



# PENNMedicine

UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEM ■ FALL/WINTER 2004



**Smaller Jaw, Larger Brain Case:  
A Crucial Step from Chimp to Human?  
DEEP BRAIN STIMULATION FOR EPILEPSY  
A NEXUS FOR NEUROSCIENCE  
CLASS OF 1954: 50 YEARS LATER**

## Following a Roadmap

The name of his new initiative, Stephen Kimmel, M.D., concedes ruefully, is not the most euphonious and certainly not the most compact: Human Pharmacogenomic Epidemiology. But to hear Kimmel speak, as he did at a luncheon for the media hosted by the Department of Public Affairs earlier this fall, pharmacogenomic epidemiology is one of the hot areas in medicine. As evidence, Kimmel can boast a three-year award of \$595,000 from the National Institutes of Health – one of 21 awards for this developing field that the N.I.H. recently made throughout the country.

Kimmel, associate professor of medicine and of epidemiology, will head the Penn project, which will bring together researchers from different disciplines to study gene-drug interactions. Why is such a new field necessary? At the media luncheon, Kimmel cited an estimate that about 10 billion doses of medicine are dispensed each year in the United States; only one in three treated patients derives a benefit; one in three does not; and one in ten patients has only side effects. Kimmel quoted the opening sentence in a recent article by David B. Goldstein, Ph.D., from University College London: “One of the most striking features of modern medicines is how often they fail to work.” Although Kimmel did not quote it, Goldstein adds: “Even when they do work, they are often associated with serious adverse reactions” (*The New England Journal of Medicine*, February 6, 2003).

Kimmel described three cases in which a better understanding of the safety and efficacy of medications through genetic testing would have made a significant difference. In the first, a

14-year-old girl with leukemia is given the standard dose of chemotherapy. She develops severe toxicity from the drug, which results in her inability to make blood cells. Then she develops a severe infection and requires a two-week stay in the intensive care unit. In the second case, a 60-year-old man is given warfarin to prevent a stroke. Yet three weeks after starting the drug, he develops a bleed in his head because his levels of anticoagulation are too high. As a result, he becomes permanently disabled from his stroke.

The third case involved a 42-year-old man who severely burned his hand on a Friday afternoon. A doctor prescribed codeine for the man's severe pain – not by any means an unusual treatment. Yet although the dose was increased, the patient remained in excruciating pain for the entire weekend. As Kimmel emphasized, genetic testing is not routinely done to try to prevent such complications. In part, the reason is that medicine is still early in the so-called genome revolution, and the degree of proof that comes from actual practice is not yet established. The solution, Kimmel believes, is a more systematic interdisciplinary approach to research.

Kimmel noted that the grant to establish the program is an N.I.H. Roadmap planning grant. The goal is to develop a Center for Human Pharmacogenomic Epidemiology. As such, the project fits well with the Roadmap guidelines the N.I.H. announced in September 2003, which encourage collaborative research across disciplines. The Roadmap also seeks to support translational research, through which the investigators can look closely at the clinical effects of the basic science. Along the way, Kimmel

and his colleagues will be arranging seminars and symposia that, among other things, will allow cross-training of graduate students in different disciplines. Kimmel hopes that a strong showing with the first three-year grant will lead to larger grants. As he put it, “N.I.H. will be very involved in this.”

According to the N.I.H., to be part of the Roadmap strategy, scientific initiatives must be likely to have a high impact; must enhance the disease- and mission-specific activities of all 27 of the N.I.H.'s institutes and centers; and must respond to the needs and concerns of the public. The N.I.H. identified three main Roadmap areas: new pathways to discovery, research teams of the future, and re-engineering the clinical research enterprise. Human Pharmacogenomic Epidemiology fits well in all three areas.

In addition to Kimmel, the principal investigators for the new grant are: Timothy R. Rebbeck, Ph.D., for genetic epidemiology; Alexander S. Whitehead, Ph.D., for pharmacology; Richard Spielman, Ph.D., for genetics; David Roos, Ph.D., for bioinformatics; and Arthur L. Caplan, Ph.D., for bioethics.

When the PENN Medicine Department of Public Affairs issued a press release about Kimmel's grant earlier in the fall, it included a comment from Elias A. Zerhouni, M.D., the director of the N.I.H. His words apply to Kimmel's project as well as the Roadmap as a whole: “With this initiative we hope to remove roadblocks to collaboration so that a true meeting of minds can take place that will broaden the scope of investigation, yield fresh and possibly unexpected insights, and create solutions to biomedical problems that have not been solved using traditional, disciplinary approaches.” ■

*John Shea*




**ROOM FOR THOUGHT**

By Lisa J. Bain

A Penn team discovered a mutation in the protein myosin that appears responsible for the development of smaller jaw muscles in humans as compared to non-human primates. Did this mutation lift an evolutionary constraint on brain growth in early humans?


**STIMULATING WORK**

By John Shea

When introduced to Penn in 1998, deep brain stimulation was used to treat Parkinson's disease. Now, Penn physicians have begun to use DBS to treat epilepsy – using both a more traditional “open-loop” stimulator as well as a smarter “closed-loop” one.

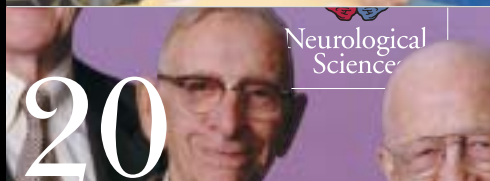

**MAKING THE NEWS**

Almost six years ago, Garret A. FitzGerald, M.D., published studies of two COX-2 inhibitors, Vioxx and Celebrex, both of which became very commonly used to relieve arthritis and acute pain. FitzGerald's warnings about the drugs now appear prophetic.


**DRESS REHEARSAL**

By Linda Bird Randolph

Mannequins can provide medical trainees with a chance to “learn by doing” without risking human life in the process. For more than a decade, René R. Gonzalez, M.D. '83, has worked to make such simulators more realistic – and thus more useful.


**A NEXUS FOR  
NEUROLOGICAL  
SCIENCES**

By John Shea

Established in 1953, the Mahoney Institute of Neurological Sciences has brought Penn experts from many different departments and disciplines together to enhance the study of the brain. Now it plans to reach out more widely to both scientists and the public.


**IT'S '54 TO THE FORE**

The editors of the 1954 *Scope* called it “a memorandum of the time spent here.” Fifty years later, 78 members of the Class of 1954 updated the “memo-randum” by responding to questionnaires for their 50th reunion.

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## HUP Named to 'Honor Roll'

For the eighth consecutive year, the Hospital of the University of Pennsylvania was listed in the "Honor Roll" of American hospitals, as selected by *U.S. News & World Report*. The magazine's annual ranking of hospitals names HUP as one of only 14 hospitals in the nation — and the only one between New York and Baltimore — to be recognized as an "Honor Roll" hospital for its exceptional performance in many specialty areas.

HUP's excellence was noted in 15 of the 17 medical specialties surveyed by the magazine: cancer; digestive disorders; ear, nose, and throat; geriatrics; gynecology; heart and heart surgery; hormonal disorders; kidney disease; neurology/neurosurgery; ophthalmology; psychiatry; rehabilitation; respiratory disorders; rheumatology; and urology.

HUP has also been named a 2004-2005 Consumer Choice Award winner by the National Research Corporation. The award honors HUP as one of 187 top hospitals in the nation that are recognized by consumers for providing high-quality health-care services. The announcement appeared in the September 20 issue of *Modern Healthcare*. (HUP was one of two Philadelphia-based hospitals to be so recognized.)

## N.I.H. Support Remains Strong

After five years in a row in which Penn's School of Medicine ranked second in total N.I.H. funding among medical schools, Penn came in third for Fiscal Year 2003. All told, the school received \$359.9 million from the N.I.H., including awards for research, training grants, fellowships, and other awards. Funding for Penn rose approximately 3.5 percent from the previous fiscal year. The School ranked at the top in training grants. Among the Penn departments ranking highest in N.I.H. funding are: Radiology and Radiation Oncology (combined by the N.I.H.): first. Emergency

Medicine: first. Biostatistics and Epidemiology: first. Dermatology: second. Pathology and Laboratory Medicine: second. Psychiatry: second. Pharmacology: second. Ranking fourth were: Medicine, Anesthesia, Physiology, Obstetrics/Gynecology, and Ophthalmology.



## What's Ahead? Life, and More

In the fall, the University of Pennsylvania Health System fully launched a long-term Clinical Excellence Campaign to highlight its commitment to improving people's lives. "We see daily examples of wonderful achievements in bridging new areas of research, healing, and caring for our patients and their families," wrote Arthur H. Rubenstein, M.B., B.Ch., executive vice president of the University of Pennsylvania for the Health System and dean of the School of Medicine, and Ralph W. Muller, CEO of the Health System, in a message describing the campaign. "And we believe it's important to tell others about our research and clinical excellence."

Built around the theme "We See Life Ahead," the campaign first appeared in late August during local television coverage of the Olympics. It continues to show up in such publications as *Money*, *Gourmet*, *Vanity Fair*, and *Philadelphia*. After citing

Penn's history of accomplishments and discoveries, a typical campaign item concludes: "We have always been first to move medicine forward because we see life ahead."

Unlike retail advertising, the goal of the Clinical Excellence Campaign is to position Penn as a "premium brand" that will appeal to a discerning and influential public. Penn health-care practitioners stand ready to deliver what they promise.

## Barchi for President

Robert L. Barchi, M.D. '72, G.M.E. '73, Ph.D., most recently provost of the University of Pennsylvania, took office as president of Thomas Jefferson University on September 1. A strong presence at Penn since beginning his medical education, Barchi is former chair of the departments of Neuroscience and Neurology and former director of the David Mahoney Institute of Neurological Sciences (1983-1996). He also served for two years as vice dean



Barchi

for research at the School of Medicine. He was named provost, Penn's highest academic position, in 1999 by Judith Rodin, Ph.D., then president of the University of Pennsylvania. When Barchi's new appointment was announced in June, Rodin said, "Throughout his more than 30-year career at Penn, he has been a brilliant researcher and clinician, passionate teacher, and successful leader." Barchi succeeds Paul C. Brucker, M.D. '57, who served as Jefferson's president for 14 years.

In addition to his clinical activities as a neurologist specializing in neuromuscular

diseases, Barchi has a strong history of discovery in ion channel research that has been supported by nearly 30 years of continuous N.I.H. funding.

Barchi has received numerous honors, including election to the Institute of Medicine of the National Academy of Sciences. He is a Fellow of the American Academy of Neurology, of the American Neurological Association, of the College of Physicians, and of the American Association for the Advancement of Science. From the University of Pennsylvania School of Medicine, he received the Distinguished Graduate Award, and he was honored with the University's Lindback Award for Distinguished Teaching.



Scheib

## Appointments in the Health System

**Garry L. Scheib** has been named chief operating officer of the University of Pennsylvania Health System. Most recently, he had been senior vice president of UPHS and executive director of HUP, and he will retain the latter position. As chief operating officer, Scheib is responsible for the financial and operational aspects of the three owned UPHS hospitals as

well as Penn's Homecare and Hospice services.

According to Ralph W. Muller, the Health System's CEO, "Garry's leadership ability – achieving difficult goals while inspiring confidence, trust, and mutual admiration in all who know him – makes him a natural choice for the position."

Scheib has been a member of the UPHS leadership team since 1997, when he came from Rancocas Hospital to become executive director of the Health System's Office of Network Development, New Jersey Division.

**Andrew DeVoe** was appointed chief financial officer and senior vice president of UPHS. In addition to working with the Health System's financial managers on critical day-to-day operations, he works closely with leadership teams at UPHS, the School of Medicine, and the University to meet performance objectives of the PENN Medicine Strategic Plan. DeVoe came to UPHS from Tenet HealthCare, where he was the regional vice president for finance.

**Susan E. Phillips** was named senior vice president for public affairs. In this new position, she is responsible for leading the efforts in media, community, and government relations and for overseeing internal publications. She continues as chief of staff and secretary of the board of PENN Medicine.

## Voting and Dementia

This November, millions of Americans may have been deprived of their right to vote or they may have been victims of voter fraud. This potential disenfranchisement of basic civil rights cuts across all party lines, income levels, and racial identities. Every citizen with Alzheimer's disease or other forms of dementia, regardless of his or her functional level, may be at risk during an election. Who should decide if these vulnerable citizens have the capacity to vote? How should that as-

essment be made? And how can electoral fraud be prevented?

A multi-disciplinary, multi-institutional group of 11 experts in law, ethics, government, neurology, geriatrics, and psychiatry investigated these questions and published their findings in the 15 September 2004 issue of *The Journal of the American Medical Association*. One of the group's leaders was Jason H. Karlawish, M.D., assistant professor of medicine at Penn and director of the Education and Information Core of Penn's Alzheimer's Disease Center. The 18-month study reveals an alarming inconsistency in voting policy regarding citizens with dementia. Said Karlawish, "We found that judges, family caregivers, and long-term care staff do not have adequate guidance to determine whether individuals with dementia have the capacity to vote."

By 2050, an estimated 15 million Americans will have dementia. Because age is the chief risk factor for the disease and voter turnout is highest in the 65 to 74 age bracket, the needs defined in this study will have an impact on the electoral process for generations to come.

The research group looked at existing voting laws and discovered an inadequate set of state, federal, and local legislation. Only eight states exclude voters on the basis of the specific "capacity to vote" – but none of these states provides a standard to assess such a capacity. As a result, the current laws of most states probably violate the Constitution of the United States, as well as the Americans with Disabilities Act (ADA).

According to the researchers, state laws should be changed to conform to modern constitutional principles, incorporating a test to assess competence to vote; ballots should be simplified to eliminate voter confusion; the public should be educated regarding appropriate assistance for voters with dementia; policies should be formulated for voting in long-term care settings; and additional studies

should be conducted to develop more effective voting policies.

Karlawish, whose scholarship focuses on the ethics of research and care of people with dementia, stressed the importance of objectivity, simplicity, and clarity in assessing capacity to vote. “For example, ask the person with dementia how people will choose the next president and when the voting is over how will it be decided who is the winner. If they understand these concepts and they want to vote and can make a choice, that is all that is necessary. They do not need to comprehend the details of each candidate’s platform.”

The findings of the multi-institutional group were reported in *The New York Times*, *The Washington Post*, *The Philadelphia Inquirer*, and several other news outlets. Arthur L. Caplan, Ph.D., chair of Penn’s Department of Medical Ethics and director of the Center for Bioethics, wrote an editorial for the *Inquirer*, advocating careful and sensitive reform: “While there are obviously many people who are too mentally ill to vote, the lingering stigma of mental illness and retardation – as well as stereotypes about the elderly – may still be denying many people their right to participate in elections. . . . In the decade to come, millions more Americans will join the ranks of the elderly as the baby boomers age. Not only will many end up in nursing homes, but just like anyone else who’s getting older, they will be at an increased risk for depression and dementia. Given the large numbers of people involved – and the fundamental individual rights at stake – it is not too soon to tackle the problem of voting for the elderly and mentally impaired” (September 16).

— Stacia Friedman

## HONORS & AWARDS

**Abass Alavi, M.D.**, professor of radiology and chief of the division of nuclear medicine at HUP, was named the recipient of

the 2004 Georg Charles de Hevesy Nuclear Medicine Pioneer Award. The award, presented by the Society of Nuclear Medicine, recognizes Alavi’s pioneering work in Positron Emission Tomography (PET). According to Dr. Henry Royal, president of the Society, Alavi “had the foresight to study PET images as early as the 1970s. If you examine nuclear medicine, you will find his name.”



Brennan

**Patrick J. Brennan, M.D.**, professor of medicine at the University of Pennsylvania School of Medicine and chief of Health-care Quality and Patient Safety for Penn’s Health System, has been appointed chairman of the Health-care Infection Control Practices (HICPAC) Advisory Committee of the U.S. Department of Health and Human Services. Since 2003, Brennan has served on the committee as one of 14 infectious diseases experts who advise the Centers for Disease Control and Prevention and the Secretary of HHS regarding infection control in United States health-care facilities.

In his role as chief of Health-care Quality and Patient Safety, Brennan has introduced numerous system-wide patient safety initiatives, including the creation of an on-line, rapid response reporting system to identify

care-related problems and improve patient safety. He is using this experience to help HICPAC formulate ways to improve patient safety throughout the nation. As Brennan puts it, “It has been my experience that patient safety is a system problem, not necessarily the result of individual error.”

**John S. J. Brooks, M.D.**, was appointed chair of the Department of Pathology at Pennsylvania Hospital. Most recently he served as chairman of pathology and laboratory medicine at Roswell Park Cancer Institute in Buffalo, N.Y., for nearly 10 years. From 1979 to 1993, he was a member of the Penn faculty and HUP’s attending staff. He re-joined HUP in 2002.

A Fellow of the Royal College of Pathologists and member of the board of directors of the American Society of Clinical Pathologists, Brooks has served as editor in chief of the *International Journal of Surgical Pathology*. His field of concentration is in soft tissue and bone pathology, and the use of immunohistochemical markers for diagnosis and prognosis of human cancers.

**Robert E. Booth Jr., M.D.** ’71, one of the principals of 3B Orthopaedics at Pennsylvania Hospital, was honored at the Arthritis Foundation’s annual “City Lights Gala,” held this summer. He was named the 2004 Winner of the Sir John Charnley Award in recognition of excellence and achievement in the field of orthopaedics.

**Peter F. Davies, Ph.D.**, professor of pathology and laboratory medicine in the School of Medicine and director of Penn’s Institute for Medicine and Engineering, has received the 2004 Scientist of the Year award from the Pennsylvania-Delaware Affiliate of the American Heart Association. Prominent in the fields of heart disease research and biomechanics, Davies is also a leader in blood flow regulation of vascular biology and pathology.





Gonzalez-Scarano

Tommy G. Thompson, U. S. Secretary of Health and Human Services, recently appointed **Francisco Gonzalez-Scarano, M.D.**, professor and chair of Penn's Department of Neurology and professor in the Department of Microbiology, to the National Advisory Neurological Disorders and Stroke Council. The council serves as the major advisory panel of the National Institute of Neurological Disorders and Stroke, the nation's primary supporter of basic, translational, and clinical research on the brain and nervous system.

A nationally recognized expert in the neuropathogenesis of HIV, Gonzalez-Scarano has also investigated La Crosse virus, a common cause of pediatric encephalitis. He serves as co-director of the interdisciplinary Penn Center for AIDS Research.

**Katherine A. High, M.D.**, the William H. Bennett Professor of Pediatrics at the School of Medicine and a hematologist at The Children's Hospital of Philadelphia, was elected president of the American Society of Gene Therapy, the largest medical professional organization representing researchers and scientists dedicated to discovering new gene therapies. Internationally known for her studies of the molecular biology of hemophilia, she has investigated a gene transfer approach to treating hemophilia B, the second most common form of hemophilia, by delivering the gene to produce the blood clotting factor that is deficient in patients with the disease.

High was recently named a Howard Hughes Medical Institute Investigator.

**Kyle Kampman, M.D.**, associate professor of psychiatry at the School of Medicine and medical director of the Treatment Research Center, received the Medical Professional Award—Physician from the Caron Foundation. The mission of the not-for-profit organization is to provide an enlightened and caring treatment community in which those affected by alcoholism or other drug addiction may begin a new life. Kampman was honored for his dedication to addiction research, specifically his work with cocaine addiction and withdrawal.



Lee

**Virginia M.-Y. Lee, Ph.D., M.B.A.**, professor of pathology and laboratory medicine at the School of Medicine and director of the Center for Neurodegenerative Disease Research, received the 2004 Founders Distinguished Senior Scholar Award from the American Association of University Women. Lee, who holds the John H. Ware 3rd Professorship in Alzheimer's Research, is recognized as a leading expert in the field of Alzheimer's disease and dementias. The award was presented for her lifetime of outstanding college and university teaching; impressive publication record; and the impact she has had on women in her profession and community.

Lee was also named to the National Advisory Council on Aging, the group

that advises the National Institute on Aging on the conduct and support of biomedical, social, and behavioral research and training on the diseases and conditions associated with aging.

**Luigi Mastroianni Jr., M.D.**, the William Goodell Professor of Obstetrics and Gynecology at the School of Medicine, was honored by the Society for Gynecologic Investigation. The society presented him its 2004 President's Distinguished Scientist Award, given to a senior investigator who has made significant and lasting contributions to scientific research and reproductive medicine. He was also named a "Legend of REI" – the Research and Education Institute at Harbor-U.C.L.A. Medical Center – for his "internationally recognized contributions to the practice of medicine."

**Ralph W. Muller**, CEO of the University of Pennsylvania Health System, has joined the board of directors of the National Committee for Quality Assurance, a private, non-profit organization dedicated to improving health-care quality. The board comprises health-care leaders representing employers, consumer and labor interests, health plans, quality experts, regulators, and organized medicine. Muller was also re-appointed to serve on the Medicare Payment Advisory Commission (MedPAC), for a second three-year term. MedPAC is a nonpartisan commission that advises Congress on Medicare policies. The Balanced Budget Act of 1997 required that members of the commission be national experts in areas such as health finance, health facility management, and health plans.

**Brian Strom, M.D., M.P.H.**, was elected president-elect of the Association of Clinical Research Training Program Directors (ACRTP). Strom, the George S. Pepper Professor of Public Health and Preventive Medicine, serves as chair and professor

of the Department of Biostatistics & Epidemiology and director of the Center for Clinical Epidemiology & Biostatistics. He also has appointments as professor of medicine and of pharmacology. Strom's term will extend until April 2005, when he will assume the role of president of the association. According to Strom, the association "seeks to foster the nation's training in clinical research, so that the many advances made daily in modern medical science are brought more quickly from the bench to the bedside, and then to the population at large."

In addition to his other responsibilities at Penn, Strom was recently appointed associate vice dean for the School of Medicine and associate vice president for strategic integration for Penn's Health System. In this capacity, he is responsible for the integration of the research, clinical, and educational activities of the medical school and health system.

### Honored by N.A.R.S.A.D.

The National Alliance for Research on Schizophrenia and Depression (N.A.R.S.A.D.) has awarded \$260,000 to three researchers at the School of Medicine to study causes of and treatments for mental illness. **Wade Berrettini, M.D., Ph.D.**, professor of psychiatry, and **Irwin Lucki, Ph.D.**, professor of psychiatry, each received a one-year, \$100,000 Distinguished Investigator Award. Berrettini is studying a large group of patients with either a family history of bipolar disorder or schizophrenia to identify candidate genes that underlie vulnerability to these diseases. Lucki is studying the behavioral effects produced by neurotrophins in animal models of depression and anxiety. **Monica Gonzalez, Ph.D.**, a research associate in the Department of Psychiatry, received a two-year, \$60,000 Young Investigator Award, given to the most promising young scientists conducting research in the area of psychiatric brain disorders.

### Hospitals in Transition

In August, Penn's Health System concluded the sale of Phoenixville Hospital to Community Health Systems, Inc. Based in Brentwood, Tenn., the for-profit health system now has ownership and governance of Phoenixville Hospital (including the Limerick facility and all other assets).

In a memo, Ralph W. Muller, CEO of the University of Pennsylvania Health System, said that "this sale is a positive outcome for all parties involved in the transaction, especially the communities served by Phoenixville Hospital." The hospital itself, he continued, "will receive increased financial resources." At the same time, UPHS will continue to maintain and build "important collaborative clinical relationships with Phoenixville and its medical staff" while concentrating its available capital on the System's three other hospitals and its clinical practices. Phoenixville Hospital began a contractual affiliation with UPHS in December 1994, then merged with the Health System in July 1997.

Also this summer, the board of trustees of Chestnut Hill HealthCare approved the sale of that health system's assets to a joint venture formed by UPHS and Vanguard Health Systems, Inc., a for-profit system based in Nashville, Tenn. Penn was to be the minority partner. Although the sale was expected to be completed in November, Vanguard subsequently pulled out of the deal. Muller told *The Philadelphia Inquirer* that UPHS was looking for a new capital partner.

As proposed, the capital partner would manage the hospital and be responsible for the capital expenditures, while Penn focuses on developing clinical programs.

UPHS has also entered into a clinical affiliation agreement with Shore Memorial Hospital, a member of the University of Pennsylvania Cancer Network. Under the new agreement, cardiologists from PENN Cardiac Care at Presbyterian will provide

diagnostic catheterization services at Shore Memorial's CardioVascular Institute. Harvey Waxman, M.D., G.M.E. '80, chief of cardiology at Presbyterian, will serve as medical director for the Institute's low-risk cardiac catheterization laboratory.

### HDL Up, LDL Down

This spring, Daniel Rader, M.D., associate professor of medicine and director of Penn's Preventive Cardiovascular Medicine & Lipid Center, was senior author of a study that shows great potential for increasing the body's "good" cholesterol and preventing heart disease. The study, involving researchers at the University of Pennsylvania School of Medicine, Tufts University, and Pfizer, appeared in the April 8 issue of *The New England Journal of Medicine*. Using the drug torcetrapib, made by Pfizer, Rader's team was able to inhibit the cholesteryl ester transfer protein (CETP) and to show that this novel pharmacologic approach is highly effective in raising high-density lipoprotein (HDL) levels in patients with low levels. In addition, the patients' levels of HDL increased whether or not they were also being treated with the cholesterol-lowering drug atorvastatin (Lipitor). The combination therapy used in the trial proved so effective that, among those patients who received the highest dosages of both drugs, HDL cholesterol levels were increased by more than 100%. According to Rader, "These results are striking because it is generally very difficult to raise HDL levels in people with already-low levels of good cholesterol."

—Ed Federico

### New Technology for Hip and Knee Replacements

Penn Orthopaedics at Presbyterian Medical Center is the first facility in the Delaware Valley to use an innovative computer-assisted navigational technology called VectorVision, designed to bring a



new level of precision and accuracy to hip and knee replacement surgeries. VectorVision helps surgeons position replacement joints precisely, within a fraction of a millimeter, which leads to greater comfort and range of motion for patients. At the same time, the precision increases the lifespan of the synthetic device.

“A computerized navigational system is almost like having another set of eyes to look at a joint from different angles,” said Jonathan Garino, M.D., the assistant professor of orthopaedic surgery who serves as director of the Joint Reconstruction Center. “This technology enables us to determine how a joint replacement fits instantaneously, instead of noticing a slight misalignment on an X-ray after the procedure is completed.”

According to Garino, the vast majority of joint replacement surgeries are placed appropriately, but this computer-assisted approach eliminates the few that may be a degree or two off.

—Diane Bones



from left to right: Ralph W. Muller, Karen Helm, Beverly Coleman, and R. Nick Bryan.

### Giving and Receiving

For the third year in a row, the Philadelphia Antiques Show raised more than \$700,000 toward enhancing clinical care at Penn. Karen Helm, chair of the 2004 show, presented a check for more than \$735,000 to people representing this year's recipient, the Ultrasound Section of HUP's Department of Radiology. Accepting were Beverly Coleman, M.D., chief of the section, and R. Nick Bryan, M.D., chair of the department.

“You will never, ever have a more grateful recipient than yours truly,” said Coleman. The funds will be used to buy three state-of-the-art ultrasound scanners.

The 2005 Philadelphia Antiques Show will showcase furniture and decorative arts from the Gothic Revival (1830-1860). Since 1962, proceeds from the show, organized by the Board of Women Visitors, have contributed more than \$12 million to advance patient care at Penn. ♥

### Update on Bariatric Surgery

As an article (“Bariatric Surgery: When Other Ways Have Failed”) in the previous issue of *Penn Medicine* indicated, the Hospital of the University of Pennsylvania is not the only UPHS site where bariatric surgery is performed. Unfortunately, due to an editing error, the site where Matt L. Kirkland III, M.D., and Alan L. Schuricht, M.D., operate was omitted: it is Pennsylvania Hospital.

In July, Pennsylvania Hospital held a conference on bariatric care, presenting an interdisciplinary approach to the surgical and nursing management of the bariatric patient undergoing gastric bypass surgery. In addition, Kirkland and Schuricht, who perform about 500 cases a year, have welcomed David S. Wernsing, M.D., to

their practice. Wernsing, who completed his surgical residency at Pennsylvania Hospital, is also one of the region's leaders in promoting minimally invasive surgery for the treatment of cancers of the abdomen and in its use in general surgery. Like Kirkland and Schuricht, he has an appointment in the School of Medicine as a clinical assistant professor of surgery.

A third site of bariatric surgery in the Health System is Presbyterian Medical Center, which recently added Gary B. Korus, M.D., to its division of gastrointestinal surgery. Korus is also a clinical assistant professor of surgery in Penn's School of Medicine. His specialty is bariatric and foregut surgery, with a particular interest in minimally invasive techniques.

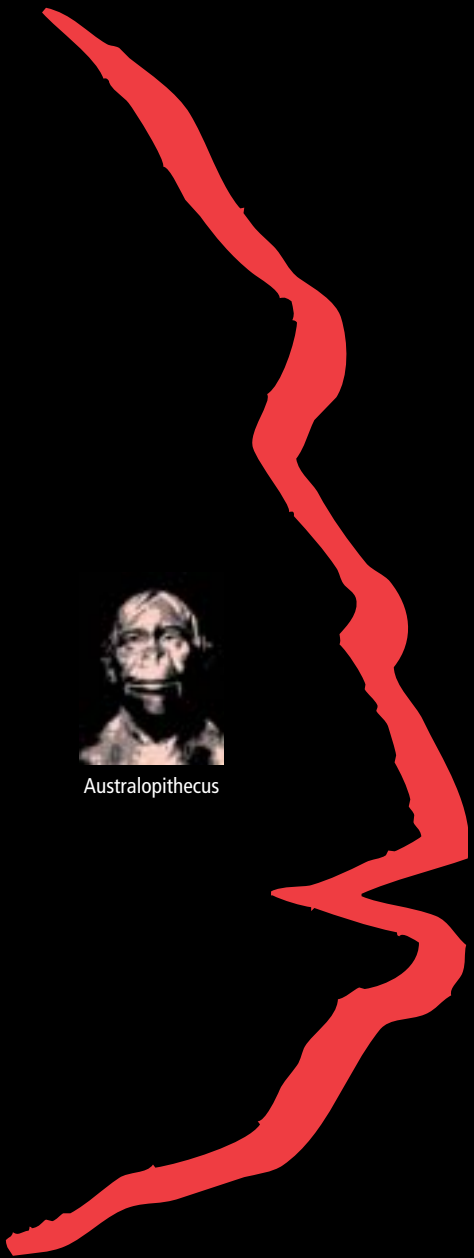
## LETTERS

### ON BARIATRIC SURGERY

Congratulations to Dr. Noel N. Williams for his work mentioned in the article on bariatric surgery in the Spring 2004 issue of *Penn Medicine* [“Bariatric Surgery: When Other Ways Have Failed”]. It is heartening to see this subject written about in the prestigious *Penn Medicine*. Before I retired from surgery because of illness in 1994, I did about 600 bypasses for morbid obesity. I wrote about the experiences in the book *Fat No More*, published by Prometheus Press. I was chief of surgery at Metropolitan Hospital in New York until 1991 and am emeritus professor of surgery at New York Medical School.

Norman B. Ackerman, M.D. '56, Ph.D.  
New York, N.Y.

# R O O M F O R



Australopithecus



Rhodesian Man



Cro-Magnon Man

# T H O U G H T

By Lisa J. Bain

**A multidisciplinary team at Penn has discovered a mutation in a muscle gene that may have led, nearly 2.5 million years ago, to the smaller jaw muscles and larger brains of humans. The mutation, they argue, lifted a constraint that had inhibited growth of the brain case.**

**W**hen Hansell Stedman, M.D., G.M.E. '94, stopped Nancy Minugh-Purvis in the garage one November day and said he had something to show her in the lab that he thought would interest her, she was immediately intrigued. Stedman, an associate professor of surgery and muscle biologist, and Minugh-Purvis, a paleoanthropologist and developmental anatomist in the Department of Cell and Developmental Biology, might seem an unlikely match as research collaborators. But they had found that they had some common interests early in their careers – when Stedman was a postdoctoral fellow studying muscle proteins in the Human Genetics and Anatomy lab of Neal Rubinstein, M.D. '73, Ph.D., associate professor of cell and developmental biology, and Minugh-Purvis was teaching gross anatomy with Rubinstein. Says Minugh-Purvis, “Hansell was always interested in evolution. Years and years ago he was always sending me an article here or there and asking a lot of questions.” So the intersection of his work in muscle biology with hers in paleoanthropology seemed natural, albeit somewhat unusual.

Larry Kaiser, M.D., chair of Penn's Department of Surgery, puts it more succinctly. “A surgeon doing this kind of work is unique. Stedman's a unique guy.”

Minugh-Purvis, it seems, is also somewhat unusual for a person trained as an anthropologist. (She received her Ph.D. degree from Penn in 1988.) In the late 1980s, she was recruited to the Children's Hospital of Philadelphia by Linton Whitaker, M.D., G.M.E. '71, professor of surgery at Penn and chief of the division of plastic surgery. Whitaker wanted someone with an anthropology background who could do growth evaluations on pediatric patients with craniofacial anomalies. But about seven years ago, Minugh-Purvis says, she reached the point of wanting to move beyond the paleontological aspects of her work and to begin looking at the molecular biology of bone and cartilage. Now she finds herself at the vanguard of a new generation of paleoanthropologists who rely on the techniques done in molecular biology laboratories to help them explain and understand what they see in the fossil record.

“I probably should have been a biologist all along,” she says with a laugh. “But the trouble is that human evolution is really fun stuff, and once you get hooked you're

Part of the research team led by Hansell Stedman and Nancy Minugh-Purvis, front, included (from left to right) Ben Kozyak, medical student; Danielle Thesier, graduate student in Biomedical Graduate Studies; and Marilyn Mitchell, senior research specialist.





in trouble. I still love it, but I really do feel that in order for people to get some of the answers to these very long-standing questions in paleoanthropology, they have to go molecular.”

The research findings that Stedman shared with Minugh-Purvis further intrigued her. His project was already multi-disciplinary, drawing expertise and inspiration from the fields of muscle biology, genetics, and evolutionary genetics. With Minugh-Purvis on the team, the project would stretch to include developmental craniofacial biology and gross and comparative anatomy, as well as an in-depth look at the fossil record. As Minugh-Purvis sees it, the Penn environment facilitated their collaboration: “This is *the* place to be. It’s very hard, particularly right now, to dovetail so much breadth and to do interdisciplinary work like this because you have to be such a specialist. I was lucky to work with Hansell because he really has a lot of breadth and is interested in pursuing questions outside of his immediate area. So it was a happy meeting of the minds.”

And speaking of minds, what Stedman and Minugh-Purvis eventually published earlier this year in one of the world’s most prestigious science journals was a study of a mutation that undermines an entire gene of myosin, the major contractile protein that makes up muscle tissue. The newly discovered mutation appears to be the cause for the development of smaller jaw muscles in humans as compared to non-human primates. Did smaller jaw muscles ultimately remove the constraints on the development of the human brain?

### The long search for mutant muscle proteins begins

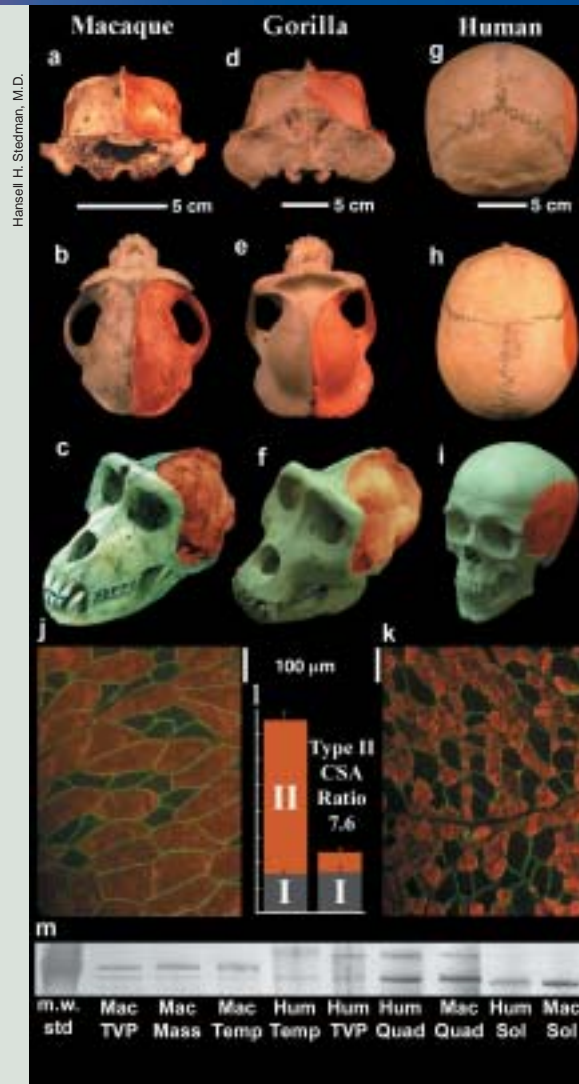
The project began more than 12 years ago when Stedman was a research assistant professor and midway through his residency. He had become interested in muscle biology even earlier, in part as a

consequence of growing up with two brothers who had Duchenne muscular dystrophy, as well as with a mother who fueled his interest in science. He recalls a time during his undergraduate years at M.I.T. when he came home for summer vacation. His younger brother, then in his late teens, was working on a high-school science project in human genetics. Says Stedman, “He had some unbelievably profound things to say, especially for a guy who had been in a wheelchair for five years, about Darwinian selection, survival of the fittest, experiments of nature, and how it all fit together.” His brother asked for advice about a project he was doing involving an animal model of muscular dystrophy. “It was a huge eye-opener for me – first of all, because of the mere fact that he was thinking outside the box.” Stedman started asking his own questions about muscle biology, which led him to John C. Seidel, M.D., a muscle biochemist who was studying myosin. Seidel convinced Stedman of the wisdom of combining a basic research focus on how muscle works with an applied focus on what happens when the muscle does *not* work.

Thus, Stedman found himself in the early 1990s with about one year to accomplish something significant in the research lab before returning to a surgical residency. There was an enormous incentive, he says, to come up with short cuts. “And we hit on a way to make a slam dunk DNA test for all of the myosin genes that create muscle motion in any organism whose DNA we could isolate.”

### The central role of myosin

Myosin, according to Stedman, is one of the two most important molecules of life; the other is ATP, which he described as the energy currency for life. Myosin, explains Stedman, powers all locomotion as we know it in all animals of the biosphere. Drawing an analogy with the au-



Hansell H. Stedman, M.D.

tomobile, he calls ATP the gasoline and myosin the piston. Furthermore, not only is the interaction of myosin and ATP absolutely critical for survival, Stedman continues, it is a major source of dietary protein. “When you’re on the Serengeti plain in a fight-or-flight struggle, if you win the predator-prey interaction, myosin is a big part of the payoff.” And since myosin is hugely abundant in muscle, defects in myosin could be responsible for many muscle diseases, although it is now known that mutations in another protein, dystrophin, are responsible for the various muscular dystrophies.

Stedman’s team used what was, in 1990, a novel technique called polymerase chain reaction, or PCR, to find ten different myosin genes in the human genome. The technique allowed them to find pieces of DNA that had sequences similar to previously published myosins, but told them nothing about whether these genes were actually expressed or where they were located in the genome. Stedman’s team put the project on hold while another project studying muscular dystrophy in the mouse occupied most of their attention. Over the next ten years, the muscular dystro-

phy research progressed to the point where a gene therapy trial was planned. But the tragic death of Jesse Gelsinger in a human gene therapy trial at Penn in 1999 brought much of the gene therapy research to a halt. As Stedman puts it, “It was that event and its downstream consequences that in no small way convinced us to look back at some things that had been put on the back burner for a while.” Fortunately for him, his team had been strengthened by the addition of a couple of rookies with time to explore new ideas. Benjamin Kozyak, a medical student, and Anthony Nelson, an undergraduate from Drexel University, worked with Stedman under the joint mentorship of Joseph D. Shrager, M.D. ’60, G.M.E. ’64, chief of cardiothoracic surgery at HUP, and Charles R. Bridges, M.D., Sc.D., G.M.E. ’91, chief of cardiothoracic surgery at Pennsylvania Hospital. Other team members contributed expertise and advice in molecular biology and computer algorithms, but it was Marilyn Mitchell, Stedman’s most senior research specialist, who made it possible for Kozyak and Nelson to do all of the molecular biology, including some long and tedious protein fractionations that ultimately isolated the proteins they were studying.

Among the 10 sequences they had identified in 1990 was one that looked so different from the others that the researchers could not make sense of it. “As recently as two years ago, when we realized we had cloned and recognized yet another myosin, we didn’t know what to call it other than give it a number, so it’s MYH16 because it’s the 16th one discovered,” says Stedman. “We thought maybe it was a candidate gene for yet another muscle disease in humans, and we would get

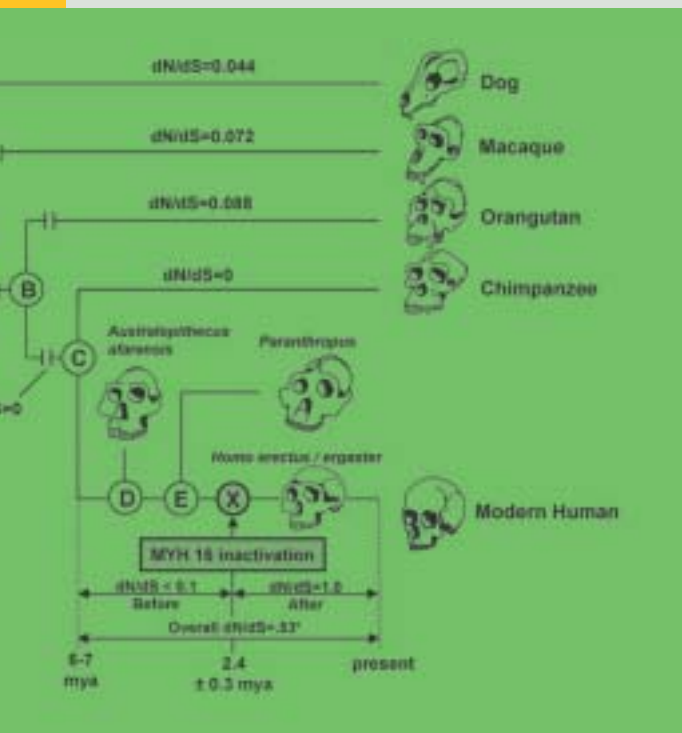
back to it when we figured out which one. It didn’t dawn on us then that it was going to be the most common of all human diseases. We all have it.”

One of the first questions they needed to answer was how this gene related to other known myosin genes. Using draft sequences obtained through the continuing human genome project, they lined up the sequences for various myosin genes and discovered a two-base pair “glitch.” Two links in the DNA chain found in all other known myosin genes were missing in MYH16. What was particularly noteworthy is that the change in the sequence would make the gene non-functional, unable to code for usable protein.

One possible explanation for this glitch was that the anonymous person whose DNA had been used for the human genome project had a rare mutation. But when they looked at other human DNA samples from geographical locations as distant as Africa, Iceland, South America, Western Europe, Japan, and Russia, all were found to have this same mutation. Yet, to the researchers’ amazement, the MYH-16 sequences from all non-human primates showed no deletions; all of these species, that is, have the blueprint for a normal myosin protein. Among the non-human primates, there was some genetic drift as the species diverged further apart on the evolutionary tree, but the drift appears to be in spacer (or “junk”) regions of the DNA, not in the regions that code for myosin protein. That distinction indicates that the gene was under enormous evolutionary constraint. In Stedman’s vivid description, “One trip off that tightrope buys you a real problem.”

### The answer is in the bite

Next, the researchers wanted to know where this gene is turned on. To answer this question, they obtained muscle tissue specimens from autopsies of non-human primates that had been involved in other



studies. What they found was that the gene was only turned on in the powerful biting muscles of the jaw. A comparison of the jaw muscles of humans with those of macaque monkeys revealed even more clues about the consequences of this genetic mutation. The jaw muscle of macaque monkeys is composed predominantly of enormous muscle fibers called “fast twitch” muscle, along with some smaller fibers called “slow twitch” muscle fibers. In contrast, human jaw muscle contains similarly sized slow twitch fibers, but much smaller fast twitch fibers than those seen in the macaque. What that means is that the macaque jaw muscle is about eight times larger than the equivalent human jaw muscle; at the same time, other muscles such as those in the leg are similar sized, whether human or monkey.

Stedman was struck by the difference and the implications it could have on human evolution. He was particularly intrigued by the shape of the skulls of non-human primates compared with humans and how the shapes related to the difference in jaw muscles. It was then that he turned to Minugh-Purvis. While anthropology has held a particular fascination for Stedman over the years, Minugh-Purvis brought to the table an intimate hands-on familiarity with the primate fossils. Says Stedman, “It’s been like getting a drink from a fire hose being around her and learning all this stuff.”

Gorillas and other non-human primates have distinct mid-line bony crests and prominent cheekbones. While these serve to anchor their massive jaw muscles, they also may restrict expansion of the skull and thus impose limitations on the growth of the brain. Humans, in contrast, lack the bony midline crests and large cheekbones; their skulls are designed to expand as the brain grows during infancy and childhood. So the questions Stedman laid before Minugh-Purvis: Might the lack of massive jaw muscles resulting



Pooling their expertise allowed Stedman and Minugh-Purvis to reach a compelling hypothesis.

from the MYH16 mutation permit expansion of the brain case and, thus, permit growth of the brain itself? And could this mutation, at least in part, explain the evolutionary leap from ancestral apes to early humans?

Minugh-Purvis found Stedman’s ideas compelling, particularly because he had come up with an idea that could be tested in the laboratory. Paleoanthropologists never get the opportunity to test their hypotheses in the fossil record, she says, but using the techniques of genetics and molecular biology in animal models, one could manipulate the muscle and then study the effect on the bone development. In fact, one such study has already been done in mice; it showed that, indeed, muscle can sculpt bone. When a mutation was introduced in a muscle protein, it dramatically affected bone development.

One of the first things Stedman asked Minugh-Purvis to do was to study the fossil record to try to determine when this mutation might have occurred. Meanwhile, he consulted Warren J. Ewens, Ph.D., a professor of biology at the University, and colleagues in Penn’s Center for Bioinformatics to fix a time for the mutation

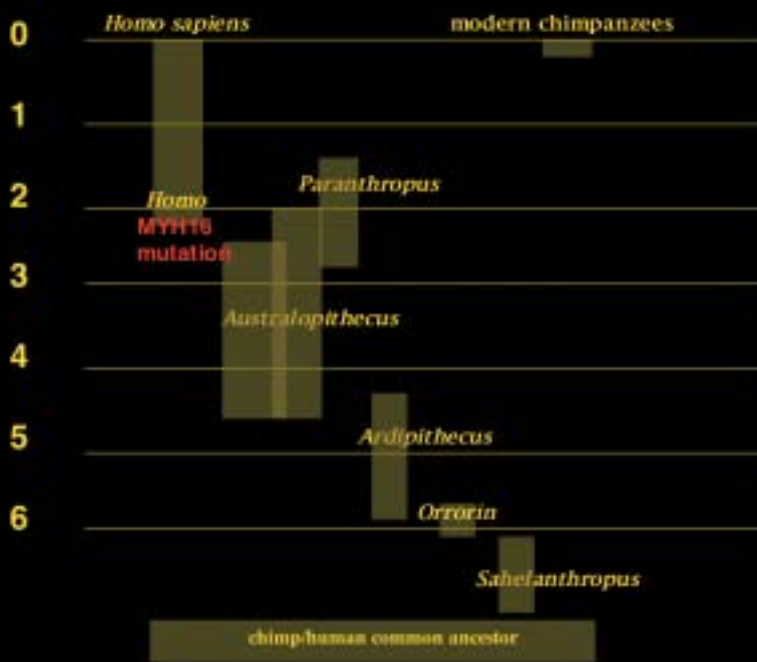
using the “molecular clock,” a method that analyzes sequence variations across species in a common lineage. As Minugh-Purvis recalls, “I came back to him and said, ‘How about between 2 and 2 1/2 million years ago?’ And he said, ‘Bingo!’ His calculations had gotten him to 2.4. So we were very excited that they coincided.”

### Clues in the fossil record

The Rift Valley in East Africa is home to one of the richest sources of hominid fossils dating from about two million years ago. Living essentially contemporaneously were two very different species: *Paranthropus boisei*, known as a robust australopithecine; and *Homo ergaster*, a predecessor to *Homo erectus*. According to Minugh-Purvis, the distinction between them is “absolutely profound.” *Paranthropus* has a crested skull and widely flaring cheekbones to which the enormous biting and chewing muscles could attach. *Homo*, meanwhile, has no midline crest and the cheekbones are compressed against the sides of the face, giving it a much more human appearance. “In sum total,” says Minugh-Purvis, “you would say clearly that the masticatory system, the biting muscles involved



MYA



in chewing, are considerably reduced in the early *Homo erectus* specimen.”

What’s more, the *Homo* specimen has a brain case that is about 70 percent larger than that of *Paranthropus*. In fact, starting about two million years ago, the human brain has essentially tripled in size. “As an evolutionary trend, the tripling in size of the human cranial capacity is almost an unprecedented phenomenon,” says Minugh-Purvis. “Paleoanthropologists have always themselves marveled at the fact that this could have happened in such a short time period.”

Another compelling piece of evidence, as Stedman points out, is that there are no specimens in the fossil record that have both a large skull and a midline crest and flared cheekbones. “It’s either/or. Our feeling is that something had to give.” The massive jaw muscles seen in all predatory species, including non-human primates, would crush the skulls of the animals were it not for the enormous deposition of bone to house the muscle. A mutation that reduced the size of these muscles could, however, reduce the need for the additional bone and allow for the expansion of the skull.

“We’re not suggesting that this muta-

tion alone buys you *homo sapiens*,” says Stedman. “But it’s much more reasonable to conclude that it lifted an evolutionary constraint that facilitated the accumulation of additional mutations that sustained brain growth.” Moreover, in order for the mutation to become fixed, as indeed happened, it would have had to confer a selective advantage to its host.

“The fact that it became fixed suggests that the hominids who had it weren’t dependent on massive chewing muscles already, because the earliest stone tools that are recognizable were 2.6 million years ago,” says Minugh-Purvis. “But you are still confronted with the question of why did it become fixed. And that’s where we are now.”

### Putting it all on the table

Stedman and Minugh-Purvis published their study in the March 25, 2004, issue of *Nature*, generating significant press coverage as well as controversy. Pete Currie, a developmental biologist from Sydney, Australia, wrote in the accompanying commentary that Stedman et al. described “what may be the first functional genetic difference between humans and apes” and presented “convincing evidence” of how

this mutation could have been responsible for the acquisition of “human-like” characteristics. In *The Washington Post*, Milford H. Wolpoff, a University of Michigan paleoanthropologist, was quoted as saying, “I love this paper. It’s perfect.” In *Science*, Ajit Varki of the University of California at San Diego asserted that the work by the Penn team “represents a significant advance. It’s the first example of a defined [protein] difference between humans and great apes that results in a functional consequence.”

Other anthropologists and evolutionary geneticists expressed more skepticism, arguing that the explanation is too simple. *Science* also quoted one of the most vehement critics, Ralph Holloway of Columbia University: “To suggest that the brain is constrained by chewing muscles is just rubbish.” Stedman, however, is undaunted by the criticism, acknowledging that “this is going to take at least 10 years to nail down.” He points out that James Watson, co-discoverer of DNA, said that he and his colleagues were out on a limb for five years with DNA before the scientific community was ready to accept their ideas. Says Stedman, “They took a lot of criticism because experimental work hadn’t been done that could nail it down.”

In the meantime, Stedman, Minugh-Purvis, and the rest of their team are continuing to study the differences in muscles and bones of non-human primates compared to humans, as well as how alterations in muscle proteins affect the development of the bones to which they attach. “I’ve gotten thousands of e-mails about this thing,” Stedman reports, “and the general amount of feedback suggests that this has captured peoples’ imaginations. That’s why we jokingly call it the ‘room for thought’ mutation.” ■

*Lisa J. Bain’s article on H. Lee Sweeney appeared in the Spring 2004 issue of Penn Medicine.*

# STIMULATING WORK

By John Shea

*UPHS physicians are finding new applications for deep brain stimulation, originally used to treat Parkinson's disease.*



Photo: Peter Olson



Photo: John Shea

**W**hen Gordon Baltuch, M.D., a neurosurgeon based at Pennsylvania Hospital and HUP, introduced deep brain stimulation (DBS) to Penn in 1998, he saw it primarily as a way to treat some of the symptoms of Parkinson's disease and other movement disorders that resist more traditional treatment. More recently, however, he has been taking DBS into new areas like epilepsy.

First developed in France, DBS ameliorates the major symptoms of some movement disorders through electronic stimulation. In the last few years, Baltuch and his multidisciplinary team have successfully performed the technique around 400 times on patients with Parkinson's disease.

Left: Gordon Baltuch, M.D.  
Right: Brian Litt, M.D.

The results are often dramatic. Last fall, in recognition of his work, Baltuch received one of the School of Medicine's highest honors, the Luigi Mastroianni Jr. Clinical Innovator Award.

At the awards ceremony, Baltuch was introduced by Bennett L. Johnson Jr., M.D., senior medical director of HUP, who quipped that Baltuch "does very interesting things within people's brains!" True enough. During DBS, explains Baltuch, "an acorn-sized electrode is surgically implanted deep inside the brain to stimulate the subthalamic nucleus." The electrode is wired to a device similar to a pacemaker that is inserted under the collarbones of patients. The pacemaker sends electrical



Litt's "smart" stimulator

signals to the brain that modulate its activity. Baltuch calls DBS "the biggest step in the treatment of Parkinson's in 40 years."

With that success under his belt, Baltuch, director of the recently established Penn Center for Functional and Restorative Neurosurgery, is exploring the use of DBS to treat another brain disorder that affects about two and a half million people in the United States – epilepsy. He and his multidisciplinary surgical team performed three of the first cases in the United States and have a grant from the National Institutes of Health to pursue cooperative trials with Stanford and Johns Hopkins. The procedure is used when neither drugs nor surgery has proven effective in preventing seizures. As Baltuch explains,

"In some way not yet fully understood, the constant electrical signal interrupts seizures in patients with epilepsy." Baltuch describes the device, made by Medtronic, as "open loop," because it emits the impulses on a regular cycle. For patients with epilepsy, the neurosurgeons implant the stimulator in the chest, thread wires to the head, and implant the leads in the anterior thalamic nucleus.

Baltuch recently visited Europe to study some of the more novel ways of treating movement disorders, some of them less invasive than procedures currently used in the United States. According to Baltuch, there is less regulation in Europe, and hospitalization costs are lower because of more socialized or capitated system. The Europeans, for example, "are a little ahead" in treating dystonia, a neurological disorder characterized by involuntary muscle contractions, which force certain parts of the body into abnormal, sometimes painful, movements or postures. "My biggest hope," says Baltuch, is to place a stimulator on the surface of the brain, without even opening the dura, using a device that he likened in size to "a very small Belgian waffle." That procedure, he reported, has had some success with stroke patients.

Another Penn faculty member who has been investigating the effects of electrical stimulation on epilepsy is Brian Litt, M.D., an associate professor of neurology and bioengineering. Litt is an author, with Baltuch and some other investigators from Penn and elsewhere, of one of the major studies of the Medtronic stimulator. Litt's team, however, has taken another step by developing a "closed-loop" stimulator. Unlike the Medtronic device currently used by Baltuch, Litt's device, made by NeuroPace, has been called a "smart stimulator." The imbedded electrode will stimulate the brain, thereby preventing a seizure, only *after* sensing that a seizure is about to occur.

Litt, who serves as director of the EEG

laboratory at HUP, received the 2003 Dreifuss-Penry Award from the American Academy of Neurology in recognition of his epilepsy research. His studies helped demonstrate that epileptic seizures do not begin abruptly but build – for as little as a few minutes to as long as hours – before triggering a clinical seizure. While the seizures build, they go through a series of steps that can be detected by analyzing the electroencephalographs recorded from electrodes implanted in the brain. Litt and his research team use a cluster of extremely fast computers to analyze the data and create models for predicting the seizures.

As Litt told *The New York Times* last year, "Seizures develop over time. They don't just strike you like lightning" (February 18, 2003).

The device that Litt has developed, about the size of a slender cigarette lighter, is implanted by neurosurgeons not under the collarbone but in the skull. The electrodes are placed wherever necessary in the brain. Rather than sending out pulses to the brain randomly, the NeuroPace device will send out mild electrical stimulation only when necessary. The hope is that the smart device will work to prevent seizures among patients who had few therapeutic options in the past. Although the investigational device is currently being tested at other institutions, not Penn, Baltuch calls the development "very, very novel stuff, . . . pretty exciting." He also feels "it's too early to say what the results are." A recent report in *Annals of Internal Medicine* is more optimistic: "Clinical experts expect that devices like Litt's will soon dramatically improve epilepsy treatment" (August 17, 2004).

Translational research has been very much a rallying cry in academic medicine for several years. For Litt, the work he and others are doing on epilepsy is "a prime example of how this kind of collaborative research can bring results to patients quickly and effectively." ■



# MAKING THE NEWS:

An Expert on COX-2 Inhibitors Enters the Public Forum



**W**hen Merck & Company announced on September 30 that it was immediately pulling Vioxx (rofecoxib), its medication for arthritis and acute pain, from the market, it could not have come as a surprise to Garret A. FitzGerald, M.D., the Robinette Professor of Cardiovascular Medicine who serves as chair of Penn's Department of Pharmacology and director of the Center for Experimental Therapeutics.

Almost six years earlier, FitzGerald had published studies of both Vioxx and another COX-2 inhibitor, Pfizer's Celebrex (celecoxib). FitzGerald and his team found that both medications suppress prostaglandin I<sub>2</sub>, a hormone-like substance produced in the walls of blood vessels. Prostaglandin I<sub>2</sub> acts to dilate the vessels and inhibit platelet aggregation, or clotting. In other words, by suppressing prostaglandin I<sub>2</sub>, COX-2 inhibitors might contribute to the blood clots that cause heart attacks and strokes, especially in groups that are at higher-than-normal risk.

FitzGerald's findings (published in the January 1999 issue of *Proceedings of the National Academy of Sciences* and the May 1999 issue of the *Journal of Pharmacology and Experimental Therapeutics*) have now been borne out. On September 30, Merck announced the results of a three-year randomized controlled trial to test whether Vioxx could help prevent polyps in patients with colon cancer: after 18 months of treatment with Vioxx, the patients with colon cancer were twice as likely to suffer a heart attack or stroke as those on placebo. As a result, Merck pulled Vioxx off the market. The move led to a sharp drop in the price of the company's shares and triggered a more intense look at COX-2 inhibitors as a whole.

FitzGerald was one of two scientists who published "Perspectives" in *The New England Journal of Medicine* reflecting on the results of the Vioxx trial. Given the charged atmosphere, the *Journal* made the reports available on line weeks before their intended publication date. And that was just the beginning of an intense dance with the media.

## The Burden of Proof

After noting that coxibs have been "aggressively marketed directly to consumers in the United States," FitzGerald described how they work – and the potential side effects: "Thus, a single mechanism, depression of prostacyclin, might be expected to elevate blood pressure, accelerate atherogenesis, and predispose patients receiving coxibs to an exaggerated thrombotic response to the rupture of an atherosclerotic plaque. The higher a patient's intrinsic risk of cardiovascular disease, the more likely it would be that such a hazard would manifest itself rapidly in the form of a clinical event" (*NEJM*, October 21, 2004).

FitzGerald also noted that celecoxib, rofecoxib, and valdecoxib (Pfizer's Bextra) were approved by the F.D.A. "on the basis of trials that typically lasted three to six months. . . ." Although the F.D.A. pursued a cautious policy, in FitzGerald's words, the polyps study "has shifted the burden of proof. . . . It seems to be the time for the F.D.A. urgently to adjust its guidance to patients and doctors to reflect this new reality." (In September 2001, the F.D.A. ordered Merck to send physicians a letter "to correct false or misleading impressions and information" about Vioxx's effect on the cardiovascular system.)

In their early responses, Pfizer officials emphasized that Celebrex has a different chemical structure than Vioxx and "a different safety profile" (*The Washington Post*, October 7). On the other hand, as FitzGerald told the Associated Press, "I've been concerned all along. I believe this is a class effect" – likely to be true of all the

coxibs. That same day, several sources quoted the response of Gail Cawkwell, Pfizer's medical director, to FitzGerald's view: "an interesting theory, but just a theory" (Bloomberg.com). Cawkwell said there was no evidence of increased risk of heart problems among the 75 million Americans who have taken Celebrex.

About a week later, however, Pfizer issued a warning to doctors that Bextra might increase the risk of heart attack or stroke in patients who had undergone coronary artery bypass surgery. Like Celebrex, Bextra is a coxib in the same class as Vioxx but with a different chemical structure. *The New York Times* (October 16) reported that FitzGerald criticized Pfizer for not making the information public sooner, since it had completed the study in the spring of 2004. Three days later, he was more pointed, telling the *Times*, "I would not put any of my patients who are at high cardiovascular risk on any drug that is a member of this class based on the current evidence." Speaking of Pfizer, FitzGerald said, "I think one could only characterize their response to the Vioxx story, where they publicly dismissed the possibility of a class effect, as deceptive." Cawkwell countered that the results among the bypass patients "may or may not be applicable" to the broader population.

While the F.D.A. investigates the matter, FitzGerald also noted that COX-2 drugs remained useful for certain patients: "We absolutely shouldn't yank these drugs as a class" (*The New York Times*, October 16).

In a profile of FitzGerald in the Spring 2001 *Penn Medicine*, he spoke about the need for an academic research system funded independently of industry. The interface between industry and academia is essential and, as he put it, "90 percent productive." But people in academic medicine must be able to maintain an independent point of view. "In academia, we're only responsible to the public health and telling the truth as we see it – telling the bad news as well as the good news." ■

# Dress Rehearsals

By Linda Bird Randolph

New simulators provide medical trainees with a chance to “learn by doing” – without risking human life in the process.



René M. Gonzalez and his simulator

**D**uring their education and training, medical professionals prepare for the moment that they will be called upon to act quickly and authoritatively in a life-or-death situation. Yet no matter how many hours fledgling emergency medical technicians, military medics, nurses, paramedics, or physicians spend learning in the classroom or laboratory or observing their seniors, there comes a time when they must act alone.

The transition an individual makes from trainee to independent professional is often fraught with anxiety and trepidation. In the end, becoming adept at performing cardiopulmonary resuscitation, at managing airways in a surgical setting, or at treating someone with a severed artery takes practice and hands-on learning.

Human mannequins have helped bridge the gap between watching and doing, allowing trainees to acquire skills without the risk of adverse outcomes. Yet simulating the real-life dramas in the medical setting

has always been an obstacle for educators.

René M. Gonzalez, M.D. '83, G.M.E. '86, has worked on this problem since the early 1990s. “The problem with teaching mannequins is that even if they are anatomically correct, residents learn just the anatomy. Human patients,” he insists, “are different.” Indeed, human patients moan in pain, their bellies gurgle, their heart beat changes, their respiratory rates vacillate, they vomit, they react badly to drugs, they hemorrhage.

**G**onzalez, then a full-time faculty member in the Department of Anesthesiology and Critical Care Medicine at the University of Pittsburgh School of Medicine, began to think about creating a realistic human robot for training medical personnel. As chief anesthesiologist at one of Pitt's teaching hospitals, Gonzalez was ultimately responsible for the teaching and training programs for the many anesthesiology residents, critical care fellows, and medical students who rotated through the hospital

every month. He sought “a better, safer, and more efficient and effective way to help teach the complex skills necessary for doctors and other health-care personnel.”

Gonzalez enlisted the help of fellow staff anesthesiologist John J. Schaefer III, M.D., who has a degree in engineering. They began experimenting with – and enhancing – a realistic, life-sized, and anatomically accurate mannequin that instructors would use in medical training. They started by implanting hidden mechanisms inside the mannequin, such as inflatable neonatal preemie blood-pressure cuffs about the size of small Band-aid, in order to provide simulations in which the instructor could make the mannequin “come to life.” By inflating and deflating syringes connected to the mannequin by concealed thin plastic tubes, Gonzalez says, “we could easily simulate real-life phenomena such as the tongue and airway swelling and bronchospasm of a patient suffering a severe allergic reaction” – situations that had always been a challenge to replicate.

To make their enhanced mannequin “breathe,” Gonzalez and Schaefer switched from manual air syringes to an inexpensive air compressor – an automobile tire inflator purchased at K-mart. The increased pneumatic power source greatly increased their capacity to animate the mannequin and to increase the number of realistic life functions.

They even gave the simulator the capacity to “speak” with its caregivers by implanting a concealed speaker in its head. That allowed an instructor in another room to make comments that the “patient” might, such as “My abdomen hurts” or “I can’t breathe.” They also created a realistic monitor screen that displayed the mannequin’s vital signs and beeped and sounded alarms as real patient monitors do.

Gonzalez and Schaeffer recognized the need to keep current health-care trends in mind. The increased national emphasis on patient safety made their project very timely. And because managed care was greatly affecting how health care was provided, they tried to keep costs low. In 2000, *The Chronicle of Higher Education* reported on some “virtual-reality devices” increasingly in use in medical training. It quoted Richard M. Satava, a professor of surgery at Yale University School of Medicine, who has promoted virtual-reality simulators to medical schools around the country: “The response is overwhelmingly positive – until they find out how much they cost.” The *Chronicle* cited price tags sometimes ranging from \$300,000 to \$400,000. Another concern of Gonzalez and Schaefer was keeping the simulator controls easy to operate, either through a hand-held remote control device the size of a television remote control or through a lap-top personal computer.

In 1995, a prototype was ready to be used for training medical residents at the University of Pittsburgh. Instructors behind the scene created medical crises in the simulator, to which trainees would

**The simulator prototype by Gonzalez and Schaefer had the capacity to “speak” to medical trainees through a concealed speaker in its head. An instructor in another room could make comments like “My abdomen hurts” or “I can’t breathe.”**

respond. Residents using the simulator were video- and audio-taped as they worked. Sometimes the outcome of their work was good. Often it wasn’t.

“When a trainee would fail to manage the simulated crisis situation successfully, the simulated patient would suffer complications or die,” Gonzalez says. “Killing” a patient with a wrong maneuver was always stressful for the trainees, who would be allowed to collect themselves by taking a short break and perhaps a cup of coffee.

During the debriefing session, trainees and instructors would watch the tapes and review mistakes. The trainee might try again for better results. During the second take, the instructor could choose to freeze the frame and have the trainee review the differential diagnosis before taking the next step.

Gonzalez and Schaefer then introduced their prototype to a group of practicing physicians taking a continuing medical education course. Says Gonzalez, the favorable comments “inspired us to continue to develop this new teaching tool.” They had other indications of support: at the 2000 Annual Meeting of the American Society of Anesthesiologists, Gonzalez and Schaefer shared two “Exceptional Merit Awards” for exhibits on simulation-based training.

They soon entered into what Gonzalez calls a “very productive partnership” with the Laerdal Medical Corporation, manufacturer of the Resusci Anne mannequin, the realistic life-sized doll that had been used for teaching CPR (Cardio Pulmonary

Resuscitation) and ACLS (Advanced Cardiac Life Support) for several decades. Laerdal had also developed an excellent computer-based software program for teaching the diagnosis and treatment of abnormal, life-threatening cardiac EKG rhythm disturbances as part of its training programs.

“Laerdal was extremely enthusiastic about moving into highly realistic full-scale human simulation, and so they integrated their software and manufacturing expertise into our prototype simulator,” says Gonzalez. “We then developed a large series of improvements and new and important features for the simulator – all of which kept in mind the original goals of keeping the product affordable, portable, and user-friendly.”

Among the enhancements, Laerdal added an EKG rhythm generator that simulates hundreds of normal and abnormal EKG rhythms and patterns – even simulating a full-blown cardiac arrest – and created a connection so that the EKG signals emitted by the simulator can actually be picked up and displayed by a real clinical EKG monitor or defibrillator unit.

The company also wrote software that instructors could easily pre-program in order to store entire teaching scenarios. Using its expertise in plastics technology, Laerdal created softer, more pliable facial “skin.” The mannequin also took on a larynx, trachea, and bronchial tree (cast from an actual human tracheal-bronchial tree). The simulator was designed so that the mannequin unit, including its air compressor and control units, could be easily wheeled around and hooked up in other locations.

Soon, SimMan and AirMan debuted on the market. The two commercially available simulators are now used in hundreds of training centers in the United States and around the world. For example, since 1995, formal systematic simulation-based training has been mandatory for the anesthesiology residents at the University



of Pittsburgh. For the last two years, simulator-based continuing medical education courses have been mandatory for the anesthesiology faculty there as well.

SimMan has also played a noteworthy role in the training of military medics for peace-time patient care as well as military and civil defense – both in the U.S. and around the world. At Fort Sam Houston, 142 SimMans provide highly realistic simulation to trainees who must learn vital skills, such as how to evaluate and obtain vital signs, start intravenous lines, control hemorrhage from an extremity spurting blood, and perform needle decompression of collapsed lungs.

As Gonzalez sees it, “Realism provides a totally different level of training than was possible before.” Not too long ago, medics practiced their techniques on sandbags that represented injured soldiers. Upon finding the “wounded” in a mock battlefield, the medic would find the sandbag man with a label on it indicating its condition and vital signs. Medic teams would then describe to their trainers how they would triage, evaluate, treat, and evacuate that simulated soldier.

In Israel and in some centers in the United States, SimMan is being used to train for responses to bioterrorism and chemical warfare. In the chaotic setting of a terrorist or chemical warfare disaster, care providers must wear bulky, cumbersome haz-mat suits and gloves, making delicate manual medical skills such as starting an intravenous line or placing an endotracheal tube very difficult if not impossible.

Out of necessity, Israeli medics have developed novel techniques for treating casualties, such as a device that fires a needle into the bone marrow of the tibial bone of the leg, allowing them to administer fluids and medicines through this needle into the circulatory system. Now, in the training of these medics, SimMan can be adapted so that they can practice

**SimMan, which René Gonzalez helped develop, has also played a noteworthy role in the training of military medics for peace-time patient care. At Fort Sam Houston, 142 SimMans provide highly realistic simulation to trainees who must how to evaluate and obtain vital signs, start intravenous lines, and perform needle decompression of collapsed lungs.**

their unusual life-saving techniques in a simulated setting.

A new generation of SimMan simulators is on the horizon. The SimBaby pediatric patient simulator is currently being tested in centers in the U.S. and Europe. “Infants are not just small-scale models of adults,” says Gonzalez. “There are important anatomical and physiological differences between infants and adults – for example, in the relative size of the head to the body, in the geometry of the airway anatomy, and in the pulse and respiratory rates.”

It is no surprise that Laerdal’s SimMan, AirMan, and SimBaby are competing with other products for medical training dollars. One successful company, Medical Education Technologies, manufactures the Human Patient Simulator, the Emergency Care Simulator, and PediaSim. According to Gonzalez, the price difference between those products and Laerdal’s is dramatic; in some cases, Laerdal’s main simulators can cost less than one-tenth as much. (A recent article at Forbes.com notes that the advanced models of Stan D. Ardman, by Medical Education Technologies, starts at \$200,000. SimMan lists for about \$26,500.)

At the University of Pennsylvania today, simulators are in use in settings around the School of Medicine and School of Nursing. Among them is a small number of “Harvey” cardiology patient simulators, developed by the Center for Research in Medical Education of the University of Miami School of Medicine, which are used

to provide experience in addressing many cardiovascular conditions. Laparoscopic simulators provide hands-on practice for those learning intricate surgery techniques. And in trauma areas, mannequins are used to teach basic lifesaving and advanced lifesaving skills.

The School of Medicine is currently conducting a needs analysis as it plans to incorporate simulation training into the curriculum for medical students and residents. It is also looking to create a designated “simulation center” on the campus, perhaps as early as 2005. Gonzalez, who has been in a private anesthesia practice in Bethlehem, Pa., since leaving Pitt, will be offering his expertise as a consultant on the project and in the future.

The new center – which will be in a “central” location still to be determined – will contain approximately 20 rooms. Almost like a movie set, some rooms will be designed to simulate exact emergency situations. One may simulate the scene of wreck, for example; another may replicate a setting in which a “dirty bomb” has exploded. There will be established control rooms in which instructors can observe trainees behind one-way mirrors.

Penn’s School of Nursing, which currently uses a Laerdal intubation simulator, has plans to acquire its own SimMan in the near future. Locally, Temple University School of Medicine and Thomas Jefferson University’s Jefferson Medical College also use SimMan in their medical education.

“Simulators are the future of training, for residents, for students, nurses, and for re-accrediting physicians,” says Gail Morrison, M.D. ’71, G.M.E. ’77, vice dean for education for Penn’s School of Medicine and professor of medicine. The PENN Medicine development office is researching ways to fund the new simulation center and bring that future closer. ■

*Linda Bird Randolph last wrote for “Penn Medicine” on Anna Meadows, M.D.*



# A Nexus for Neurological Sciences

By John Shea

The first four directors: (left to right) Drs. Sprague, Flexner, Stellar, and Barchi, 1993

**B**y official proclamation of President George H. W. Bush, the 1990s was the Decade of the Brain. This spring, however, the Mahoney Institute of Neurological Sciences celebrated *five* decades as an interdisciplinary site for Penn experts – in anatomy, biology, neurology, neurosurgery, physiology, psychiatry, and psychology – who have a common interest in the science of the brain.

Robert L. Barchi, M.D. '72, G.M.E. '73, Ph.D., who recently stepped down as provost of the University of Pennsylvania, was associated with the I.N.S. for more than 30 years. According to Barchi, the Institute was supported by the first interdisciplinary training grant from the N.I.H. In the late 1970s and early 1980s, “neuroscience took off,” in Barchi’s words, and Penn had to decide how to respond. Instead of establishing a department at that point, the School of Medicine decided

to “use the cachet of the Institute,” take the old Institute as a shell, and build from that. Barchi was appointed its fourth director, with a mission to strengthen the I.N.S. and build a community. It was then that the Institute created a Ph.D. program (now the prerogative of the Department of Neuroscience, established in 1992); developed a popular interdisciplinary retreat; and began to work with the departments for joint recruitments.

The strategy has paid off handsomely in many ways: today, the I.N.S. has about 190 faculty members from 18 University departments throughout six schools: Arts and Sciences, Dental Medicine, Engineering and Applied Sciences, Medicine, Nursing, and Veterinary Medicine.

Founded as the Institute of Neurological Sciences in 1953 by Louis Flexner, M.D., from the Department of Anatomy, the Institute was renamed in 1985 to reflect the keen interest and support of David Ma-

honey, who had been a corporate leader, philanthropist, and trustee of the University. Today, scientists at the I.N.S. focus on such areas as cellular and molecular aspects of the brain; development, regeneration, and plasticity; systems neuroscience; behavior and cognition; the pathology of brain disease; and computational neuroscience. Eliot Stellar, Ph.D., succeeded Flexner, serving as director 1965-1973. Then came James M. Sprague, Ph.D. (1973-1981), and Barchi (1983-1995), former chair of both Neurology and Neuroscience. Marc A. Dichter, M.D., Ph.D., who continues as director of the Penn Epilepsy Center, led the I.N.S. from 1995 to 2002. Irwin B. Levitan, Ph.D., also chair of the Department of Neuroscience, became the I.N.S. director in late 2002.

The Institute, said Levitan, has long been known as “the face of neurological science at Penn.” In his view, the I.N.S. was unusual for being interdisciplinary

and interdepartmental – and for bringing in University experts from beyond the School of Medicine. “That still makes us virtually unique among our peers,” he said, “because we see each other, we talk to each other.” Unlike its peer institutions, he emphasized, Penn has the advantage of various components on a single campus.

**T**he Institute celebrated its 50 years this spring with a gala dinner and a symposium. The symposium featured prominent scientists from across the nation, each introduced by an I.N.S. member. The keynote address was delivered by Stanley B. Prusiner, M.D. '68, from the University of California at San Francisco, who received the Nobel Prize for discovering prions, which can cause mad cow disease and related brain disorders. His talk was very timely: “Prion Diseases: The Challenges Posed by Two Mad Cows in North America.”

The Institute's 50 years have also been commemorated in a calendar that features historical nuggets and snapshots of some of the research conducted there. Among the recent research spotlighted is that of Nancy Bonini, Ph.D., associate professor of biology in the School of Arts and Sciences and Assistant Investigator of the Howard Hughes Medical Institute. Bonini has created models of human neurodegenerative diseases by introducing human disease genes into the fruit fly, *Drosophila melanogaster*.

For example, flies expressing the gene for Huntington's disease show neural degeneration and express a behavioral and motor phenotype similar to that seen in humans with the disease. Using these models, scientists are able to study the mechanisms that lead to degeneration and seek new approaches to prevent or treat the disease.

Also featured in the calendar is the collaborative work of Brian M. Salzberg, Ph.D., professor of neuroscience and physiology; Ana Lia Obaid, Ph.D., research associate professor of neuroscience; and

Jon M. Lindstrom, Ph.D., Trustee Professor of Neuroscience. Salzberg developed the optical recording method that he uses with Obaid and Lindstrom to visualize, at a cellular level, the behavior of neurons in the enteric nervous system. Embedded in the gut wall, the enteric nervous system controls all of the main gastrointestinal functions. Research into what has been called a “second brain” may lead to better treatments for disorders such as inflammatory bowel disease and irritable bowel syndrome.

**W**hen asked of what he is most proud from his tenure as I.N.S. director, Barchi said: “Building a community across this university that sees the institute as their home” for the neurosciences. He also noted “the creation of a very strong program in neuroscience” while praising “the tremendous quality” of both the faculty and the students.

Some years ago, the late Eliot Stellar described the Institute in similar terms: “Here there was a marvelous philosophy – a very high standard of excellence, a nurturing and supportive environment, and an interdisciplinary approach. We kept it simple. There was no pretense. The fundamental value was to do excellent research, not to be popular or notorious.”

For his part, however, Levitan seems eager for the Institute to become more “popular,” while maintaining the same high level of science.

“At Penn,” he said, “we have an unusual opportunity — because of the size of the Health System, the availability of large patient populations, and the sympathy of many of the clinical chairs to basic science – to really merge the findings from the basic scientists into clinical practice.” What it amounts to, he asserted, is translational medicine.

Levitan wants to take specific steps to improve the process by bringing together

basic science investigators from across the University with appropriate clinical researchers – particularly if they might not talk otherwise. “One of the things I would like to do is set up an internal grants program that is explicitly targeted at key individuals from, ideally, different schools, but certainly different departments, to allow them to do a pilot program that might lead a bigger funding from the outside.” To do so, Levitan seeks to raise an endowment that would allow the I.N.S. to make grants in the range of \$50,000 to \$100,000.

Levitan's second goal is establish a series of outreach events to inform the public and the media about the brain. A recent example was Kids Judge, a national program funded by the N.I.H. in which scientists set up projects and school children judge the projects. “It was spectacularly successful. We had hundreds of kids from the local West Philadelphia schools come in . . . and we had graduate students, faculty from Penn, preparing projects, trying to explain in terms kids could understand.” Another Kids Judge is slated for next spring.

The Institute has also started a program named in honor of Eliot Stellar. According to Levitan, the goal is to raise \$250,000 and to use the income to fund an annual talk by a prominent scientist to the lay public.

Levitan's ideal can be summed up this way: “When the outside world thinks brain, they think Penn; and when they think Penn Brain, they think Mahoney Institute.” As Levitan put it, “That can be a very valuable thing because our community is so large and so diverse that it can be confusing to the outside world – even to rather sophisticated pharmaceutical company executives” looking to make connections with Penn scientists.

In the meantime, with an illustrious history and a future that looks just as promising, the I.N.S. is moving full speed ahead into its second 50 years. ♥



# It's '54 to the Fore



Mike Quon/Images.com

**I**n the 1954 *Scope*, the editors included a meditative foreword in which they assert that “It is impossible to describe, to one who has not lived them, the four years of medical school. It is safe to say that no false illusion is strong enough to survive them. What brought us here at first does not matter, our motives now must be genuine. Otherwise we would not have stayed. We learned much about medicine here, and something about each other. Perhaps we learned a little about ourselves.” Here, based on surveys returned by 78 members of the Class of 1954, is an opportunity to learn a little more about this group of alumni, 50 years later.



**1. William Ackerly**, Cambridge, Mass., continues to work full time as a psychiatrist. He is a member of the Boston Psychoanalytic Society and Institute. He and his wife of 51 years, Frances Ackerly, have four children and four grandchildren.



**2. Joseph S. Bennett IV**, is a founding partner of a seven-person internal medicine group in Paoli, Pa., and is a former president of Paoli Memorial Hospital's medical staff. He and his wife of 47 years, Letty, have five children and 14 grandchildren.



**3. William F. Besser**, Princeton, N.J., is a gynecologist. He reports that some of his most rewarding work was done with his physician sons in Micronesia, Bangladesh, India, South Africa, and on the Sioux and Navajo Reservations. Married 52 years, he and his wife, Ruth, have four children and eight grandchildren.



**4. John E. Bevilacqua**, Drexel Hill, Pa., specializes in neurology/ clinical neurophysiology and sleep disorders. He is currently teaching part time at Robert Wood Johnson Medical School and the University of Pennsylvania, where he is an emeritus professor of clinical neurology. In 1966, he received the University's highest teaching honor, the Christian R. and Mary F. Lindback Foundation Award. Bevilacqua recently received the Shaffrey Award from St. Joseph's University, presented to medical alumni. He and his wife of 50 years, Lois, have five children and 10 grandchildren.



**5. J. Elliott Blaydes**, Bluefield, West Va., and Naples, Fla., is retired from the field of ophthalmology. A recipient of awards from the American Academy of Ophthalmology, he has served as an associate examiner for the American Board of Ophthalmology and as president of the West Virginia Academy of Ophthalmology. He is a former elder/deacon of the Westminster Presbyterian Church. With his wife of 28 years, Anita Blaydes, he has five children, one of whom is deceased, and five grandchildren.



**6. Leonard R. Bogaev**, Mathews, Va., a retired urologist, was an associate clinical professor of



'54



urology at the University of Arkansas and chief of staff at St. Bernard's Regional Medical Center. He and his wife of 46 years, Rosa Lee, have four children and nine grandchildren.

**7. Robert E. Botti**, Gates Mills, Ohio, a retired cardiologist, was a professor of medicine at the Case Western Reserve and served as chief of cardiology at the University Hospital of Cleveland from 1976-1988. He and his wife, Betty, have been married since 1993. He is the father of seven children and grandfather of 16.

**8. Warren D. Bowman**, Billings, Mont., continues to work part time in the fields of internal medicine and hematology. A former clinical associate professor of medicine at the University of Washington Medical School in Seattle, he is a member of the American Alpine Club and of the International Society for Ski Safety. Bowman is also a founding member and former president of the Wilderness Medical Society. He has served as a member of the executive committee of the Governor's Council on Physical Fitness and Sports as well as chairman of the board of directors of the Midland Empire Chapter of the American Red Cross. Father of four children and grandfather of four, Bowman has been married to Dorothy for eight years.

**9. Andrew Boyd**, Bayside, Wis., is an obstetrician-gynecologist. From 1965 to 1992, he was an associate clinical professor at the Medical College of Wisconsin, and he was a member of the American Association of Gynecologic Laparoscopists. A founding partner of the Milwaukee Medical Clinic, he served on its board for 10 years. Boyd was also on the board of Blue Cross & Blue Shield of Wisconsin. He and his wife, Anita, are the parents of three and have six grandchildren.

**10. Andrew M. Bozena**, Scottsdale, Ariz., retired from obstetrics and gynecology in 1990. He was the finance chairman for District V of the American College of Obstetrics and Gynecology from 1972 to 1990. He retired from the U.S. Air Force in 1969. With his wife of 61 years, Anne, he has one daughter and three grandchildren.

**11. Alfred P. Bukeavich**, Morristown, Tenn., is a retired obstetrician-gynecologist. A former hospital chief of staff, he volunteers his obstetrical services to the Public Health Department. He and his wife of 54 years, Audri, have two children and two grandchildren.

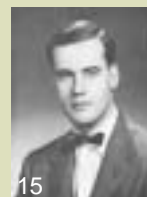
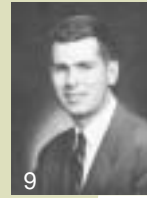
**12. John C. Carson**, La Jolla, Calif., a cardiologist, was a clinical professor of medicine at the University of California at San Diego. He is a former president of the American Osler Society. With his wife of 50 years, Elizabeth, Carson has five children and 19 grandchildren.

**13. Donald W. Cooper**, Mystic, Conn., a retired neurosurgeon, is the former chief of neurosurgery at Lawrence Memorial Hospital in New London. A former president of the Connecticut State Neurosurgical Society, he was an assistant clinical professor of neurosurgery at Yale Medical School. He and his wife of 23 years, Paula, have three children and two grandchildren.

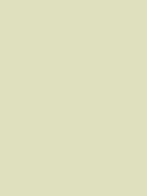
**14. Marilyn Rohrer Curran**, Wynnewood, Pa., continues to work full time in the field of adult and child psychiatry. She has been on the faculty at Penn for the last 26 years. She and her husband, Charles, have been married for almost 50 years and have three children and three grandchildren. She notes that one of her sons, Charles Jr., also received his medical degree from Penn, in 1986.

**15. William Alden Damon**, Gardner, Mass., has retired from family practice, having delivered more than 2,000 babies. A former president of Massachusetts Academy of Family Physicians, he has served as co-director of the Harvard Medical School Pre-Med Course since 1995. He also has been an assistant professor of family medicine and community health at the University of Massachusetts Medical School in Worcester since 1979. He and his late wife, Ann Harrer Damon, had six children and he is now the grandfather of ten.

**16. Edward Dickstein**, Los Angeles, has retired from internal medicine. He and his wife of 47 years, Diana, have two children and three grandchildren.







**17. Alfred Doyle**, Sewickley, Pa., continues to practice in the field of oncology/hematology at Sewickley Valley Hospital, where he has worked for 40 years. He reports that he is currently involved in the Federation for American Immigration Reform. He and his wife of 50 years, are the parents of four children and are now enjoying their 14 grandchildren.

**18. Gerald M. Edelman**, director of the Neurosciences Institute and chairman of the Department of Neurobiology at the Scripps Research Institute in La Jolla, Calif., received the Nobel Prize in Medicine in 1972 for discoveries concerning the chemical structure of antibodies. His other honors include the Eli Lilly Award in Biological Chemistry from the American Chemical Society. He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and the American Philosophical Society, American Association for the Advancement of Science. He received his Ph.D. degree from the Rockefeller University, where he worked before moving to the Scripps Research Institute. His work and his new book, *Wider Than the Sky: The Phenomenal Gift of Consciousness*, were featured in *The New York Times* (March 27, 2004).

**19. Charles H. Ewing**, Lansdale, Pa., has retired from the field of geriatric medicine. He notes that he was responsible for establishing the Delaware Valley Geriatric Society and has recently been exploring the establishment of a facility for life care at home. He and his wife of 46 years, Mariane, have two children and three grandchildren.

**20. Royal Farrow**, Dalton, Ga., a pediatrician, is former president of the Hamilton Medical Center Staff and of the Whitfield-Murray County Medical Society. Named the Dalton, Georgia, Man of the Year in 1981, he serves as an elder at the First Presbyterian Church. He and Anne F. Farrow, his wife of 50 years, have three children and five grandchildren.

**21. Albert H. Fink**, Hanover, Pa., is retired from the field of radiology. He practiced at community and teaching hospitals in Pennsylvania

and has served at a number of mission hospitals in India, Pakistan, Israel, and Haiti. He and his wife of 51 years, Edith, are the parents of four children and have eight grandchildren.

**22. William Fraimow**, Merion Station, Pa., retired from internal medicine earlier this year. A former associate professor of medicine at Thomas Jefferson University, he is a Fellow of the American College of Physicians. He and his wife, Gloria Fraimow, have been married for 50 years and are the parents of four children and have six grandchildren.

**23. Walter Frey**, Fairlee, Vt., still practices internal and geriatric medicine but admits that he is nearing retirement. An emeritus professor of medicine at Dartmouth Medical School, he serves as chairman of the board for the Vermont and New Hampshire Hospice Program. Married to Anne for 54 years, he is the father of four children and eight grandchildren.

**24. Nelson A. Gelfman**, Ridgefield, Conn., is close to retiring from the field of pathology/nephrology. He has been a clinical assistant professor of pathology at Yale and medical director of Quinnipiac University's pathology assistants program. From 1974 to 1976, he served as president of the Danbury Hospital medical staff. He and his wife of 46 years, Mary Hughes Boyce Gelfman, have three children and three grandchildren.

**25. William C. Gilkey**, Adrian, Mich., is a retired obstetrician-gynecologist. He and his wife of 52 years, Ruth, have four children and nine grandchildren.

**26. Ruth P. Gottlieb**, Wynnewood, Pa., continues to work one day a week as a pediatrician. She is a former clinical professor of pediatrics at Jefferson Medical College. Married to Marvin Gottlieb since 1949, she is the mother of three and has eight grandchildren.

**27. Stanley Gottlieb**, Blue Bell, Pa., retired from clinical pharmacology and has his own consulting company. He reports that he is the only three-time winner of the Johnson Medal for Research and was honored by the Federal

Government for his aerospace activity work. He is married to Connie, is the father of six children, and has 14 grandchildren.

**28. William T. Goulburn**, Haddonfield, N.J., still works about ten hours a week in orthopaedics. President of the South Jersey Orthopedic Association for 30 years, he is a deacon and elder at Collingswood Presbyterian Church. He and his wife, Marie, have been married for 46 years and have four children and three grandchildren.

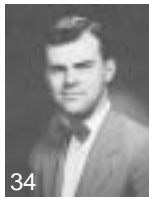
**29. Gifford Grimm**, Tinton Falls, N.J., continues to practice as an obstetrician and gynecologist. He and his wife of 54 years, Joan, have four children and six grandchildren.

**30. Joseph Handler**, Chevy Chase, Md., a nephrologist, became an emeritus professor of medicine at Johns Hopkins University last year and now works at the National Heart, Lung, and Blood Institute.

**31. Donald E. Harrop**, Beach Haven, N. J., is semi-retired from administrative medicine. He had a general practice from 1957 to 1989 and was the Chester County Coroner from 1966-1990. He is a former president of the Pennsylvania Medical Society. He and his wife, Joan M. Harrop, have been married for 49 years and are the parents of five children and have seven grandchildren.

**32. John Helwig Jr.**, Glenside, Pa., who retired from cardiovascular medicine, holds appointments as an emeritus professor at Penn and Temple and was chief of cardiovascular medicine at Germantown Hospital. A former president of the Philadelphia County Medical Society, he was also a governor of the American College of Cardiology. He received the Alumni Service Award from Penn's School of Medicine in 1996. He and his wife of 42 years, Beth, have four children and seven grandchildren.

**33. Guy T. Holcombe**, Oxford, Pa., retired from his general practice in 1990. He was the coroner of Chester County from 1966 to 1970. With his wife of 50 years, Helen Holcombe, he has four children and six grandchildren.



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**34. Dwight J. Hotchkiss Jr.**, Salem, S.C., is retired from hematology/oncology and internal medicine. The positions he has held include director of internal medicine at Hunterdon Medical Center in Flemington, N.J., and clinical professor of medicine at Robert Wood Johnson Medical School. Currently he is president of the Hospice of the Foothills Foundation in Seneca, S.C. He and his wife of 44 years, Mary Ann, have two children and four grandchildren.



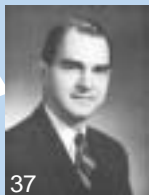
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**35. Jerel I. Katz**, Baltimore, is a retired surgeon. He and his wife, Deanne, have been married since 1956 and have three children and five grandchildren.



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**36. Robert D. Kirk Jr.**, Belden, Miss., retired as chief of surgery at Northern Mississippi Medical Center, the largest hospital in Mississippi. He married Rita in 1974 and is the father of four and has eight grandchildren.



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**37. David W. Kraemer**, Pittsburgh, a retired obstetrician/gynecologist, reports that he practiced in a three-man group for 39 years. He had three children, one of whom is deceased, and he is the grandfather of four.



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**38. A. Ralph Kristeller**, East Hanover, N.J., continues to work part time in internal medicine. Director of medical affairs at Riverview Medical Center in Red Bank, N.J., from 1993 to 1999, he is currently a surveyor of the Joint Commission on Accreditation of Healthcare Organizations. Among his many honors are the Laureate Award from the New Jersey Chapter of the American College of Physicians and the Award of Merit from the University of Pennsylvania in 1983, the highest honor bestowed by its Alumni Society. He is a fellow of the American College of Physicians, the American Society of Internal Medicine, and the American College of Physician Executives. He married Lena in 1986 and is father to three and has four grandchildren.



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**39. George H. Kurz**, Flemington, N.J., and Naples, Fla., a retired ophthalmologist, has been an associate professor of ophthalmology at N.Y.U. Medical Center; a clinical professor of ophthalmology at



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Robert Wood Johnson Medical School; and director of ophthalmology at Hunterdon Medical Center. He is the author of *Through the Port of Philadelphia: Memoirs of Charles Kurz*, a sketch of his father. A volunteer for Habitat For Humanity and Literacy Volunteers of America, he has traveled to Africa, Ecuador, and China to help develop ophthalmology. He and his wife, Elisabeth F. Kurz, have been married since 1982. He is the father of five and has seven grandchildren.

and knowledge of lung diseases. Matzen expects the second edition of *Clinical Preventive Medicine* (1993), which he edited with R. S. Lang, to appear this year. He married Patricia in 1986. He has five children, five grandchildren, and one great grandchild.

**44. Daniel J. McCarty**, Hartland, Wis., former chairman of medicine at the Medical College of Wisconsin, has retired from his practice in internal medicine and rheumatology. Since 1990, he has been on the consulting staff at Saint Francis Hospital in Milwaukee. Widely traveled as a visiting professor and guest lecturer, he has been the editor of several books, including editions of *Arthritis and Allied Conditions* and the *Current Practice of Medicine* series. A former Markle Scholar in Academic Medicine, he received the Gold Medal of the American College of Rheumatology and the Distinguished Achievement Award from the Milwaukee Academy of Medicine and is a Master of the American College of Physicians. He received an honorary degree from the Catholic University of Chile and the Alumni Medallion Award from Villanova University College of Arts & Sciences. McCarty and his wife, Constance, have been married for 50 years. They have five children and nine grandchildren.



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**40. Theodore R. Lamot III**, Ventura, Calif., retired from orthopaedic surgery in 2001 and is now working with Pharmanex in promoting good health in 35 countries. He has held many faculty positions, including chairman of orthopaedics at St. Christopher's Hospital and associate surgeon at Shriners Hospital in Philadelphia. He has also worked as a consultant for the National Polio Foundation. He and his wife, Susanne, married in 1993. Lamot is the father of seven children and has six grandchildren.

**41. Wayne B. Lockwood**, Oklahoma City, continues to work part time in orthopaedics. He has been a clinical professor of orthopaedics and chief of orthopaedic clinical faculty at Oklahoma University School of Medicine. He and his wife, Nancy, have been married for 51 years and have three children and two grandchildren.

**42. John S. Marshall**, Beaver, Pa., a retired internist, is a former chairman of internal medicine at the Medical Center in Beaver and a former president of the Beaver County Heart Association. Married to Suzanne for four years, he has three children and six grandchildren.

**45. William N. Mebane III**, Wyndmoor, Pa., who has retired from pediatrics and family medicine, has been a member of the faculty at Temple, Medical College of Pennsylvania, Jefferson, and Penn. He has participated in church and medicine missionary work in Swaziland and Haiti. He and his wife of 49 years, Marianne, are parents to three children and have seven grandchildren.



42

**43. Richard N. Matzen Sr.**, Pepper Pike, Ohio, has retired from the fields of pulmonary medicine, preventive medicine, and aviation medicine. In his free time he enjoys photography, philately, writing, and reading. A former chairman of the Department of Medicine at Caylor Nickel Clinic, he was the founding chairman of the Department of Preventive Medicine at the Cleveland Clinic. He received the Murray A. Auerbach Medal from the American Lung Association for advancing the care

**46. J. Peter G. Muhlenberg**, Wyomissing, Pa., a retired pediatrician, was chief of pediatrics at the Reading Hospital and Medical Center from 1978 to 1995. Vice president of the Pennsylvania Society Chapter of the Cincinnati Society, he received an honorary medal from the Trappe Historical Society in 2002. He and Dorothy, married for 48 years, are the parents of three and have four grandchildren.



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**47. Maria Iandolo New**, New York, N.Y., recently joined Mount Sinai School of Medicine as professor of pediatrics. From 1980 to 2003, she was chair of the Department of Pediatrics at Weill Cornell Medical College, serving as the Harold and Percy Uris Professor of Pediatric Endocrinology and Metabolism until earlier this year. Among her many achievements, she conducted pioneering research in the area of Congenital Adrenal Hyperplasia and discovered a new form of hypertension, Apparent Mineralocorticoid Excess. Founding director of the Children's Clinical Research Center at Cornell, she edited or co-edited 12 medical textbooks and is the author or co-author of more than 500 research papers. Dr. New is former president of the Endocrine Society and is a member of the National Academy of Sciences and a senior member of the Institute of Medicine. Recently inducted into the Hall of Honor of the National Institute of Child Health and Human Development, she has received both the Rhone-Poulenc Rorer Clinical Investigator Award and the Fred Conrad Koch Award from the American Endocrine Society as well as the Dale medal from the British Endocrine Society. She has also received the Distinguished Graduate Award from the University of Pennsylvania School of Medicine. With her late husband, Bertrand, she has three children and seven grandchildren.

**48. Hugh O'Neill**, Philadelphia and Jamestown, R.I., who retired from psychiatry, was a staff physician at Lankenau Hospital. His partner is Fay Shah. Dr. O'Neill is the father of two and grandfather of one.

**49. James R. Patton Sr.**, Waco, Texas, a retired ophthalmologist, was chief of staff at Baptist Medical Center in Waco; consultant in ophthalmology for the U.S. Veterans Administration; and instructor in ophthalmology at Baylor College of Medicine. He is president of the Lighthouse for the Blind and volunteers for Meals on Wheels. With his wife of almost 49 years, Ada, he has two children and two grandchildren.

**50. John R. Pellett**, Verona, Wis., and Sanibel, Fla., retired after 49 years in residency for the surgery

staff at University Hospital in Madison. His specialty was thoracic surgery. In addition to performing the first single and first double lung transplants in the state of Wisconsin, he was responsible for the first heart-lung transplant in that state as well as the first surgery in Wisconsin to separate conjoined twins. He and his wife of 55 years, Joan B. Pellett, are the parents of five and have five grandchildren.

**51. McHenry Peters**, Greenville, Del., and Port Charlotte, Fla., retired from radiology. He and his wife of 48 years, Bonnie, have three children and three grandchildren.

**52. Frederick W. Pitts**, El Segundo, Calif., is a clinical professor of neurological surgery at the University of Southern California School of Medicine, where he has been a member of the teaching staff since 1973. A charter member of the International Association of Pediatric Neurosurgery, he is a former chairman of the board of the Federation of Western Societies of Neurological Science. He has been married to Dolores for 47 years. They have four children and four grandchildren.

**53. F. Douglas Raymond Jr.**, Newtown Square, Pa., who practiced as a rheumatologist for about 40 years, retired as an associate professor of medicine at Thomas Jefferson University School of Medicine. He is a board member for an inner-city school. He and his wife of 51 years, Carolyn, are the parents of four children and have six grandchildren.

**54. Foster K. Redding**, St. Clair Shores, Mich., has retired from neurology. Chief of neurology at the Henry Ford Hospital 1972-1973, he was a professor of neurology at Wayne State University from 1973 to 1982. He earned his Ph.D. degree in neurophysiology from McGill University. He and his wife, Carol Hanson Redding, have been married since 1960 and have four children and 11 grandchildren.

**55. John T. Reeves**, Denver, reports that he is both retired and working in the field of family and pediatric medicine. A professor at the University of Colorado,

# '54





he took part in a medical mission to help strengthen family medicine in the Ukraine. Married since 1956, he and his wife, Carol, have three children and four grandchildren.

**56. Donald V. Rhoads**, Philadelphia, retired from internal medicine as an assistant professor of medicine at the University of Pennsylvania School of Medicine. He is a board member of the Wistar Institute and of Friends Hospital. He and his wife, Nancy, married in 1955, have six children and seven grandchildren.

**57. John L. Robertson**, Warren, Pa., has partially retired from internal medicine. With his wife of 53 years, Rachel, he has five children and 11 grandchildren.

**58. Leonard S. Ross**, Cummaquid, Mass., and Longboat Key, Fla., retired from radiology, most recently as senior staff radiologist at Quincy Hospital. He has been conducting scientific research at Mote Marine Laboratories, where he initiated a bone-age study of the Bottlenosed Dolphin. He serves as a field guide at the Cape Cod Museum of Natural History. He married Janet in 1994 and has six children and six grandchildren.

**59. Sherwood L. Samet**, East Stroudsburg, Pa., remains active as a gynecologist. At Pocono Medical Center, he was the head of the obstetrics-gynecology department for about 20 years and chief of staff for three years. He had also served as a member of the hospital's board and as vice president of medical affairs. A clinician and board member of the Northeast Pennsylvania Chapter of Planned Parenthood, he serves as medical director of the Allentown Women's Center. He is also first vice president of the Monroe County Arts Council. Married to Mary for 29 years, he has five children and three grandchildren.

**60. Gerald K. Schoenfeld**, Baltimore, retired from the University of Oklahoma at Tulsa as an associate professor of anesthesia. He and his wife of 37 years, Phyllis, have four children and eight grandchildren.

**61. John R. Senior**, Merion Station, Pa., and Rockville, Md., works

full time as associate director of science in the Office of Pharmacoepidemiology and Statistical Sciences of the Food and Drug Administration. A former president of the American Association for the Study of Liver Diseases, he has also served as treasurer of the American Digestive Disease Society and as secretary of the American Liver Foundation. He has also been named to *Who's Who in America*. He was a senior attending physician at Philadelphia General Hospital as well as director of the Clinical Research Center at Graduate Hospital (University of Pennsylvania) before working in corporate pharmaceutical research and development. Senior has served as an adjunct professor of medicine at the School of Medicine for many years. He retired from the Navy as a Rear Admiral, Medical Corps, and U.S. Naval Reserve. He and his wife of 52 years, Sara Spedden Senior, have three children and seven grandchildren.

**62. Dennis A. Sharkey Jr.**, St. Mary's, Pa., is a retired pathologist. He and his wife of 49 years, Mary Rose, have three children and are the grandparents to five.

**63. Richard H. Sharrett**, Scotch Plains, N.J., continues to practice internal medicine. He is also very active in his church as an elder. He and his wife of 42 years, Betty, have three children and three grandchildren.

**64. Lee H. Shields**, Dunedin, Fla., has retired from internal medicine and cardiology. Over a 30-year period, he held many hospital and staff appointments at the Polyclinic Medical Center in Harrisburg, Pa., including staff president and director of the pulmonary lab. His volunteer work includes work for the American Heart Association, for which he received a Distinguished Achievement Silver Medallion and a Distinguished Service Medallion. He is also an assistant Sunday School teacher at Heritage United Methodist Church in Clearwater, Fla. He has been married to Ann D. Shields since 1954, and they have three children and seven grandchildren.

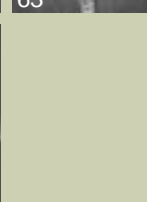
**65. David L. Simes**, Ormond Beach, Fla., is retired from the field of gynecology. He spent 11 years of active duty with the United States

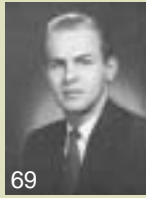
Air Force, earning the rank of major, and had private practices in obstetrics-gynecology from 1966 to 1988 and in gynecology-infertility from 1988 to 1996. Married to Patsy in 1972, he is the father of four and has five grandchildren.

**66. Harold Small**, Basking Ridge, N.J., retired in 1996 from anesthesiology. He had been the attending anesthesiologist at Morristown Memorial Hospital, where he had also served as department chairman. He and his wife of 54 years, Lynne, have three children and six grandchildren.

**67. Kaighn Smith**, Bryn Mawr, Pa., and Northeast Harbor, Maine, is a retired obstetrician-gynecologist. A former professor at Thomas Jefferson Medical School, he received the Mainline Health Helinsman Award and the Amos Weiner Award for Excellence in Teaching. He has been married to Ann Robb Smith for 54 years. They have three children and are the grandparents of four.

**68. Alton I. Sutnick**, Philadelphia, formerly a senior vice president and dean at the Medical College of Pennsylvania, remains involved with international medical education. In 1997, he became the director of International Medical Education for Carelift International, a nonprofit organization devoted to upgrading health systems in developing and transitional countries. Before that, he served as vice president and chief operating officer of the Educational Commission for Foreign Medical Graduates. His international professional activities have extended to 51 countries on five continents, and he has received numerous honors from foreign institutes. In 1976, he received the Arnold and Marie Schwartz Award from the American Medical Association, given to a physician 50 years old or younger who has made the most distinguished contributions to medical science. Sutnick is also a former assistant editor of the *Annals of Internal Medicine* and has served on several editorial boards. He retains his appointment as professor medicine at MCP, now Drexel University. He and his wife, Mona R. Sutnick, have been married since 1958 and have two children and two grandchildren.





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**69. George T. Varga**, Arlington, Texas, is semi-retired as a family practitioner. He has been president of a hospital staff in New Jersey as well as a member of hospital boards in both New Jersey and Texas. He and his wife, Carol, have five children and 11 grandchildren.

**70. Frederick E. Wawrose**, Huntingdon, Pa., remains active in the field of psychiatry. With his wife of almost 50 years, Dorothy S. Wawrose, he has five children and ten grandchildren.

**71. Lindley M. Winston**, Malvern, Pa., and Cape May, N.J., maintains a psychiatry practice. He is a founding member of the American Association of Community Psychiatrists. He has been married to Joyce for 40 years. They are the parents of three and have three grandchildren.

**72. Loren C. Winterscheid**, Mercer Island, Wash., held many positions at the University of Washington School of Medicine, including professor of surgery (1972-1998); assistant dean for clinical affairs; and associate dean. He retired as an emeritus professor of surgery in 1998. He was honored with the R. H. Williams Superior Leadership Award in Medicine from the Seattle Academy of Internal Medicine in 1994. A former vice president of the Washington State Medical Association, he was a trustee of Willamette University for 40 years. He and his wife, Muriel, married in 1948 and are the parents of six and have eight grandchildren and one great grandchild. Loren and Muriel own Skye Ranch Orchards in Granger, Washington, which produces sweet cherries. They leased the company in 2003 but remain the owners.

**73. Henry M. Wise Jr.**, Bethesda, Md., and Annapolis, is a retired urologist. He and Norma have been married since 1961 and have three children and three grandchildren.

**74. Charles C. Wolferth Jr.**, Gladwyne, Pa., a retired surgeon, was a professor and department chair at Hahnemann University and a surgeon-in-chief at the Graduate Hospital of Philadelphia. He was also the Emilie and Roland T. de Hellebranth Clinical Professor of Surgery at the University of Pennsylvania School of Medicine.

A member of the National Safety Council for Trauma Care of the American College of Surgeons, he reports that he received the Millennium Award in January of 2000. He and his wife, Mary, married nearly 50 years, have three children.

**75. Cyrus Wolfman**, Woodmere, N.Y., is semi-retired from psychiatry. A retired clinical professor of psychiatry at the State University of New York Health Science Center at Brooklyn, he also held many positions at Brookdale Hospital in Brooklyn. He is a Distinguished Life Fellow of the American Psychiatry Association and a Diplomate of the American Board of Psychiatry and Neurology. He and his wife of 54 years, Naomi, have three children and four grandchildren.

**76. S. Steven Wolfson**, West Hartford, Conn., a retired internist and cardiologist, was the Commissioner of Victim Services and Violent Crime for the State of Connecticut for 14 years. He is currently a board member of the Justice Education Center, which also is concerned with violent crime and prisons. He and his wife of 49 years, Ruth, have three children and five grandchildren.

**77. William F. Young**, Sumter, S. C., recently retired from his general pediatric group, received the Career Achievement Award of the South Carolina Chapter of the American Academy of Pediatrics. He was also presented with the William Weston Distinguished Service Award from the Department of Pediatrics at the University of South Carolina School of Medicine, where he has been a clinical professor. A recipient of Sumter's Rotarian of the Year Award, he is a former president of the local Y.M.C.A. board; a former vice president of the University of North Carolina Alumni Association; and a current church elder. He and his wife of 47 years, Charlene, have three children and six grandchildren.

**78. S. Milton Zimmerman**, Chester, N.Y., continues as a family physician and reports that he enjoys living in the Bruderhof Christian community where he raised his family. He and his wife, Sandy, have been married since 1954. He is the father of 12 children and has 50 grandchildren.





Upper left: Dean Rubenstein congratulates Selma E. Snyderman, M.D. '40.

Upper right: Award recipient Edward J. Stemmler, M.D. '60. Center; The John Morgan Building was festooned for its centennial.

Bottom right: Walter Gamble, M.D. '57, and Anne Gamble, sponsors of the Twenty-First Century Endowed Scholars Program, pose with medical students.



# S cenes from a Weekend



It's not often that the returning members of the 50 Year Class have to share the spotlight, however briefly, with an even more senior presence in the Penn community. But that's what happened during Medical Alumni Weekend in May.

Photos By Stuart Watson

In addition to the customary reunions, dinners, meetings, seminars on interesting topics, and the parade of classes, there was a special celebration of a 100-year-old entity, the John Morgan Building.

Older alumni probably know the building as the Medical Laboratories Building – its name was changed in 1987 to honor the founder of the University's medical program. When it was erected, however, it was one in a series of buildings that transformed the University campus, part of the vision of Provost Charles Custis Harrison. This year, as part of the observation, many of the weekend's events took place in the John Morgan Building.

Originally one of the leading laboratories for medical education in the country, today it is the site of the dean's office and other administrative offices; the Francis C. Wood Room, former site of the dean's office and a current favorite for many meetings; the Institute for Environmental Medicine; the new David E. Longnecker Anesthesia Research Facility; and several other programs. In the words of Arthur H. Rubenstein, M.B., B.Ch., executive vice president of the University of Pennsylvania for the Health System and dean of the School of Medicine, the John Morgan Building is "the operational and historic heart of our School." Rubenstein cited some of the milestones in medical research that are associated with the building: "It was here that A. N. Richards conducted his seminal 1921 studies of how the kidneys make urine. Cuthbert Bazett made fundamental observations on body temperature regulation. And Peter Nowell conducted research leading to the discovery of the Philadelphia chromosome – a breakthrough that shattered the widespread belief that cancer had no genetic basis."

Part of the centennial celebration was a talk by Dr. George E. Thomas, a lecturer in urban studies at Penn and author of a book on the University's architecture. Thomas noted the ambitious construction program begun under Provost Harrison. All the new buildings, in the collegiate Gothic style, had red brick and limestone trim. The Medical Laboratories Building, however, also borrowed from the region's industrial culture: "A central axis connected classrooms and offices on the building front with lecture halls in the center. Laboratories were placed on the industrial loft-like rear wing where they could be ventilated from both sides and where they could be subdivided according to need rather than be limited by architectural design." It was, he said, "like a modern factory for medical education."

During his annual State of the School remarks, Dean Rubenstein noted that the institution had been faced with two choices: an incremental improvement, by which it could maintain a certain level but never be "truly great"; or an upward trajectory toward excellence. "This would be more difficult to achieve," he said, but it was what the leaders chose. Among the challenges faced is the construction of a new Center for Advanced Medicine on part of the former site of the Philadelphia Civic Center complex. As he showed a slide of an artist's rendering of the new complex, Rubenstein said, "you'll forgive a dean for dreaming." But he asserted that it *would* be built – and without borrowing money.

Next came the presentation of the Distinguished Graduate Awards, which Rubenstein described as "the highest awards the School can bestow on alumni." The first of this year's two recipients was Selma E. Snyderman, M.D. '40, who had

“an enormously distinguished” career of more than 60 years, investigating metabolic processes. Guidelines she developed have become standard practice in treating various inborn genetic metabolic diseases. She is recognized as an authority on a range of topics in pediatric medicine, including premature babies and infant nutrition. Snyderman spent much of her career at New York University; then, at the age of 78, she was recruited to Mount Sinai School of Medicine to help build its clinical and research programs in metabolic disorders. Rubenstein reported that when he browsed through Snyderman’s early papers on metabolism, “I was in awe.”

For her part, Snyderman said, “I have never ceased to be grateful” for the high quality of the faculty at Penn. And she reminisced, evoking a world of long ago: citing Dean William Pepper III and O. H. Perry Pepper, then chair of the Department of Medicine; Eldridge Eliason, then chair of the Department of Surgery, with “his silk scrubs done to measurement”; “the Brothers Comroe,” meaning Julius and Bernard; and I. S. Ravdin. As she put it, “The list can go on and on.”

On the other hand, Snyderman did not gloss over some of the difficulties facing women who studied medicine in that era. Referring to a slide she showed, she pointed out “four lonely women, segregated at the anatomy table – with a female cadaver, no less!” But Snyderman persisted. In the end, she said, “I have never once regretted going into medicine.” Showing a slide of her five young granddaughters, she added that she hoped they would go into medicine as well.

The second recipient of the Distinguished Graduate Award was someone better known around the Penn campus – in part because his name graces the main education building of the School of Medicine: Edward J. Stemmler, M.D. ’60, former dean of the school and former executive vice president for the Medical Center. As Rubenstein

put it, introducing one of his predecessors, 2004 marks the 30th anniversary of the beginning of “the Stemmler Era,” a “crucial period in the history of this institution” whose effects are still felt. Stemmler, he continued, led the School of Medicine “with purpose, vision, and humanism” – and in return inspired great devotion. One of his finest achievements was leading the establishment of the Clinical Practices of the University of Pennsylvania (CPUP). During Stemmler’s tenure, the medical campus added the Silverstein Building, the Founders Pavilion, and the Devon MRI Center. In addition, the former Hilton Hotel at 34th Street became Penn Tower, and the medical education building that would later be rededicated in his honor was opened.

But perhaps Stemmler’s “most indelible mark,” suggested Rubenstein, was on his students. Stemmler was often referred to as “the education dean.”

“I could recite a whole list of reasons why I don’t deserve this award,” Stemmler said. Unlike most of the recipients of the Distinguished Graduate Award, he explained, he was not a distinguished scientist. Instead, he suggested, with a touch of irony, he was a student of “human behavior – particularly *faculty* behavior.” He then characterized himself as “an enabler of others,” endeavoring to allow “great people to do great work.”

Stemmler moved from Penn to the Association of American Medical Colleges and then settled in Nelson County, Va., where he involved himself in local causes. There, he learned that \$2,000 could make a difference for children’s dental care, for example, in helping them keep their appointments. He is, he said, the same person – but now he’s asking potential donors for much smaller amounts.

This year’s Alumni Leadership Dinner was held at the National Constitution Center. According to Dean Rubenstein, the setting was appropriate because “the



The two recipients of the Alumni Service Award: Martin Kanovsky, M.D. '78 (above) and Donald La Van, M.D. '59 (right)

history of the University of Pennsylvania and the School of Medicine occupies such an important place in the history of this country.” Moreover, in the ferment of the late Colonial years, “forward-looking people like John Morgan and William Shippen found a home for their ideas.”

After the dinner, Rubenstein presented the Alumni Service Awards, a public tribute each year to alumni who have supported the School of Medicine in remarkable ways. The first recipient was Donald LaVan, M.D. '59, G.M.E. '63, a cardiologist and clinical associate professor of medi-



cine at the University of Pennsylvania who has served as chair of the Benjamin Franklin Society for more than a decade. The society includes alumni, parents, faculty members, and friends who support the University with unrestricted annual gifts of \$2,500 or more. A former vice president of the American Heart Association, LaVan was also active this year as co-chair of his class's reunion committee.

Martin Kanovsky, M.D. '78, a cardiologist in private practice in Chevy Chase, Md., was the second recipient this year. As Rubenstein noted, Kanovsky also com-

pleted his internship, residency, and fellowship in cardiology at Penn. Last year, he was an active member of his class's 25th reunion committee, and he and his wife, Ellen, established the Rose and Hershell Kanovsky Prize in Internal Medicine. Named in honor of his parents, the prize will be awarded to outstanding medical students in that specialty.

The 238th Commencement of the School of Medicine took place on Sunday, May 16, in Verizon Hall of the Kimmel Center. One-hundred and fifty-five students received their medical degrees, 24 of whom received a combined degree. Gail Morrison, M.D. '71, G.M.E. '77, presiding as vice dean for education, congratulated the graduating class for "successful completion of the first step" toward becoming a doctor. Giving the invocation, the Rev. Ralph Ciampa, director of HUP's pastoral care, touched lightly on the conflicting sensations of the day: "O God, we are proud . . . and exhausted!" He also alluded to the more serious problems, asking help for a world "so in need of healing of body and soul."

After welcoming the students and their families and friends, Dean Rubenstein also saluted this year's 50 Year Class. He noted that 52 members of the Class of 1954 had attended the reunion dinner the evening before. Then, after reminding the soon-to-be doctors that becoming a physician is a *privilege*, Rubenstein introduced the Graduation speaker, Henry W. Foster Jr., M.D.

The only African American in his medical school class at the University of Arkansas, Foster went on to become dean of the School of Medicine of Meharry College and a clinical professor of obstetrics and gynecology at Vanderbilt University. He is also a trustee of PENN Medicine. One of Foster's best-known achievements is establishing the "I Have a Future Program" to reduce teen pregnancy, which was honored by President

George Bush in 1991 as one of the "Thousand Points of Light." Foster spoke about some of the paradoxes in health care – for example, that despite the wealth of the United States, American women have a higher rate of breast cancer than women in Finland and Greece; that an African American has a worse chance of surviving in the United States than a person in Tobago or Cuba. Yet the nation, he asserted, spends 14.5 percent of its domestic product on health care: "America has a problem."

"I'm not *all* negative," Foster joked a few minutes later, citing some initiatives to improve health care, like Social Security and Medicare. The new doctors, he said, could also bring about needed changes. And he urged the graduating students to support the School of Medicine and keep it financially strong so it can continue to provide "a medical education that is unsurpassed."

The representative of the 50 Year Class, John R. Senior, M.D. '54, is a former director of the Clinical Research Center at the Graduate Hospital, then affiliated with the School of Medicine. He currently serves as associate director for science in the Office of Pharmacoepidemiology and Statistical Sciences at the Food and Drug Administration. He began his talk by citing Osler's famous address on "Aequanimitas," or imperturbability, then traced some of the major developments – not all of them welcome – in health care since his class graduated. His concluding advice to the Class of 2004: learn from your patients; "try to win back their confidence"; seek to regain control of medicine from non-medical people; and try to keep costs down. In today's environment, he said, *aequanimitas* is "too passive." What is needed is something more active – such as *responsibility*.

Then it was time for the conferral of degrees. As Morrison told the audience, "Get your cameras ready!" ■

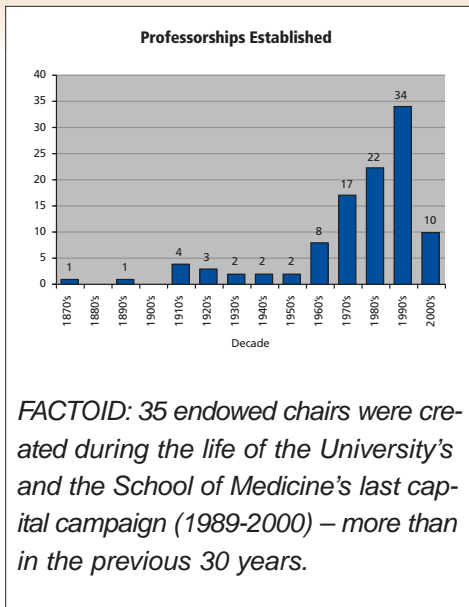




**In this and future issues of Penn Medicine, this special section will be devoted to highlighting the generosity of our donors – alumni, friends, and faculty of PENN Medicine. In the fiscal year**

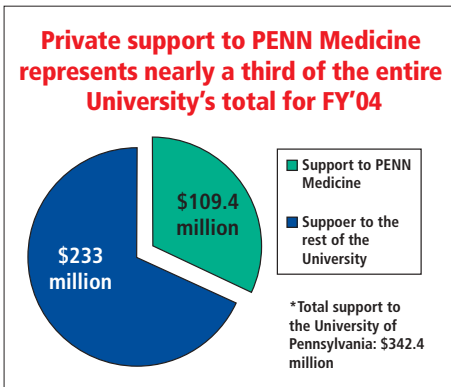
**that ended** on June 30, private giving to the School of Medicine and the Health System totaled a record \$109.4 million from 13,164 donors (also an all-time high) and included 14 gifts at the \$1 million level or above.

Of course, the full story behind these numbers goes beyond facts and figures alone, and in this four-page section we will be telling stories of commitment and partnership, bringing a new focus on our donors, the impact of their gifts, and the continuing work of PENN Medicine Development and Alumni Relations in drawing new levels of support to missions in education, research, and patient care.



first fully endowed surgical chair in America. John Rhea Barton (1794-1871) graduated from the School of Medicine in 1818 and soon after joined the surgical staff at Pennsylvania Hospital, where he remained for the rest of his career. He developed what is still known as the Barton head bandage (a strip of muslin two inches wide tied in a figure-eight design around the head and under the jaw), pioneered the treatment of the fracture of the distal end of the radius, and devised an innovative corrective bone surgery for fused joints.

The first holder of the chair was D. Hayes Agnew (1818-1892), the premier surgeon of his day, who is immortalized in Thomas Eakins's painting *The Agnew Clinic*. Today, the chair is held by Larry Kaiser, M.D., chair of the Department of Surgery. Since the days of Agnew, chairs at Penn have memorialized grateful patients, mentors, parents, and leaders in medicine and civic arenas.



In this inaugural section, we focus on endowed professorships. Great medicine begins with great education, and endowed professorships represent the single best way to recruit and retain the most outstanding scientists and physicians on our faculty.

With intense competition from peer institutions and industry for top scientific talent, the chairs are essential resources for attracting and retaining senior world-class faculty and for encouraging their

most promising younger colleagues. In addition to being a mark of great distinction for the faculty member, the professorships have the virtue of permanence, producing from the invested principal a reliable source of income for salary support and research expenses and thus protecting against times of budgetary and economic uncertainty. Just as important, endowed chairs also provide a lasting tribute to the donor and serve as a public endorsement of the School of Medicine.

**ENDOWED PROFESSORSHIPS:**

**The First Penn Chair**

130 years of special commitment to the professoriate.

**C**reated in 1877 with a \$50,000 gift from Sarah Rittenhouse Barton, the John Rhea Barton Surgical Professorship was the University's first endowed chair as well as the



**The John Rhea Barton Professors of Surgery:**

- D. Hayes Agnew (1877-1889)
- John Ashurst (1889-1900)
- J. William White (1900-1910)
- Edward B. Martin (1910-1918)
- John B. Deaver (1918-1922)
- Charles Harrison Frazier (1922-1936)
- Eldridge L. Eliason (1936-1945)
- I. S. Ravdin (1945-1959)
- Jonathan E. Rhoads (1959-1972)
- William T. Fitts (1972-1975)
- Leonard D. Miller (1975-1983)
- Clyde E. Barker (1983-2001)
- Larry Kaiser (2001- )



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The Parker Family Professorship**

**The Family-Focused Philanthropist**

The best friends of the home hobbyist, Jack and Pat Parker have become champions of another kind of art and craft

**A**s CEO of A.C. Moore Arts and Crafts, Jack Parker says he seeks to “provide customers with various means to express their creativity.” After 19 years and with business booming, Parker is now translating his success in meeting customers’ needs to benefit those committed to the medical arts.

In 2002, he and Pat Parker, his wife of 42 years, established the Parker Family Professorship in Neurology at PENN Medicine with a \$2 million gift. Matthew Stern, M.D., a nationally recognized expert on Parkinson’s disease treatment and research who serves as director of Penn’s Parkinson’s Disease and Movement Disorders Center, is the inaugural chair. (See profile on this page.)

Last spring, the Parkers made an additional gift of \$2 million to support the Department of Psychiatry’s Attention Deficit and Hyperactivity Disorders Program. Family history influenced the focus of Jack Parker’s philanthropy: His mother suffered with Parkinson’s disease, and one of his nine grandchildren struggles with ADHD.

“Jack Parker is a person with a vision,” says Francisco Gonzalez-Scarano, M.D., chair of Neurology. “He knows that academic medical centers are the hub of intellectual activity but that they need more support than the government can give them to advance critical research. Their gift is particularly special because it was so selfless. Jack and Pat just wanted to do good.”

The Parkers’ first gift began with a conversation between Parker and his primary-

**“Pat and I share the belief that we have been so fortunate in our children and our grandchildren and wish to make a contribution that will affect many,” says Parker. “From the onset, it was our intention that upon the success of A.C. Moore, others would also share in the benefits of that success.”**

care physician, Michael L. Silverman, M.D., at Presbyterian Medical Center. Hearing of his interest in making a gift to PENN Medicine and his mother’s history, Silverman set up a meeting with Stern and Gonzalez-Scarano.

“When we met, it took him three minutes to realize that this was something that he wanted to commit to,” recalls Stern. “I marvel at his decisiveness and his willingness to commit resources to our program after a minimal amount of time with us. . . . He recognizes that this is one of the great areas of future research and his gift is really a reflection of his intense desire to support progress, not only in neuroscience but also at PENN Medicine.” Explaining his gifts, Parker says, “There is a time in each person’s life that the

need to share and give back occurs. Pat and I share the belief that we have been so fortunate and we wanted to make a contribution that will affect many.”

After decades in management at Woolworth Inc., Jack Parker and Pat Parker founded A.C. Moore Arts and Crafts, Inc., in 1985. With 86 stores located throughout the eastern United States, A.C. Moore offers customers everything from silk flowers to cake decorating tools. The Parkers’ two daughters help run the business.

Jack Parker is proud to have Stern hold the Parker chair. “He is a highly dedicated and brilliant physician,” he says of Stern. “He and his associates at Penn have accomplished a great deal through their research. Through their continuing research and commitment, benefits will be derived for patients and their caregivers as well.”



Stern

**ENDOWED PROFESSORSHIPS:  
Matthew B. Stern, M.D.: The First  
Parker Chairholder**

**M**atthew B. Stern, M.D., has been on the case of Parkinson’s disease for more than 25 years. It’s been the focus of his entire medical career, since he earned his medical degree at Duke University

and came to Penn in 1978 to begin an internship in internal medicine.

It was the beginning of a heady era in neurodegenerative disease research. At the time, neurochemicals were first being identified in the brains and spinal fluid of patients with a variety of psychiatric and neurologic conditions. Drug development was booming. Antidepressants were introduced. Intrigued and excited by the possibilities, Stern was immediately drawn to neuropharmacology – and the study of Parkinson’s disease.

“Neuropharmacology is a discipline where you’re studying neurochemicals and how they can be manipulated for the treatment of human diseases,” Stern explains. “And the hallmark disease for doing that is Parkinson’s disease because, in its most simple form, it represents a deficiency in a chemical called dopamine. Manipulating dopamine has proved a very effective way of treating many of the symptoms of Parkinson’s.”

Today, Stern is professor of neurology and director of the Parkinson’s Disease and Movement Disorders Center at Pennsylvania Hospital. He co-founded the center in 1982 with fellow Penn neurologist Howard Hurtig, M.D. It was the first provider of comprehensive care for Parkinson’s disease and related disorders in the Delaware Valley; in 1992 it was designated a Center of Excellence of the National Parkinson Foundation. In 2003, Stern was named the inaugural holder of the Parker Family Professorship in Neurology. (See profile on page 35.)

“He’s very committed to finding a cure for Parkinson’s disease,” says Francisco Gonzalez-Scarano, M.D., chair of Neurology. “He has been instrumental not only in looking at how pharmacologic therapy helps Parkinson’s, but also in pushing through surgical approaches.”

The center Stern and Hurtig direct has become a national resource on Parkinson’s disease treatment and research. Stern says

its initial success was owed to their focus on making the center “*the* place to come for treatment.” Though a departure from the “academic formula” of the day (start with high-quality research and clinical care will follow), their strategy worked. “We really were very aggressive, almost as if this were a business, in trying to get our place recognized as the place to go,” he says. “Once patients came in and realized the type of care they were getting, word spread quickly.”

The center soon grew into a comprehensive clinical program, as Stern and his team took the lead in experimental therapeutics. In the mid 1990s, Stern led the development of a surgical treatment of Parkinson’s disease; Penn now has one of the biggest such surgical programs in the country, in collaboration with the Department of Neurosurgery.

**“Every several years, there is a significant breakthrough in the treatment of Parkinson’s disease, and we’ve been right at the forefront of them,” says Stern.**

A few years ago, the largest center devoted to the management of Parkinson’s and other movement disorders grew again when Stern was awarded a grant from the Department of Veterans Affairs to develop one of six national comprehensive Parkinson’s programs in Philadelphia. “That’s been a tremendous boon,” he says. “It’s been a wonderful addition to the Penn program and has facilitated the care of

the aged veteran population, where Parkinson’s disease is very common.”

Stern is now working on a study design that will take him as well as the center into a whole new realm of Parkinson’s

**S**tern on The Parker Family Professorship: “Our success as a program is due to a team of dedicated individuals and the partnership that I’ve had with Howard over the last 25 years. Although I wear the badge, it’s really an honor that’s been bestowed on our program and that partnership.”

disease research: early and even pre-clinical detection of the disease. “It’s always been my fantasy – and, I think, realistic vision – that we can begin to diagnose Parkinson’s disease and other neurodegenerative diseases before they become clinically apparent and institute therapies that will slow down its onset and make the course of the disease much more benign.”

*Few other gifts offer more immediate, more tangible, or more basic support than endowed chairs, and no other gift offers the donor more rewarding participation in the fundamental mission of PENN Medicine: the advancement of knowledge and the education of men and women for generations to come.*

*To learn more about endowed professorships and how you may fund a professorship over a number of years or through your will, please write to us at: PENN Medicine Development & Alumni Relations, 3535 Market St., Suite 750, Philadelphia, PA 19104-3309.*



## UPCOMING EVENTS

Visit our website at [www.med.upenn.edu/alumni](http://www.med.upenn.edu/alumni) for more details, times, and locations, or call 215-898-5164 and ask to speak with one of our staff members in Medical Alumni Development and Alumni Relations.

### **Penn Medicine Alumni Specialty Reception**

February 20, 2005

A reception will be held during the annual meeting of the American Academy of Dermatology at the New Orleans Hilton and Towers.

### **School of Medicine Alumni Event in Pittsburgh**

March 9, 2005

Alumni in the Pittsburgh area are invited to enjoy a collegial gathering amid the pop art offerings of the Andy Warhol Museum.

### **Senior Dinner Dance**

Saturday, March 19, 2005

The Senior Dinner Dance, for graduating medical students, is the event that officially welcomes them into the Medical Alumni Society.

The Sheraton Society Hill Hotel, Philadelphia.

### **Elizabeth Kirk Rose, M.D. '26, Women in Medicine Dinner and Program**

Thursday, April 7, 2005

This gathering in honor of the former professor of pediatrics will be held in the Woodlands Ballroom, The Inn at Penn, on the campus of the University of Pennsylvania.



### **Helen O. Dickens, M.D., Memorial Dinner**

April 30, 2005

An annual gathering of underrepresented minority students, alumni, faculty, and house staff will be held at the College of Physicians of Philadelphia.

### **Medical Alumni Weekend**

May 13-15, 2005

For medical alumni celebrating their reunion (classes ending in 0 and 5) and all other medical alumni. This family-friendly weekend provides alumni with the opportunity to reconnect with the School and with classmates, faculty, and mentors. Guest rooms for this event have been reserved at the following hotels:

Hotel Sofitel 1-877-411-7634

The Loews 215-627-1200

Park Hyatt at the Bellevue 1-800-233-1234

Sheraton Society Hill 1-800-325-3535

## RECENT GIFTS

**T**he **Abramson Family Foundation** made an \$11 million installment as part of their \$100 million pledge for the Abramson Family Cancer Research Institute, founded in 1997. Research at the Institute continues to flourish. In June, the journal *Genes & Development* published findings by the Institute's researchers on a second way by which chemotherapeutic agents can kill cancer cells. The study represents an important advance in understanding how and why some cancer cells die and others do not in response to existing chemotherapy.

**Dr. and Mrs. Joseph P. Mock** have established the Joseph P. Mock, M.D., M'63, and Barbara Mock Scholarship Fund at PENN Medicine with a gift of \$100,000. The fund will award scholarships to first-

year students based on academic standing and financial need. The Mocks have also made additional gifts through estate planning.

A \$2 million gift from PENN Medicine trustee **Raymond G. Perelman** has established the Ruth C. and Raymond G. Perelman Professorship in Internal Medicine. Among Philadelphia's most prominent and generous philanthropists, Raymond and Ruth Perelman are longtime supporters of the University and PENN Medicine. Their gift advances and pays tribute to excellence in patient care.

With a \$2 million gift, the **W. W. Smith Charitable Trust** continues a quarter century of shared history with PENN Medicine, supporting education and biomedical research by establishing The William Wikoff Smith Chair in Car-

diovascular Research at the University of Pennsylvania School of Medicine. The Trust was established in 1977 from funds that William Wikoff Smith, who died at age 56 from heart disease, designated in his will. Mr. Smith attended the Wharton School in 1937 and 1938; his father, Wikoff Smith, graduated from Penn in 1897.

A number of leadership gifts received in Fiscal Year 2004 support our primary capital initiative – the Riverview Project, which will transform our clinical and research environment over the next decade. The complex, which will total two million square feet, will be built on the former site of the Philadelphia Civic Center complex. Through September, gifts to the project total \$14 million, which is more than 20 percent of our total fundraising goal for Phase I of the Riverview Project.



## Progress Notes

Compiled by Erin Hennessy

Send your progress notes to:  
**Penn Medicine**  
*Development and Alumni Relations*  
 3535 Market Street, Suite 750  
 Philadelphia, PA 19104-3309

## '40s

**Walter B. Shelley, M.D., Ph.D., G.M.E.** '49, emeritus professor of dermatology at the Medical College of Ohio, writes to note the publication of a 50th-anniversary edition of *Classics in Clinical Dermatology, with Biographical Sketches*, which he edited with John T. Crissey. Shelley reports that the book was first printed in 1953, when he was an assistant professor of dermatology at the University of Pennsylvania and Crissey was a medical resident. The book is now available through Parthenon Publishing. Shelley served as chair of Penn's Department of Dermatology for 15 years.

## '50s

**Maria Iandolo New, M.D.** '54, New York, N.Y., recently joined Mount Sinai School of Medicine as professor of pediatrics. From 1980 to 2003, she was chair of the Department of Pediatrics at Weill Cornell Medical College, where she served as the Harold and Percy Urin Professor of Pediatric Endocrinology and Metabolism. A member of the National Academy of Sciences and a senior member of the Institute of Medicine, she was recently inducted into the Hall of Honor of the National Institute of Child Health and Human Development. New was presented with the Distinguished Graduate Award from the University of Pennsylvania School of Medicine in 1991.

**Tsung O. Cheng, M.D., G.M.** '56, professor of medicine at The George Washington University, was a visiting professor at the University of Geneva, the University of Bern, and the University of Zurich, all in Switzerland, and at the University of Texas at Houston, in recent months. He reports that he was

interviewed by the Natural History New Zealand Ltd. in collaboration with National Geographic U.S. for a television show on the Lady of Dai, a well-preserved, 2,100-year-old corpse (not a mummy) unearthed in China in 1973. After studying the data, Cheng determined that the woman died of an acute myocardial infarction due to a severe occlusion. Last year, *The Textbook of Congestive Heart Failure*, for which Cheng was a co-editor, was published in China.

**Jules B. Puschett, M.D.** '59, professor and chair of the Department of Medicine at Tulane University School of Medicine, received the Gloria P. Walsh Award, selected by the graduating students, in recognition of his "dedication and contribution to medical education." He also received the award in 1998. Puschett holds the Harry B. Greenberg, M.D., Chair in Internal Medicine and is an adjunct professor of pharmacology. He also serves as assistant dean for network affairs.

## '60s

**David F. Apple Jr., M.D.** '62, medical director of Atlanta's Shepherd Center, received the 2004 Distinguished Service Award from the Georgia Hospital Association. The award is presented each year to two Georgians who serve as hospital trustees or community leaders and have made significant contributions to improving health care in the state. Apple, who has been medical director since the hospital's founding in 1975, oversees spinal cord injury, brain injury, multiple sclerosis, and neurological services. He also holds clinical appointments in orthopaedic surgery and rehabilitation medicine at Emory University and at Georgia State University. Apple has served as a board member of the Commission on the Accreditation of Rehabilitation Facilities, which sets standards for rehabilitation centers across America. He is on the board of the American Academy of Orthopedic Surgeons and is founder of the Orthopedic Rehabilitation Association. A founding member and former president of the American Spinal Injury Association, he serves as editor of the association's publication.

**David E. Craig, M.D.** '65, Tallahassee, was presented with the I. B. Harrison, M.D., Humanitarian Award by the Capital Medical Society, a chapter of the Florida Medical Association. A pathologist at Pathology Associates, Craig served 23 years as the medical director for the Southeastern Community Blood Center. As medical director, he introduced platelet-freezing technology and was instrumental in establishing an HLA Laboratory (a tissue typing lab) in Tallahassee. Craig is a Fellow of the American Society of Clinical Pathologists and of the College of American Pathologists.

**Ira D. Sharlip, M.D.** '65, G.M.E. '69, a partner in the San Francisco practice of Pan Pacific Urology, reports that he was part of a team of 30 United States physicians that visited Baghdad in February 2004. The intention was to update Iraqi physicians on the modern practices of medicine and to assist in organizing a democratic national medical association and medical specialty societies. Subsequently, the team published a letter in *The San Francisco Chronicle*, in which they described Iraqi medicine as "a tattered remnant of a health-care system once considered the finest in the Middle East. . . . Immersed in 25 years of neglect, the system descended into technological and pharmaceutical oblivion." Despite severe problems, "these proud and courageous healers care for the sick and injured of their nation with integrity, tenacity, hope, and a smile."

**Franklyn N. Judson, M.D.** '68, director of public health for Denver Health (formerly Denver General Hospital) and a specialist in infectious diseases, was named to the Presidential Advisory Council on HIV/AIDS. The 35-member council provides advice, information, and recommendations to the Secretary of Health and Human Services. A former chief of infectious diseases at Denver Health, Judson is a professor of medicine and preventive medicine at the University of Colorado. He is chairman of the board of the American Social Health Association, president of the International Union Against Sexually Transmitted Infections, and chairman of the scientific committee of Beyond AIDS.

## '70s

**David R. Snyderman, M.D.** '72, received a Distinguished Faculty Award from Tufts University School of Medicine this spring. He was also honored with the Ken Kaplan Clinician Award from the Massachusetts Chapter of the Infectious Diseases Society of America. Snyderman is chief of geographic medicine and infectious diseases as well as hospital epidemiologist at Tufts-New England Medical Center. He is also professor of medicine at Tufts University School of Medicine.

**Marc F. Glickstein, M.D., G.M.E.** '74, was inducted as a Fellow in the American College of Radiology. Affiliated with Hartford Hospital, he serves as president of the Radiological Society of Connecticut.

**Gary N. Goldstein, M.D.** '76, G.M.E. '82, was appointed chief of plastic and reconstructive surgery at Virtua West Jersey Hospitals in Berlin, Marlton, and Voorhees. He serves as a clinical associate professor of plastic surgery and orthopaedic surgery at the University of Medicine and Dentistry of New Jersey.

**David H. Frager, M.D.** '77, Monsey, N.Y., was inducted as a Fellow in the American College of Radiology. He is affiliated with Columbia University College of Physicians and Surgeons and St. Luke's-Roosevelt Hospital Center.

**Marc S. Micozzi, M.D.** '78, Ph.D., has been named executive director of integrative medicine at Thomas Jefferson University Hospital. He is responsible for the management and administration of the Jefferson-Myrna Brind Center of Integrative Medicine at Thomas Jefferson University Hospital, which plays a leading role in evaluating and integrating promising approaches of complementary healing with more traditional approaches. Founding editor and editor in chief of *Seminars in Integrative Medicine*, he was founding editor in chief of *Journal of Complementary and Alternative Medicine* and edited the first U.S. textbook in the field, *Fundamentals of Complementary and Alternative Medicine* (1996). He is former executive director of the College of Physicians of Philadelphia.

## '80s

**Howard Frumkin**, M.D. '81, G.M.E. '85, professor and chair of the Department of Environmental and Occupational Health in the Rollins School of Public Health at Emory University, is one of the authors of *Urban Sprawl and Public Health: Designing, Planning, and Building for Healthy Communities* (June 2004, Island Press).

### OBITUARIES

**C. Richard Brandt**, M.D. '33, Mechanicsburg, Pa.; October 11, 2003. Brandt, an internist with a specialty in cardiology, was on the staff of Harrisburg Hospital, Seidle Memorial Hospital, and Holy Spirit Hospital from 1935 to 1978. He was a member of the Harrisburg Academy of Medicine and other societies, as well as a fellow of the American College of Physicians. During World War II, Brandt served as the executive officer of the 61st Medical Battalion, which landed on Omaha Beach in Normandy on D-Day.

**Robert Mitchell Oliver Jr.**, M.D. '33, Miami; September 6, 2003. Oliver established his otorhinolaryngology practice in 1938 in Miami and was known to be the first physician there to perform bronchoscopy. From 1942 to 1946, Oliver served as a Lt. Commander in the U. S. Navy.

**Paul S. Woodall**, M.D. '33, Birmingham, Ala.; August 17, 2003.

**Hugh H. Nuckols**, M.D. '34, Seattle, Wash., obstetrician and gynecologist; August 15, 2003. He served his residency at the Boston Lying-In Hospital and was a teaching fellow at Harvard Medical School. Before retiring in 1974, he delivered an estimated 5,000 babies. He was also on the clinical faculty of the University of Washington Medical School.

**Hugh C. Abernethy**, M.D. '38, West Chester, Pa.; October 8, 2003. Abernethy established his pediatric practice in West Chester in 1947 and practiced until his retirement in 1989. He was also a physician for the West Chester School District and Camp Linden, a summer camp for disadvantaged

children. Abernethy served as an Army medical officer during World War II, where he participated in the Normandy invasion and the liberation of Paris.

**David W. Robinson**, M.D. '38, Shawnee Mission, Kansas; September 16, 2003.

**Franklin L. Rutberg**, M.D. '38, G.M.E. '51, Ambler, Pa.; August 13, 2003. Rutberg was the emeritus chief of otolaryngology at Germantown Hospital and on the staff at Chestnut Hill Hospital. He was also associated with the Pennsylvania School for the Deaf for many years. Rutberg served in the Medical Corps of the U.S. Army, stationed in North Africa.

**Thomas H. Weaber Jr.**, M.D. '40, Emmaus, Pa.; September 2, 2003.

**J. Eldon Dorman**, M.D., G.M.E. '41, Price, Utah; March 22, 2000.

**Katharine Evans Goddard Rhoads**, M.D. '43, G.M.E., '65, Havertown, Pa.; April 29, 2004. In the late 1940s, Goddard was a clinician at The Children's Hospital of Philadelphia, where she researched transfusions for infants born with Rh factor blood incompatibility. In 1947, she was a founder of the Chestnut Hill Pediatric Group. Eight years later, she began teaching at the Hospital of the University of Pennsylvania, specializing in infant care. After completing a second residency in psychiatry in 1960, Goddard practiced developmental pediatrics as a consultant with area schools. President of the former Seashore House from 1968 to 1982, she also served on the boards of the Elwyn Institute and Friends Hospital until her death. In 1952, she married David Rockwell Goddard, Ph.D., a professor of botany and biology who served as provost of the University of Pennsylvania 1961-1971. He died in 1986. Three years later, she married Jonathan Rhoads, M.D., a longtime professor of surgery at Penn who also had served as provost of the University. He died in 2002.

**Felix Mick**, M.D. '43, G.M.E. '52, Milford, Del.; September 13, 2003. Mick joined the staff of Milford Memorial Hospital in 1953 and served as chief of staff from 1956 to 1981. In 1967, he set up and directed an intensive coronary-care

unit believed to be the first in Delaware. Mick served in the United States Navy in the Pacific Theater, first at Garrison Beach and then at Pearl Harbor.

**Horatio T. Enterline**, M.D. '44, G.M.E. '50, Kennett Square, Pa.; August 17, 2003. A renowned pathologist, Enterline was the former director of pathological anatomy at the Hospital of the University of Pennsylvania and a professor of pathology and laboratory medicine at the School of Medicine. A former associate editor of *Cancer*, he was the author of the textbook *Pathology of the Esophagus*. In 1981, Enterline and John J. Brooks diagnosed a cancerous mouth tumor that had been surgically removed in secret from President Grover Cleveland nearly 90 years earlier. The tumor had been preserved by the Mutter Museum of the College of Physicians of Philadelphia. Enterline began his medical career as a lieutenant in the medical corps at Fort Dix.

**Col. James D. Weaver**, M.D. '44, Sterling, Va.; November 15, 2003. Weaver was an air surgeon at the National Guard Bureau at the Pentagon from 1969 to 1983. He served in the Army Medical Corps in the late 1940s and was commanding officer and surgery chief at a hospital in Korea. He remained in the Army Reserve until 1962 and the Air Force Reserve until 1983. In addition, Weaver was in general practice in Erie, Pa., from 1948 until 1962. He was a fellow of the American Academy of Family Practice, the American Medical Association, and the Aerospace Medical Association. He was awarded three Air Force Meritorious Service Awards and the Air Force Commendation Medal. From 1963 to 1965, Weaver represented Northwestern Pennsylvania in Congress and was a delegate to the United Nations on the Commission on Science and Technology for Underdeveloped Nations in Geneva.

**Claud W. Perry**, M.D., G.M.E. '46, Pendleton, S.C.; December 18, 2002.

**G. William Burch**, M.D., G.M.E. '47, Tyler, Texas; March 14, 2002.

**Jack H. Bristow**, M.D., G.M.E. '48, Corona, Calif.; December 1, 1999.

**J. Arch Colbrunn Jr.**, M.D., G.M.E. '48, Medford, Ore.; July 29, 2003.

**Robert L. Dickey**, M.D. '49, Salisbury, Md.; August 23, 2003.

**Paul V. Shannon**, M.D., G.M.E. '49, Andover, Mass.; August 23, 1997.

**William H. Sisson**, M.D., G.M.E. '49, Lancaster, Pa.; March 22, 2002.

**John A. Kenney Jr.**, M.D., G.M.E. '50, Washington, D.C.; November 29, 2003. A leading specialist in dermatological conditions affecting African-Americans, Kenney developed the dermatology department at Howard University's College of Medicine into a major research center, where he taught for almost 40 years. Kenney was named a "master of dermatology" by the American Academy of Dermatology; he was also a member of the American Dermatological Association, the Society for Investigative Dermatology, and the American Association for the Advancement of Science. He was a former president of the National Medical Association.

**Myron Volk**, M.D., G.M.E. '50 Naples, Fla., a retired ophthalmologist and surgeon; August 6, 2003. His practice was based at the former Euclid Clinic in Cleveland, now University Mednet Clinic, and he had been on the staffs of several local hospitals. An emeritus associate professor at Case Western Reserve University, he was a longtime member of the Cleveland Society for the Blind.

**Irvin H. Sokolic**, M.D. '51, Princeton, N.J.; August 25, 2003. Sokolic was a surgeon in private practice on the staff at Hahnemann University Hospital and Albert Einstein Medical Center. In 1970, he moved to Elizabeth, N.J., and began working at St. Elizabeth Hospital, now Trinitas Hospital. He was a fellow of the American College of Surgeons. During World War II, Sokolic was in the Navy's special operations forces, intercepting enemy communications in the Pacific.

**Charles L. Whisnant**, M.D. '51, Atlanta; September 17, 2003. Whisnant had a private practice in internal medicine from 1956-



1990. He was an attending physician at St. Joseph's Hospital, Crawford Long Hospital, and Peachtree Parkwood Hospital. During his residency, Whisnant was instrumental in the development of the first artificial kidney machine at Grady Memorial Hospital.

**Mario G. Cirelli, M.D., G.M.E.** '52, Lewes, Del.; August 21, 2003. Cirelli founded the Philadelphia Police and Fire Medical Association and served as its medical director and chief surgeon for 27 years. He also served as an Army Medical Corps captain during World War II and treated wounded soldiers returning to England after the D-Day invasion of Normandy.

**Paul A. Rockwell, M.D., G.M.E.** '55, Corpus Christi, Texas; February 12, 2003.

**Darius G. Ornston Jr., M.D.** '59, Greenville, S.C.; November 19, 2003. Ornston practiced psychiatry for more than 40 years. In 1985, he resigned from his faculty appointment in the Department of Psychiatry at Yale University and moved his practice to Greenville. He served on the faculty of the University of South Carolina School of Medicine in Charleston and was a clinical professor of psychiatry at the University of South Carolina. Ornston also served as chairman of psychiatry for the Greenville Hospital System.

**Joseph C. Gottsch, M.D., G.M.E.** '60, Prairie Village, Kansas; August 21, 2003.

**Alan Grossman, M.D.** '79, G.M.E. '83, Maple Glen, Pa.; October 12, 2003. Grossman was a physician with Abington Obstetrical and Gynecological Associates. He was also senior surgeon in the Department of Obstetrics and Gynecology at Abington Memorial Hospital. Grossman was a member of the American Board of Obstetrics and Gynecology.

#### FACULTY DEATHS

**Horatio T. Enterline, M.D.** See Class of 1944.

**Celso-Ramón García, M.D.,** the Emeritus William Shippen Jr.

Professor of Human Reproduction; February 1, 2004. In the early 1950s, along with Dr. Gregory Pincus and Dr. John Rock, he spearheaded the development of "the Pill," while at the University of Puerto Rico and then later at Harvard University. His seminal work on the development of the oral contraceptive was published in several journals, helping to form the foundation of the applied field of hormonal contraception. Recruited to Penn in 1965, García was given his endowed professorship five years later. He became emeritus in 1992. According to Luigi Mastroianni, M.D., professor of obstetrics and gynecology, García "spearheaded new approaches to the treatment of tubal disease and his surgical ability in the 'conservative' approach to reproductive surgery was legendary." He and Mastroianni are credited with building the foundations of the Human Reproduction Program at Penn, which today is considered one of the leading programs for patient care, research, and training in the world. A Life Fellow of the American College of Obstetricians and Gynecologists and a Fellow of the American College of Surgeons, García had served as president of the American Society for Reproductive Medicine and was founding president of the Society of Reproductive Surgeons. In 1995, the School of Medicine established the Celso-Ramón García Endowed Professorship in his honor. During his career, he received many institutional, national, and international awards, including the Scientific Leadership Award from the United Nations.

**Katharine Evans Goddard Rhoads, M.D.** See Class of 1943.

**Daniela Santoli, Ph.D.,** associate professor of medicine in the Immunology Program at the Wistar Institute; January 23, 2004. She was also a member of Penn's Abramson Cancer Center and the School of Medicine's Graduate Immunology Group. Her research concentrated on cancer-fighting cells that she named TALL-104. A native of Rome, Italy, she came to Wistar in 1972. Her husband, Giovanni Rovera, M.D., is former director of the institute.

## Whatever It Takes



**W**hen Marc B. Garnick, M.D. '72, G.M.E. '76, meets with other School of Medicine alumni, their conversations inevitably revolve around their early days at Penn. The memories vary, but the theme is usually the same.

"Every single one of us," he says, "had a memorable and positive experience, especially due to the camaraderie of fellow classmates and Penn's excellent and committed faculty."

More than 30 years after his student days ended, Garnick has become one of the School's most devoted advocates. In addition to serving on the Medical Alumni Leadership Council and providing other kinds of support, last year he and his wife, Bobbi, created a deferred charitable gift annuity to the Medical Class of 1972 Scholarship Fund.

"I wish I could give so much more. The School of Medicine provided me with the tools for establishing a professionally meaningful life and a livelihood for my family. You just cannot put a value on that."

Today, Garnick is a nationally recognized expert in urological cancer. He lectures throughout the country and is author of *A Patient's Guide to Prostate Cancer*. He divides his time between clinical practice and teaching at Harvard Medical School, where he is a full professor, and serving as executive vice president and chief medical officer of *Praecis Pharmaceutical, Inc.*

Drug development is particularly exciting, he says, because of its potential to help thousands of patients. Not surprisingly, Garnick sees an important place for his alma mater in this area: "Drug development and extending people's lives is the lifeline of medicine. PENN Medicine is the perfect vehicle to bring the two worlds of business and academics together."

Garnick says he will do "whatever it takes" to bring more support to the School. To that end, he and his wife have hosted dinners for alumni at their home outside of Boston. "We see these events as a way to inspire others to get involved and give back to an excellent institution."

Garnick's planned gift, with its current tax deduction and partially tax free payments during retirement, helped him find a way to make a significant gift as well as enhance his own financial future. His deferred charitable gift annuity is just one of many creative gift opportunities that benefit both the School of Medicine and its donors. As you chart your financial future, the Planned Giving Office is ready to assist in developing an appropriate strategy. **Contact Marcie Merz, J.D., Director of Planned Giving, PENN Medicine, 3535 Market Street, Suite 750, Philadelphia, PA 19104-3309. E-mail: mmerz@ben.dev.upenn.edu.**



This year John Morgan Building celebrates its 100th anniversary and was appropriately adorned with festive ballrooms in Penn's school colors during Medical Alumni Week-end. The Building, constructed as the Medical Laboratories Building, assumed its new name in 1987 in honor of the School's founder (shown here).





**T**ake one surgeon with wide-ranging interests; add a developmental anatomist with a background in paleoanthropology; and set them to unraveling the role of a newly discovered mutation in myosin, the protein that makes up muscle tissue. What they found is that the myosin mutation seems responsible for the development of smaller jaw muscles in humans as compared to non-human primates. Did this genetic mutation lift an evolutionary constraint on brain growth in early humans?

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