 8/26
Printing with WP 5.1 & Laser Printers	7/11
Intro to Harvard Graphics, Rel. 2.3	7/8, 9/5
Intermed. Harvard Graphics, Rel. 2.3	8/2
Introduction to dBASE III+	7/8, 8/13
Intermediate dBASE III+	7/29, 9/10
dBASE III+ — Advanced Topics	7/23
dBASE III+ — Programming	8/19
Intro to Lotus 1-2-3, Rel. 2.2	7/15, 8/12, 9/9
Lotus 1-2-3, Rel. 2.2 — Adv. Topics	8/6



HHMI-NIH research scholar David Chin (r) of the University of California-San Francisco School of Medicine explains his poster to fellow scholars (from l) Mark Walker of Johns Hopkins University, Lisa Airan from Northwestern University Medical School, and Caroline Leppin-Davison of the School of Medicine and Health Sciences at George Washington University. These students and 42 others constituted the 1990-91 class of the Howard Hughes Medical Institute-NIH Research Scholars Program, which culminated its season May 29 with its annual Scientific Presentation Day on campus at the Mary Woodard Lasker Center for Health Research and Education.



Christopher M. Dulman, the 1991 Asthma and Allergy Foundation of America poster child, displays a Camp NIAID t-shirt presented to him by Dr. Anthony S. Fauci, NIAID director, on a recent visit to NIH during National Allergy and Asthma Awareness Week. The 9-year-old from Lincoln Park, Mich., symbolizes the needs and hopes of 40 to 50 million Americans with asthma and allergic diseases, according to the AAFA. The first 5 years of his life were complicated by poorly controlled asthma flare-ups and emergency hospitalizations. Today under the care of an allergist and armed with a better understanding of asthma, Chris, a third grader, leads a full and active life as a member of a championship hockey team, class spelling bee winner and A student.

'Fantastic' BBQ Planned, June 18

The ninth annual Camp Fantastic Barbecue will be held on Tuesday, June 18 (rain date June 19) from 11:30 a.m. to 2 p.m. at the Bldg. 31 courtyard. It will feature live entertainment by *Streetlife* band, plenty of fun, a menu of barbecued chicken, baked beans, apple sauce, rolls, chips, soda and dessert. All proceeds from the event go to Camp Fantastic/Special Love Inc., a nonprofit organization providing programs for children with cancer.

Tickets for the barbecue must be purchased in advance and are available at any R&W location for $5. For more information call 496-4600. □

Volunteers Needed at NHLBI

The Cardiology Branch, NHLBI, needs normal volunteers between ages 45 and 70 to participate in a study assessing the causative mechanisms of certain cardiovascular diseases. Volunteers must not be taking any medication. The study includes placement of a small needle in the brachial artery and takes approximately 4 hours. Participants will be paid accordingly. For further information, call Dr. Julio Panza, 496-2634. □

Vision of FEW Realized

Last year, four NIH women had a vision. In four months, they made it happen. On Jan. 25, the 4-month-old Bethesda chapter of Federally Employed Women (FEW) became the 329th chapter to be chartered in the national organization FEW, Inc.

Recently, the founders joined NIH Federal Women's Program Manager Lucretia Coffer, who guided the group to its official status, and more than 70 other NIH'ers to both celebrate and plan. "Training and Preparing Yourself for the 'FEW'ture," the chartering and installation of officers meeting for Bethesda's FEW, was carried out amid candlelight and abundant smiles.

"In September it was just an idea and in December it became a reality," said chapter President Mary Bruce Ganges of NCI, who along with NHLBI's Felicia Brice, NLM's Dorothy White and NCRR's Evelyn Buford—the four initiators—commended Coffer for helping develop the new FEW.

Founded in 1968, FEW is a worldwide, nongovernment organization representing the nearly 1 million women working for the federal government. By maintaining a close relationship with the Office of Personnel Management and supporting the goals of the Federal Women's Program, FEW members work with federal agencies to provide women with employment, career development, networking and training opportunities.

Edna Battle (l), FEW D.C. metro regional manager, presents the newly formed Bethesda chapter with its charter. NIH Federal Women's Program Manager Lucretia Coffer (c) and Bethesda chapter President Mary Bruce Ganges accept congratulations on the group's new official status.

The Bethesda FEW chapter will hold its monthly meetings every third Tuesday, from noon to 1 p.m. The next meeting is June 18, Bldg. 10, Medical Board Rm. 2C116. For more information, contact Ganges, 496-5841, or membership committee chair Elaine McGinnis, 496-1551. □

NIH director Dr. Bernadine Healy (l) recently accepted more than 100 thank-you cards from Mrs. Lenore Rumpf and her son Lee. Each card is being delivered to a medical investigator who uses animals in his or her work. It contains a photo and a simple message of thanks from parents of a child whose life was prolonged through procedures developed using animals. Rumpf, of Arlington, Va., got the idea for this form of thanks and is spearheading a national effort. She said that Lee's life was saved when he was placed on a lung bypass machine shortly after birth while his own lungs rested and healed. NIH scientists receiving the cards are conducting research on childhood diseases, including pediatric AIDS.

Seminar Series for Students, Teachers Offered by NIH

The NIH Office of Education is sponsoring a summer seminar series for students and teachers. The lectures begin at noon in the locations listed below:

June 24 "Gene Transfer into Hematopoietic Stem Cells," by Dr. Arthur Nienhuis, deputy clinical director and chief, Clinical Hematology Branch, NHLBI, in Lipsett Amphitheater.

July 1 "The Eye Lens: The Surprising Use and Reuse of Genes in Evolution," by Dr. Joram Piatigorsky, chief, Laboratory of Molecular and Developmental Biology, NEI, in Lipsett Amphitheater.

July 8 "Sickle Cell Disease: A Paradigm for Genetic Therapeutic Approaches," by Dr. Griffin Rodgers, senior investigator, Laboratory of Chemical Biology, NIDDK, in Lipsett Amphitheater.

July 16 "The New Biology of Obsessions and Compulsions," by Dr. Judith L. Rapoport, chief, Clinical Psychiatry Branch, NIMH, in Masur Auditorium.

July 22 "The AIDS Epidemic: Considerations for the 1990's," by Dr. Anthony S. Fauci, NIAID director, in Masur Auditorium.

July 25 "How Cancers Become Resistant to Chemotherapy," by Dr. Michael Gottesman, chief, Laboratory of Cell Biology, NCI, in Masur Auditorium.

July 29 "A Brief History of Pharmacology: What Studying Drugs and Poisons Has Taught Us About the Brain," by Dr. Michael Brownstein, chief, Laboratory of Cell Biology, NIMH, in Masur Auditorium.

Aug. 1 "The Revolution in Developmental Biology," by Dr. Arthur S. Levine, scientific director, NICHD, in Lipsett Amphitheater.

Aug. 5 "Aging—Causes and Consequences," by Dr. George R. Martin, scientific director, NIA, in Lipsett Amphitheater.

Aug. 8 "Control and Therapy of Genetic Diseases," by Dr. Roscoe O. Brady, chief, Developmental and Metabolic Neurology Branch, NINDS, in Lipsett Amphitheater.

For more information about the talks, contact the Office of Education, 496-2427. □

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