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FALL / WINTER 2010

CHIRONIAN

New York Medical College



INSIDE:

Excelsior! Advancing Stem
Cell Research

Being Stanley Passo

Region's Health Departments
Play Nice

NEW! Student Scientists
In Their Own Words

EDITORIAL

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NewsBites



KARL P. ADLER, M.D., president and chief executive officer, and **Robert W. Amler, M.D.**, vice president of government affairs and dean of the School of Health Sciences and Practice, attended a summit with federal policymakers in Washington, D.C., in June. Leaders of 76 major public and private universities met with Education Secretary Arne Duncan, New York Senators Kirsten Gillibrand and Charles Schumer, and Senator Tom Harkin of Iowa, chairman of the Senate Health, Education, Labor and Pensions Committee. <http://bit.ly/h4g0oM>, page 8.



ASHOK KUMAR, PH.D., professor of pathology, has won the 2010 Dean's Research Award for his contributions to the study of the molecular genetics of hypertension. Lecture and award ceremony are scheduled for February 22 at 4:00 pm in Nevins Auditorium. The Dean's Research Award is bestowed annually by **Ralph A. O'Connell, M.D.**, provost and dean of the School of Medicine. <http://bit.ly/ebOVb7>, page 1.



MICHAL L. SCHWARTZMAN, PH.D., has been appointed acting chair of the Department of Pharmacology. She succeeds **John C. McGiff, M.D.**, who stepped down from the position in July. Dr. McGiff will retire at the end of 2010 after serving 29 years as chairman of the department. <http://bit.ly/g9WBC1>, page 2.



THE NOVEMBER ISSUE of *Westchester Magazine* named Castle Connolly's Top Doctors in the county. No surprise: more than 80 New York Medical College faculty physicians made the list. <http://bit.ly/bmiOv1>



ANDREW McALLISTER, a distance learning student working toward his M.P.H. degree in the School of Health Sciences and Practice, received a prestigious 2010 Jack Kent Cooke Graduate Scholarship. He is earning his degree while teaching third grade in the Dominican Republic. <http://bit.ly/hOS1G6>, page 2.



THE AMERICAN MEDICAL ASSOCIATION has awarded coveted Physicians of Tomorrow scholarships to two fourth-year medical students. **Reuben Reich** and **Sean Kivlehan** were among 20 medical students nationwide chosen for the scholarships, which required high academic standing and a strong commitment to community involvement. <http://bit.ly/baDr6o>, page 2.

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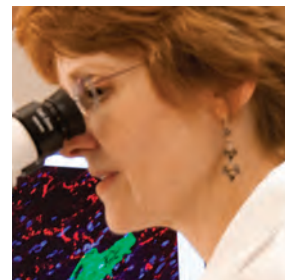
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ON THE COVER

Eighteen-year-old Jamal Fowler enjoys a bright future and a sunny outlook on life. It's hard to believe that a few years ago he was nearly crippled with pain from sickle cell anemia. Then he became a patient of Lauren Shaiova, M.D., director of a new department of palliative care at Metropolitan Hospital, and Jamal's world got a lot brighter. Dr. Shaiova (second from left) also directs a fellowship program that trains doctors in hospice and palliative care. Her fellows, Uchenna Ozuah, M.D. (left), and Andrea Jno Charles, M.D., will help meet a growing need for specialists in this highly rewarding field. (Story on page 16.)

A Serious Scientist With a Lighter Side Researches POTS

By David McKay Wilson

That's Postural Tachycardia Syndrome—no laughing matter for those who suffer from its debilitating effects.

Julian Stewart, M.D., Ph.D., a New York Medical College pediatric cardiologist and physiologist, has long been fascinated with the mechanisms that drive the human body—whether it be the intricacies of the neonatal heart or the complexities of the body's circulatory system.

His focus for the past dozen years has been on the pathophysiology of chronic orthostatic intolerance, which occurs when the body's compensatory mechanisms excessively restrict the blood's return to the heart when a person stands.

The most common cause of the disorienting condition is postural tachycardia syndrome. Known as POTS, it is believed to affect as many as one million Americans, most of them young women. Symptoms include dizziness, nausea, excessive fatigue, exercise intolerance, and an impaired ability to organize thoughts.

Stewart's three current studies, all funded by the National Institutes of Health, are conducted in the Department of Pediatrics' Center for Hypotension. He is investigating the biochemical basis for POTS, the constriction of blood vessels to slow blood flow in POTS, and the respiratory system's response to carbon dioxide levels in patients with chronic orthostatic intolerance.

His test subjects, who range in age from 15 to 29, "have impaired consciousness and they feel light-headed," says Stewart. "They can't think straight, they can't read, they can't concentrate."

These studies, which began in 1998 with his appointment to direct the newly formed Center for Pediatric Hypotension, launched what Stewart calls his "second career" as a scientific researcher, now with 109 published studies under his belt.



Julian Stewart, M.D., Ph.D., is held in high esteem by his colleagues, and a scientific poster that hangs on his office wall proves it. On the day he was planning to present the poster in the fall of 2009 at the American Autonomic Society, he was undergoing surgery. His colleague Marvin S. Medow, Ph.D., collected signatures from fellow scientists at the meeting, resulting in the world's largest and most edifying get-well card.

These days, he works with a team that consists of a frequent co-author, Marvin S. Medow, Ph.D., associate professor of pediatrics and physiology, and three eager young accomplices: Anthony Ocon, M.D./Ph.D. student, Abhinav Nafday, graduate student, and Zachary Messer, research technician. All are accustomed to the Julian Stewart method of conducting serious research with a lighthearted approach.

Stewart uses off-beat humor to spice up his interactions with colleagues and patients. On one wall is a photo of a man whose face is planted in a bowl of spaghetti, captioned: "Deglutition Syncope. That's what happens when you faint during eating." The photo of Thomas H. Hintze, Ph.D. '80, chairman of the Department of Physiology, is adorned with the handwritten note, "De Mentor."

Hintze was Stewart's sponsor during a three-year senior research fellowship from the NIH in the 1990s,

when Stewart shifted emphasis away from patient care to engage in more research. Hintze encouraged him to find his niche in the world of clinical and bench research, where Hintze says Stewart is now among the top scientists in his field.

"Julian is a real character," says Hintze. "He's quite entertaining. And when he's not being a character, he takes very good care of his patients, and agonizes over the science. He may not show it, but he really stews over these things."

This assessment gets no argument from Dr. Medow. A co-investigator on many of Stewart's studies, Medow also conducts research on subjects with chronic fatigue syndrome, who exhibit many of the same symptoms of POTS—light-headedness, fainting and cognitive impairment. He uses many of the laboratory protocols developed by Stewart to carry out his experiments.



A tilt table test is used in the investigation of orthostatic intolerance, including orthostatic hypotension, postural tachycardia syndrome, and syncope. The patient is strapped to the tilt table in the horizontal position and then tilted to a 60 or 70 degree angle. Symptoms, blood pressure, pulse, electrocardiogram, blood oxygen saturation, blood flows and other hemodynamic measurements may be recorded. Research investigators can use the tilt table to monitor the blood flow responses to upright positioning, which includes studies of cerebral perfusion using cerebral blood flow velocity recording with transcranial doppler ultrasound in supine horizontal position (1), during (2) and after (3) head-up tilt. An ultrasound transducer is placed on the temporal bone above the cheekbone, using specialized headgear to hold the probe in place. Research technician Zachary Messer is strapped to the table above, assisted by graduate student Abhinav Nafday (left of table) and M.D./Ph.D. student Anthony Ocon.

“Back in the 1970s, you had to write your own programs,” he says. “If I need to figure out something special, I just write it. My programs are a bit buggy, but they work for me.”

“Julian has developed the tools, and we employ them as needed,” says Meadow.

Stewart’s stature in the field puts him in great demand. The NIH tapped him as a member of the prestigious Clinical and Integrative Cardiovascular Sciences Study Section, Center for Scientific Review, an appointment whose three-year term ended last June, though he continues to serve on other editorial boards. He currently reviews articles for scholarly journals, such as the *Journal of Pediatrics*, *American Journal of Physiology*, and *Circulation*, reviewing up to three papers a week on peer-review teams of two or three researchers.

Stewart, who grew up in Ridgewood, Queens, began his study of physics at Cornell University, earning his bachelor’s degree in 1968. He spent a year in the physics graduate program at the University of Maryland, then entered the Medical Scientist Training Program at the University of Chicago, where he earned both his medical degree and a Ph.D. in biophysics. After serving his residency in pediatrics at New York University Medical Center, and a fellowship in pediatric cardiology at Manhattan Health Plan in New York City, he came to the New York Medical College Department of Pediatrics as assistant professor in 1983. It wasn’t long before he earned appointments in physiology and medicine and became director of pediatric clinical research, setting the stage for a burgeoning career as a principal investigator.

For Stewart, being a successful researcher includes having a knack for writing computer programs to analyze his data, and a creative scientific mind that conceives projects that win grant funding to advance science.

His studies of the circulatory system began with experiments that measured blood flow in the arms and legs of subjects. Those studies were expanded significantly as Stewart moved on to measure blood

flows and blood volumes in the brain and throughout the body.

He uses a Lower Body Negative Pressure device to simulate the changes that occur when there's internal hemorrhaging in the abdomen.

Stewart's grant-writing skills have paid off in the support he's gained for his studies of the circulatory system—studies that will advance understanding of normal human physiology as well as orthostatic intolerance. He gathers data by hooking up his subjects to devices that record the body's reaction to certain stresses. One stressor, the simple act of standing from a prone position, can be measured using an ingenious contraption—a table that tilts the patient from the horizontal to the vertical.

In these experiments, subjects lie strapped to the tilt table, which is slowly moved to an upright position. Monitors beep and blink as 30 physiological responses are tracked and recorded. One monitor records the subject's pulse blood pressure on every heart beat. Another records their respirations. An EKG measures cardiac activity, transcranial Doppler measures cerebral blood flow while another device measures regional blood volumes and blood flows.

Heavy breathing, for example, reduces carbon dioxide in the blood and makes blood vessels in the head contract, restricting blood flow by 35 percent. Fainting occurs when there's a 50 percent reduction in blood to the brain, Stewart says.

For people without POTS, standing still for a few minutes can begin to reduce cerebral blood flow by 10 percent. Dizziness can occur when blood flow is restricted by as little as 12 percent.

Chronic dizziness is diagnosed when the blood either remains in the legs or pools in the abdominal area. "Why the blood collects there is unclear, but it has clear consequences," Stewart says.

Once he gathers the data, he has it analyzed using the computer program he wrote himself. It's a skill he developed in the early days of computing.

"Back in the 1970s, you had to write your own programs," he says. "If I need to figure out something special, I just write it. My programs are a bit buggy, but they work for me." ■

Research Volunteers Wanted

For a study of Local Vasoconstriction in Postural Tachycardia Syndrome (POTS), the Center for Hypotension, Department of Pediatrics, is seeking healthy volunteers ages 15–29 to participate in a New York Medical College IRB-approved (L-7388-206A2) research protocol, funded by the National Institutes of Health. The purpose is to investigate the ability to regulate local blood flow in patients with certain circulatory abnormalities, including a condition known as orthostatic intolerance. Symptoms in some patients can include dizziness, headache, fatigue, nausea, and palpitations and/or elevated heart rates when they are kept upright. When the latter occurs, it is known as POTS. Our intention is to compare volunteer subjects' results to those of subjects with POTS.

Volunteer subjects who agree to the first round of testing will first undergo a "tilt table" test and other simple noninvasive tests. Subjects who choose to become full participants in the study will be tested using a technique called intradermal microdialysis. In this procedure, several tiny tubes are placed in the uppermost layer of the skin while the blood flow is measured. Two 3-mm biopsy samples will be obtained from the skin of the subject's calf. In addition, we will also be administering Vitamin C through an IV placed in the arm, combined with tilt-table testing and a microneurography test known as Muscle Sympathetic Nerve Activity (MSNA), which involves a small, fine needle (similar to those used in acupuncture) placed in a nerve behind the knee. The entire scope of testing will take place over four days and participants will be reimbursed \$150 per day.

For more details about the research, or to obtain a consent form, please visit www.syncope.org. Interested subjects should reply to:

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19 Bradhurst Avenue, Suite 1600 South
Hawthorne, New York 10532
courtney_terilli@nymc.edu
(914) 593-8888*

Pursuing the Grail of Stem Cells

A husband-and-wife team explore the biological potential of adult stem cells in the quest to repair damaged hearts.



By Cynthia A. Read

Can the human heart grow new muscle to replace tissue damaged when a heart attack cuts off its oxygen supply? Until recently, the answer was a resounding “no.” Unlike many other cells in the body, myocytes—heart muscle cells—were thought to be incapable of dividing once the heart has fully developed. But recent research has uncovered what appears to be a small number of newly generated myocytes in the adult heart. If the heart does in fact have the ability to grow such new cells, there might be a way to encourage or supplement this growth and so repair the effects of heart disease.

Leonard M. Eisenberg, Ph.D., and Carol A. Eisenberg, Ph.D., co-directors of New York Medical College's Stem Cell Laboratory, are on a quest to better understand cardiac development and the possibility of using adult stem cells derived from bone marrow to create cardiac progenitor cells that could be transplanted into a patient's heart.

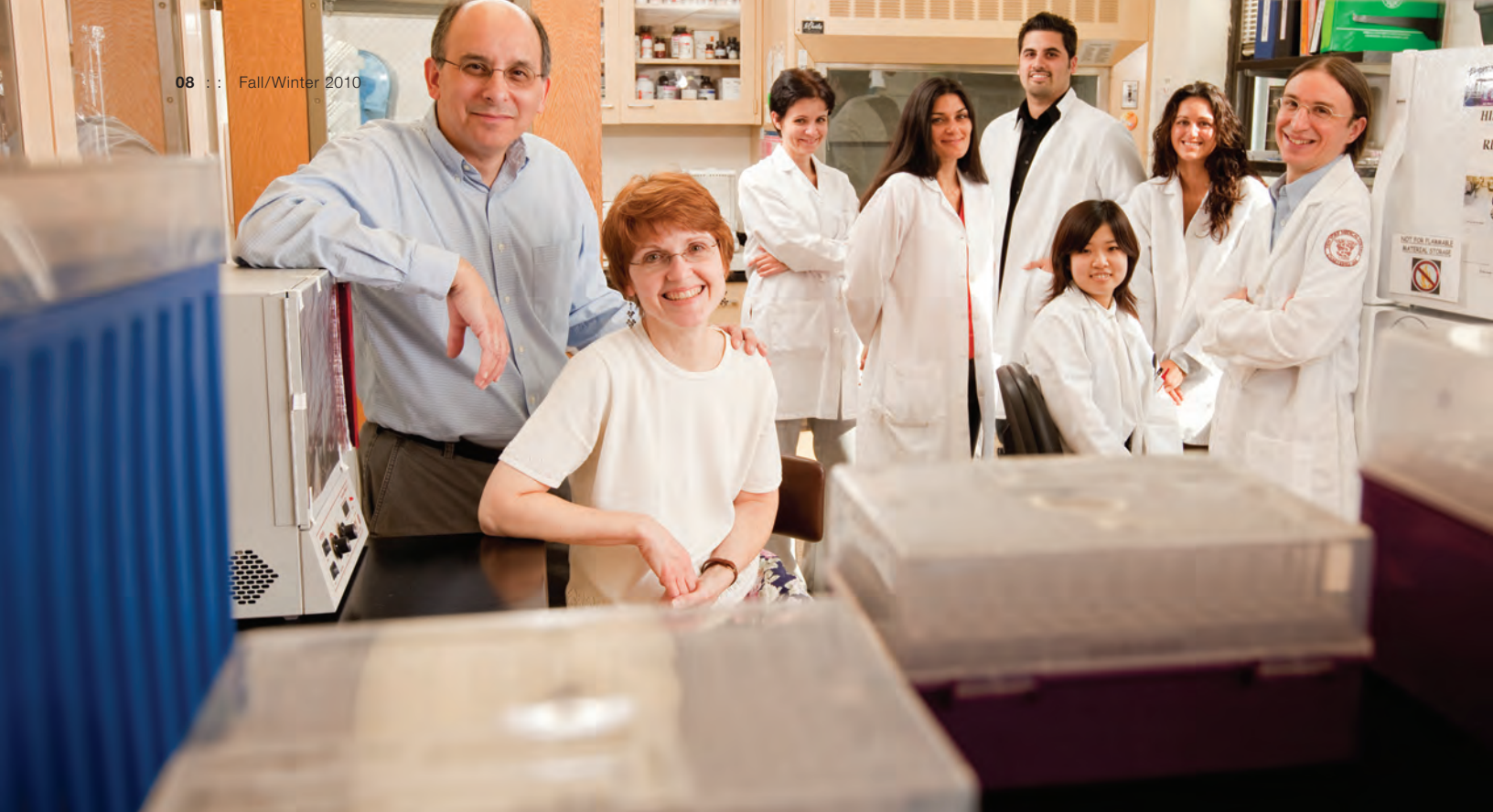
OF MICE AND MEN

It's difficult to think of Leonard and Carol Eisenberg separately, since they've been married for 23 years and collaborating for 13. The two began their respective career paths as developmental cell biologists with a focus on the heart. While on the faculty of the Medical University of South Carolina, they studied embryonic heart development and stem cells

in the chick, a good model for the mammalian heart. “When we observed that cardiac stem cells could also give rise to blood cells, we wondered if the reverse also might be the case,” says Carol Eisenberg. “So we began examining stem cells in mouse bone marrow.” This led them to shift their focus to adult stem cells and the biology of the adult heart.

The beauty of stem cells is that they are undifferentiated cells whose daughter cells may turn into other specialized cell types. As in other areas of medical research, the possibility of using stem cells to generate replacement tissue is what makes them so exciting for scientists who study the heart. While this capacity of adult stem cells is now generally accepted, the Eisenbergs' view

was initially met with skepticism. As they wrote in *The Anatomical Record* in 2004, “Research on adult stem cells offers great promise for cardiovascular medicine... [yet] five years ago statements like this were dismissed out of hand.” Because of their common research interests, they were well acquainted with Piero Anversa, M.D., a groundbreaking New York Medical College researcher and former director of the College's Cardiovascular Research Institute who devoted his career to the study of adult cardiac stem cells. In 2008, before leaving for a position at Harvard, Anversa suggested the Eisenbergs would be the ideal team to head the fledgling stem cell center in Valhalla. The pair were recruited by Thomas H. Hintze, Ph.D. '80, professor and chairman of the Department



The research team of Leonard M. Eisenberg, Ph.D., and Carol A. Eisenberg, Ph.D., co-directors of the Stem Cell Laboratory at New York Medical College, is investigating the use of adult stem cells derived from bone marrow to create cardiac progenitor cells that might someday be used to repair damaged heart tissue in humans. Joining the Eisenbergs are, from left, post-docs Nadya V. Mezentseva, Ph.D., Grazia Iaffaldano, Ph.D., Ph.D. candidates Victor Garcia and Jinpu Yang (seated), research assistant Marissa Sansone, and post-doc Mathieu C. Rémond, D.Sc.

of Physiology. Later that year, Leonard took the position of professor of medicine and physiology and Carol became associate professor (see *Chironian* Spring-Summer 2008).

Cell biology is Carol Eisenberg's particular expertise, while Leonard's is molecular biology and microscopy. They describe their research collaboration as 50/50 for some projects and 90/10 for others, although they are always working as a team. The laboratory is a component of what will eventually become the New York Medical College/Westchester Medical Center Translational Stem Cell Center, and the Eisenbergs see great potential in the possibilities for future collaborations, not only between the two Valhalla institutions but with other New York area medical institutions and industry as well.

INTERRELATED CARDIAC RESEARCH

The Eisenbergs are now working on three interrelated research projects funded by two NIH grants. In the first project, they are exploring the cell biology of the adult heart, using a type of transgenic mouse model that has rarely been used to study anything other than embryonic heart development. "Examining the Cellular Heterogeneity of Adult Myocardium Using Transgenic Mice" received a total of \$795,000 in NIH Recovery Act funding in 2009 and 2010. The Eisenbergs and their team are investigating the distribution of cardiac progenitor cells and new myocytes in the adult heart, as well as a pattern of cells that were identified using the transgenic mouse model. The latter cells were originally thought to be newly formed heart muscle cells, but the two scientists now believe

that these are myocytes whose characteristics have changed in response to injury, such as the kind of damage that occurs during a heart attack. In that scenario, blood flow to a section of heart muscle is blocked, whereupon the muscle begins to die from lack of oxygen. The Eisenbergs hope their research will lead to better understanding of both the healthy and the diseased heart.

The team's second NIH grant, "Non-Canonical Wnt Signal Transduction and Cardiogenesis," was initially funded in 2005 as what Leonard calls "a standard developmental biology grant." In that study, they were looking at molecular signaling factors involved in the organization of the developing fetal heart in the chick and frog. Now they are exploring protein signals that regulate the genes controlling the differentiation of cardiac stem

cells into their eventual phenotypes. The Eisenbergs have already published four papers related to this research, which could provide information essential for developing a way to produce replacement cardiac tissue from stem cell sources, as well as insights into congenital heart defects.

In 2008, the NIH took steps to encourage more research into non-embryonic human stem cells, offering an extra incentive of \$75,000 to researchers who could reasonably connect the new research to a study already funded under an existing grant. The Eisenbergs responded, incorporating an additional aim to their cardiogenesis grant that switched the focus to the adult heart and adult stem cells.

THE CHALLENGE AND THE HOPE

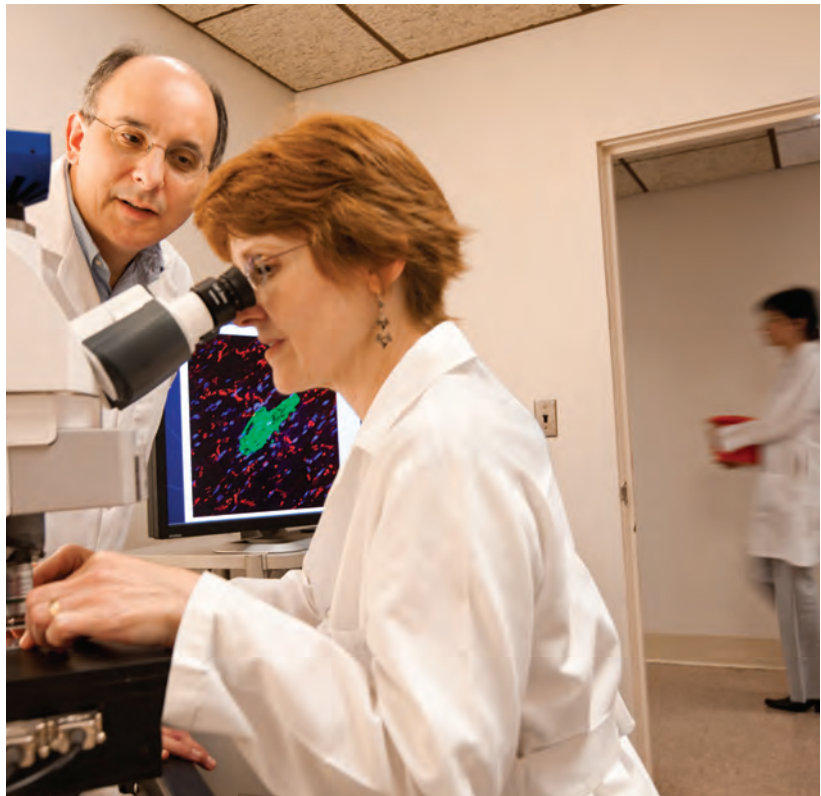
Leonard Eisenberg describes the theoretical challenge in using stem cells to regenerate heart muscle this way: It has been known for some time that adult stem cells in the bone marrow can give rise to myocytes, but the yield is very low. Embryonic stem cells can produce many more myocytes, but they produce other kinds of cells as well, including those that create tumors and cancers. There is a third kind of stem cell, called an induced pluripotent stem cell (iPSC), which is created by inserting a transgenic copy of the pluripotency gene into an adult cell. iPSCs can be made from individual patients, so they

are tailored to those patients. But while the practice can alleviate ethical issues with the embryonic stem cells to which they are similar, these cells, too, can be tumor-producing.

So the Eisenbergs decided to explore the possibility of taking easily accessible adult stem cells—from bone marrow, for example—and use the same technology used to make iPSCs. Then they push the cells just a little, not all the way to pluripotency. By the end of 2010, the pair will have submitted three papers on this research, and in 2011 they will seek renewal of the parent NIH grant, with the focus now being

on the development of adult cardiac stem cells.

The Eisenbergs are doing the basic research, leaving clinical applications for others to develop. But their vision is compelling: to take adult stem cells from a patient's bone marrow, grow them in culture and stimulate them to become cardiac precursor cells, then transplant those cells back into the heart where they could grow into cardiac muscle. As their chairman, Dr. Hintze, says with characteristic understatement: "We have great confidence in Leonard and Carol Eisenberg, and we are lucky to have them." ■



STANLEY S. PASSO, PH.D., TEACHER EXTRAORDINAIRE

By Marjorie Roberts

Emerson wrote, “Do not go where the path may lead; go instead where there is no path and leave a trail.” The American poet and philosopher didn’t know Dr. Passo, but it seems they were kindred spirits.



There are some people who make waves wherever they go. Stanley S. Passo, Ph.D., is not one of them. A New York Medical College faculty member for more than four decades, he fits so seamlessly into the teaching component of the university mission that his talent for imparting the fundamentals of physiology has gone unsung. But not by his students, who have named him to their list of outstanding teachers every year since 1985. (The exception is 2003, but he doesn’t recollect why.) And not by his colleagues in the Department of Physiology, who are so steeped in collegiality that they gather for lunch every day in a department conference room.

It begs the question whether Dr. Passo sought to work in this atmosphere or whether it was kismet that he found employment in medical research where camaraderie is only slightly less important as the skill set one brings to the job. Stanley Passo has spent his entire career at New York Medical College, not counting the guest lectures and consulting engagements that came his way. He arrived well educated and eager to continue studying what physiologists claim is the most basic of the medical sciences. Following his B.S. degree in biology from the College of the City of New York, he earned a Ph.D. in physiology at the College of Physicians and Surgeons of Columbia University. He moved to San Francisco Medical Center, University of California, for a post-doctoral fellowship and an added year of research that spanned 1968 and 1969, precisely when the New York Mets, Jets and Knicks all won their respective sporting titles. It was only part of the draw to return home.

HEART LEAVES SAN FRANCISCO

Norman Levine, Ph.D., professor of physiology and president of the New York Medical College Faculty Senate, clarifies Dr. Passo’s value to the department:

“Stanley is one of the most gifted and dedicated teachers I have ever known. I joined the physiology department in 1973, and for 31 years I was director of the medical physiology course. Stanley has been my colleague all of this time and this has been a privilege. In many ways he has served as a role model for me and for other members of the department. His intelligence, personality and commitment to excellence have earned him the respect not only of his colleagues in the department, but from faculty and students throughout New York Medical College as well.”



Stanley Passo was born in the Bronx. Though he has but one sibling, a sister who is a librarian, he talks about having a large family. “My mother had eight siblings and my father had four,” he says. “There were 30 first cousins, and we saw each other all the time... These were the formative years but I haven’t changed much...I had no incentive to go to the prestigious high schools. All my friends went to the same high school and college,” so he gave no thought to competing for Stuyvesant or the Bronx High School of Science. James Monroe High School offered a more nurturing environment, but it was his junior high school science teacher, coincidentally named Stanley (Breit), who unknowingly became a role model to a kid who wanted to spread his wings.

“MY HERO WAS MY SCIENCE TEACHER. I WAS 13 AND HE WAS A STAR. WHY WOULD I WANT TO BE A DOCTOR? THE ONLY DOCTORS I KNEW HAD OFFICES IN APARTMENT BUILDINGS.”

SUBWAY AND BUS

A New York State Regents scholarship and three buses took him from 174th Street in the South Bronx to fuel his study of biology at City College. In graduate school he narrowed his interest to physiology, which he defines as “how things function.” Almost as an explanation he adds, “I love it.” When he joined the College as a research associate in 1969, he was given a laboratory of his own to investigate the control of blood volume by the central nervous system. Two graduate students earned their doctoral degrees under his supervision.

“I only did research for 10 years after my post-doc, and that was 30 years ago. We were looking at how the concentration of sodium in the blood is regulated by angiotensin II and natriuretic peptide. But there came a point when I started to find teaching more satisfying. Independent research can be lonely,” he admits. “I liked interacting with the students. It just seemed like it was an appropriate end to the journey, and I finally acknowledged to myself that I was always destined to teach. Even the timing was perfect—no one would be out of a job or without a mentor because of me. By this time I was an associate professor and I was tapped to be the graduate program director. What I concentrate on now is pulmonary and

cardiovascular physiology.” These just happen to be prime research interests in the Departments of Physiology and Pharmacology.

DIVERSITY OF STUDENTS

You would be hard pressed to find someone on campus who hasn’t had the opportunity to be a student of Dr. Passo. This includes medical and graduate students, physical therapy and graduate medical education students and residents in dental surgery. “I find them all a delight to teach,” he says. It is to their advantage that Dr. Passo does not watch the clock. “Some courses start, others end and my off-time is often spent with students. There are no certain set times for anything. I tell them to stop by my office or email me,” he says.

His ability to adjust his level of instruction to accommodate his audience is underscored by Gabor Kaley, Ph.D., Passo’s boss for essentially his entire College career. Dr. Kaley recently stepped down as Department of Physiology chair after almost 40 years, but continues his cardiovascular research in the department led by his successor, Thomas H. Hintze, Ph.D. ’80. Discussion of this life-changing event leads to a question of Passo’s own mortality and plans for the future.

“Retirement? I’m hearing the word thrown around more often,” he says with a brief smile. “Not yet. I’d like to go back to school and take courses on history and art history, English literature and landscaping—those kinds of things, and to travel and collect art,” he says. This should not imply that he has not been anywhere. Posters on a wall in his office name drops Switzerland, Kenya, Turkey and Japan. He also has experience with objets d’art that goes back to the late 1960s, when he owned antique shops in City Island and Sag Harbor, New York, where he still maintains residences.

A life of quiet success may not be enough for some people, but it suits Stanley Passo just fine. In his mind the most reckless thing he’s done is to own and drive a Lotus race car. “I once stopped my car to take in three dogs abandoned on the side of the road,” he adds, having thrown caution to the wind. It would seem that Dr. Passo has earned a stretch of golden years to pave the trail he has left behind—which is, perhaps, just what Ralph Waldo Emerson had in mind. ■



CHASING THE Elusive Stuff of Memories

How do today's experiences become tomorrow's long-term memories? Patric K. Stanton, Ph.D., knows it's all in the neurons, the connections between them, and the chemistry that binds them together.

By Marjorie Roberts

The human brain holds some 5 billion neurons; each neuron has between 30,000 to 100,000 connections, or synapses, that store everything happening today as the long-term memories of tomorrow. You can never have too many neurons, because as they age and disappear, expiring neurons leave behind a number of diseases and conditions that have stood firm against any remedy researchers have so far devised.

What would it take to stimulate these neurons to make connections that are stronger or weaker, or even create new links? This is what researcher Patric K. Stanton, Ph.D., has been trying to figure out for 25 years, the last 6 as a professor of cell biology and anatomy, with a secondary appointment in neurology, at New York Medical College. This is how Dr. Stanton explained the relevance of his quest when he applied to the NIH for the \$2,453,000 grant he

was awarded in 2004 (renewed in 2008) that runs through mid-2013:

"How brain electrical activity changes connection strengths between neurons is believed to be critical to how the brain stores memories. In particular, long-term changes in neurotransmitter release are relatively understudied. This work is potentially vital to our understanding of normal memory storage, and diseases ranging from Alzheimer's to epilepsy, in which neurotransmitter release and plasticity may be dysfunctional."

It is potentially important to make drugs and stimulants to improve memory storage because, he says, "Even if we can't fix genetic causes, maybe we can stimulate the synapses that are still there, and delay the neurodegenerative disease process."

ULTRA BASIC SCIENTIST

“Ever since I was a young man I’ve known I wanted to do neuroscience research, to learn how our brains work to shape who we are,” says Stanton. The components he studies—the tools of his trade, if you will—are memories, personalities and plasticity, which he defines as the ability to change. “All those connections in the neurons of our brains are constantly changing strengths. The question is, how do our day-to-day experiences get stored in our long-term memory? If you compare it to a computer, everything is stored on the hard drive, and a separate CPU uses copies of that information to compute. The brain doesn’t work that way. You can’t save to the brain. There is only one set of neurons to store, think and represent our personality, all at the same time.

“When we think, we are having brief electrical connections that last tens of milliseconds. This brief pattern of electrical activity must lead to some longstanding chemical and physical connections,” he continues. “The key to storing is to make some connections stronger and others weaker, and to do this we need to understand the chemistry of the specific changes that will produce memories...You can depend upon evolution to not waste a good mechanism—it will use the chemistry over and over again.

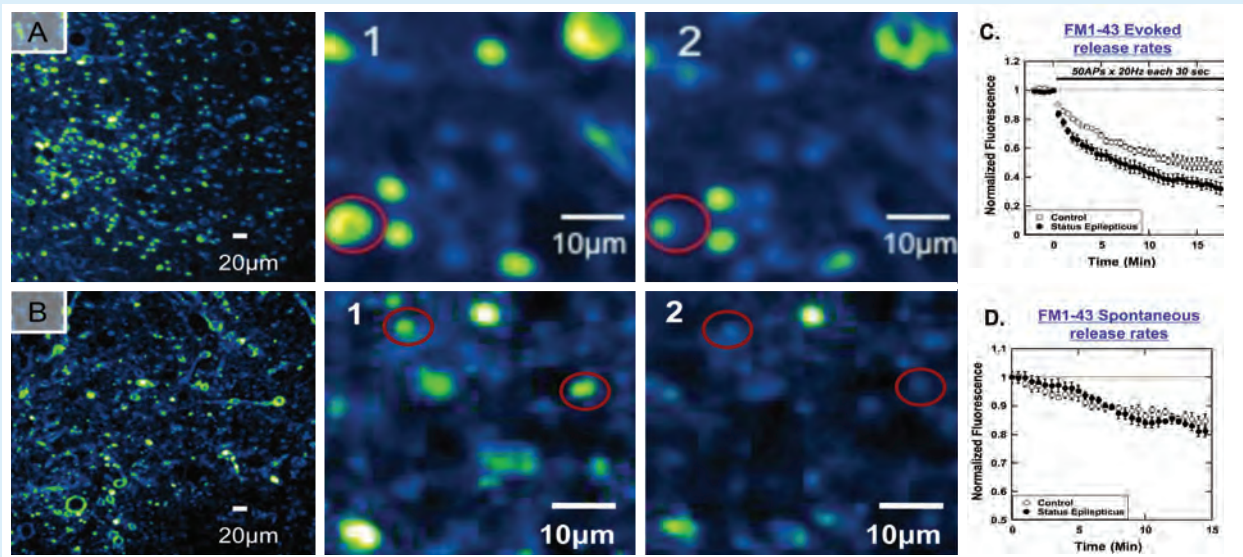
“The point is, the pattern of electrical activity leads to long lasting changes and, depending on which connections are stronger or weaker, they represent memories. When similar patterns are experienced a second time, we reactivate these same connections and recall a memory.”

BRAINS AND BATTERIES

In attempting to convey his enthusiasm for such complicated processes, Stanton relies on analogies to explain the jargon that nearly becomes his second language. “We carry the ocean inside of us,” he says. “We are all from a single cell floating in the ocean, the extracellular space that bathes all our cells. When you do a spinal tap, the fluid in the extracellular space looks very much like sea water.



“Think of your car and its battery. You turn the key, electrons flow and the car starts. With the brain, there are no electrons flowing. Electricity is carried by ions that move from outside to inside neurons, through electrically-sensitive membrane pores that open and close. The major ones are sodium and potassium and chloride and calcium. Actually, every cell in the body carries a charge from the food we eat.” As Stanton begins to turn the subject to more clinical aspects of his work, he starts to describe how neural injuries to the spine used to be treated—as permanent, with no hope for recovery. The same diagnosis was given stroke patients—irreversible and permanent. “With physical therapy, patients who are paralyzed can regain some use of their limbs. After a stroke, some neurons will have died, but others were just injured. Can existing neurons form connections? Yes. And can new neurons be made? Yes, and this is why stem cells are so important. What we need to learn is what tells the body to direct stem cells to become more neurons. Actually, we first need to discover what *normally* tells stem cells what to be. Rapid progress is being made in all these areas.”



The brain's electrical activity is believed to be critical in changing connection strengths between neurons (synapses). Dr. Stanton's laboratory has pioneered the ability to acquire images such as the ones above—individual presynaptic transmitter release sites in living brain tissue slices, caught in the act of releasing their transmitter in response to electrical stimulation. A: Circles are drawn around the presynaptic release sites before (A1) and after (A2) application of electrical stimulation, showing the drop in fluorescence caused when dye is released along with transmitter from the vesicles that hold the transmitter in a normal section of the hippocampus region of the brain. B: The identical process shown in brain slices from an epileptic rat. Plot (C) summarizes the time courses of electrically-evoked release of transmitter, showing that the epileptic presynaptic terminal (filled circles) releases transmitter much faster than the non-epileptic brain (open circles). Plot (D) summarizes the time course of spontaneous transmitter release, which does not differ between epileptic and normal hippocampuses.

(Graphic courtesy of Patric K. Stanton, Ph.D.)

PROGRESS SHOULD ACCELERATE

Stanton notes that many pharmaceutical companies have been searching for drugs that would promote plasticity, thus working like memory enhancers, and a series of synthetic compounds is being developed by a privately held company called Naurex. He is the basic science principal investigator for Naurex, a Chicago-based firm, where his research into the cellular mechanisms of synaptic plasticity has been a key component. This work continues at the College, where Stanton is co-director of 2 Photon microscopy—a sophisticated imaging device to make visible that which otherwise would escape detection.

A scientist's scientist who doesn't hold back when given the opportunity, Stanton is pleased with the progress he is making—but is also concerned about the public's understanding of research: "Science has been caught in a terrible and fatal mismatch between its allocation of resources and the actual threats to human beings. Medical research has the potential to improve peoples' lives. We should be spending more on research to improve and extend our lives. You are very unlikely to be killed by a terrorist, and much more likely to be the victim of a stroke or a heart attack or a carcinoma.

"This year the government gave \$30 billion to the NIH. The Pentagon got \$1 trillion. If we treasured life more, we would move these numbers closer together." ■

NEW BOOKS

by Alumni Authors



SHIFT:

How to Deal When Life Changes

by Abigail Brenner, M.D. '77

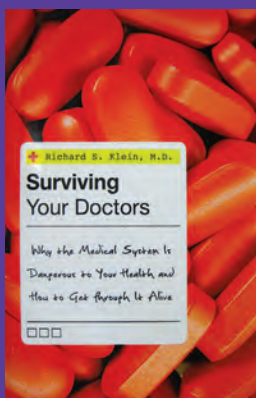
Dr. Brenner aims to reveal the nature of personal transitions and offers a thoughtful method for dealing with life changes. Weaving narrative examples with brainwave research and theory, the author seeks to demystify the process of life's

unfolding and the mastering of change. Dr. Brenner is a board-certified psychiatrist, an ordained interfaith minister and a Reiki master who divides her time between New York City and San Francisco.

RECIPE FOR A HEART ATTACK:

The Body's Perfect Storm
by Elliot Brown, M.D. '88

Dr. Brown, a cardiologist with a practice in Parsippany, N.J., explores numerous underlying factors that contribute to the development of heart disease, such as family history, risk factors, stress, psychosocial influences, diet and nutrition. He recommends a new recipe for readers who want to improve the odds against experiencing a serious cardiac event.



SURVIVING YOUR DOCTORS:

Why the Medical System Is Dangerous to Your Health and How to Get Through It Alive
by Richard S. Klein, M.D. '67

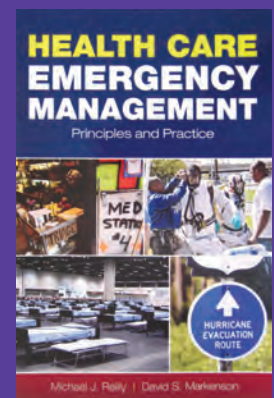
Written by a practicing physician who has testified in medical malpractice cases, the book offers insights into all the things that can, and often do, go wrong in the practice of medicine. He

counsels readers on ways they can become stronger advocates for their own health and well-being.

HEALTH CARE EMERGENCY MANAGEMENT:

Principles and Practice
by Michael J. Reilly, Dr.P.H. '10, M.P.H., and David Markenson, M.D., editors

An instructional text for hospital administrators, emergency services coordinators, and others involved in emergency care management and disaster planning, the book comprises chapters written by leading experts on disaster planning, terrorism and public health emergencies. The authors/editors hold faculty appointments at New York Medical College, and are co-director and director, respectively, of the College's Center for Disaster Medicine. ■





EASING THE TRAUMA AND STRAIN OF SERIOUS ILLNESS

*A new hospice and palliative medicine fellowship at
Metropolitan Hospital Center trains doctors to provide choices,
support and comfort to patients—and not just those who
are nearing the end of life.*

By Jen Uscher

When her loved ones were in the hospital suffering from cancer, Andrea Jno Charles, M.D., recalls that they weren't even offered the option of hospice care. "I wish someone had mentioned it to us," she says. "There was so much information we weren't given, and it was such a stressor on my family."

Now Dr. Jno Charles (pronounced *John-Charles*) believes she has a duty to spread the word that patients with chronic or life-threatening diseases can have more choices about their treatment and end-of-life care. That's why she decided to pursue a new fellowship in hospice and palliative medicine offered at Metropolitan Hospital Center, a New York Medical College affiliate in East Harlem. "When you're providing palliative care, you give as much attention to the family as you do to the patient," she says. "And it gives me joy to see how much stress we can alleviate for them."

Sponsored by the College's Graduate Medical Education program, the one-year fellowship is one of the first such training programs at a public hospital in the U.S. It was launched in 2007, when Metropolitan opened a new Department of Palliative Care. Lauren Shaiova, M.D., was recruited from Memorial Sloan-Kettering Cancer Center to head the new department and direct the fellowship program. She also joined the College faculty, where she is now an associate professor of rehabilitation medicine. She teaches a popular elective course on palliative care for third-year medical students.

What makes the Metropolitan program unique is the population it serves. "We're working with a medically underserved community," says Dr. Shaiova. "Many of our patients are poor, uninsured or chemically addicted, and these are populations that typically don't have much access to palliative care. This makes our work more challenging and, in the end, more rewarding."

While hospice care is intended to help patients who are expected to live about six months or less, palliative care can be offered at any stage of an illness and at the same time that a patient is receiving treatments like surgery or chemotherapy. Both are focused on controlling pain and other symptoms so patients can live as comfortably as possible. "Palliative medicine is not about curing. The goal is to maintain quality of life even when you can't save life," explains Richard K. Stone, M.D. '68, senior associate dean at the College and medical director at Metropolitan.

"The creation of this fellowship responds to a growing societal need," says Richard G. McCarrick, M.D., vice dean for graduate medical education and affiliations. "Hospice and palliative care have often been under-emphasized in medical education nationally, so there is a real

Lauren Shaiova, M.D. (center), director of the Department of Palliative Care at Metropolitan Hospital in New York City, is winning new converts to palliative medicine by training fellows Andrea Jno Charles, M.D. (right), and Uchenna Ozuah, M.D. Below, the team explores the cause of 18-year-old Jamal Fowler's knee pain.



shortage of knowledgeable physicians in this area. With this fellowship, New York Medical College is positioned to become one of the leading sources of the next generation of expert practitioners in this rapidly growing field."

Under the supervision of Dr. Shaiova and other attending physicians, the two fellows in the program provide consultations for hospitalized patients on end-of-life issues such as when to consider forgoing invasive treatments and focus instead on easing symptoms. They also see patients with chronic diseases like multiple sclerosis in an outpatient clinic, do a rotation at a local hospice center, and attend journal club meetings. "It's more multidisciplinary than other fellowships," says Dr. Stone. "There are ethical considerations when you're dealing with high-dose opiates that raises the risk of addiction, if not properly managed. There is also a lot of psychology involved in communicating with the patients

Since palliative medicine addresses not just the physical needs of patients, but their psychological and spiritual needs as well, the fellows learn how to offer guidance to families that are dealing with grief and difficult decisions.

and families, and the fellows are exposed to psychiatry, social work and chaplaincy.” Each fellow also participates in the department’s research projects, including a Phase III clinical trial evaluating a marijuana-derived drug to be used for the relief of pain in patients with advanced cancer.

Although the majority of cases involve patients in the advanced stages of diseases like cancer during the final weeks or months of their lives, palliative care physicians also see patients on an out-patient basis, some of them for years. These patients have long-term, chronic illnesses such as arthritis, HIV/AIDS, cystic fibrosis, or Parkinson’s. They are afflicted with pain, nausea, shortness of breath, or other symptoms that can be overwhelming and damaging to their quality of life. “You see a very interesting spectrum of pathologies in palliative medicine. It’s not routine. Every case is different,” says Dr. Shaiova.

One of the conditions she specializes in treating is sickle cell anemia, a blood disorder that can cause periodic episodes of intense pain. Jamal Fowler, 18, a longtime patient of Dr. Shaiova, used to have such severe pain from sickle cell anemia that he was often unable to function and had to miss school. “He had been in and out of the hospital like a revolving door. He used to come in limping, writhing in pain,” says Dr. Shaiova. She was able to help get the young man’s pain under control by prescribing methadone. “I saw his life change dramatically,” she says, noting that Jamal was able to start attending college.

She says although patients, families and even some doctors are often concerned that treating chronic pain with opioid pain medication will lead to addiction, this very rarely occurs unless a patient has a history of chemical dependency. And it goes without saying that careful management is a cornerstone of all treatment.

Uchenna Ozuah, M.D., says he feels fortunate for the opportunity to learn about symptom management from Dr. Shaiova. Like Dr. Jno Charles, he is halfway through his fellowship year. Dr. Ozuah grew up in Nigeria and practiced medicine there for more than a decade before moving to New York several years ago for a residency in internal medicine at Metropolitan. “In Nigeria, we didn’t have palliative care services or access to medications like morphine at the time,” he says. “I saw patients with terminal illnesses who would suffer terribly from pain. They died with full-blown symptoms and we had nothing to offer them.” Dr. Ozuah learned about the field of palliative medicine while researching fellowship options, and, he says, “It made so much sense to me because it ties together a support system for patients.”

At Metropolitan, he notes, the palliative care team works with a culturally diverse population with a wide range of medical conditions. And this has made his fellowship experience especially fulfilling. “A lot of our patients have difficult medical histories and family histories. They have been through so much in life and you can’t help but feel compassion for them,” he says.

Since palliative medicine addresses not just the physical needs of patients, but their psychological and spiritual needs as well, the fellows learn how to offer guidance to families that are dealing with grief and difficult decisions. They participate in family meetings and discuss religious and legal concerns, treatment options and goals for the patient’s care. When patients are nearing the end of life, the team can arrange for them to receive hospice care at the hospital, a hospice center, or at home. “We’re able to provide patients and families with a comfortable, calm way of dying,” says Dr. Jno Charles.

To qualify for the fellowship, physicians must have already completed a residency in one of several specialties such as internal medicine, emergency medicine, neurology, or anesthesiology. And after their fellowship year, they can take the American Board of Medical Specialties (ABMS) Hospice and Palliative Medicine board exam to become specialists. “The fellows have no problem getting good jobs,” says Dr. Stone, noting that the four physicians who’ve completed the program so far are now working in palliative medicine programs at hospitals or hospice centers. “Since the population is gradually aging and chronic disease is increasing in prevalence, there’s a strong demand for palliative care,” he says.

“It’s a tremendously rewarding field,” adds Dr. Shaiova. “You do what no one else [in medicine] does. And you can really make a difference for patients.” ■

Coming Up in 2011

JANUARY

SATURDAY, 01.22.11

Founder's Dinner

FEBRUARY

THURSDAY, 02.03.11

Medical Student Research Forum

TUESDAY, 02.22.11

2010 Dean's Research Award Presentation

MARCH

WEDNESDAY, 03.16.11

Academic Convocation

THURSDAY, 03.17.11

Match Day

THURSDAY, 03.24.11

Alpha Omega Alpha
Visiting Professor Lecture and Induction Ceremony

APRIL

THURSDAY, 04.14.11

Student Physician Awareness Day

MAY

SATURDAY, 05.21.11

Annual Alumni Banquet
Class of 1986—25-Year Reunion
Class of 1961—50-Year Reunion

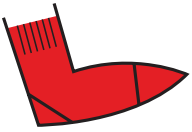
SUNDAY, 05.22.11

Alumni Association Annual Meeting,
Luncheon for 5-Year Reunion Classes

TUESDAY, 05.24.11

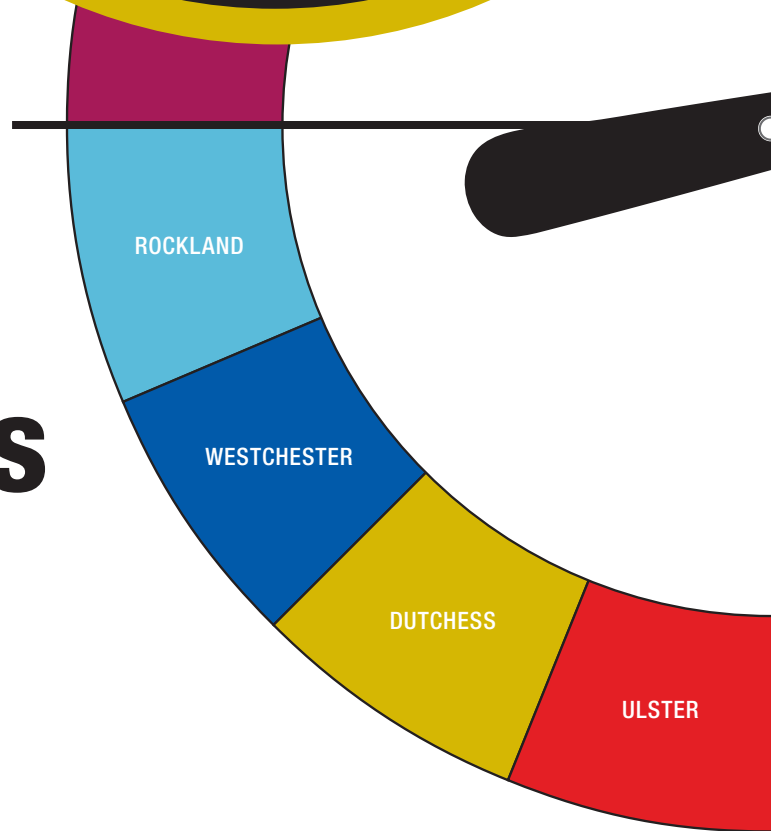
152nd Commencement Exercises
Carnegie Hall

LEFT FOOT



By Melissa F. Pheterson

Keeping Tabs on the Health Needs of Seven Counties



LEFT HAND

Deborah Viola, Ph.D., and Peter Arno, Ph.D., may have a hand in each of seven counties in the Hudson Valley, but even they know that addressing the health care needs of each, and recommending ways to maximize resources, can be like playing an oversized game of Twister.

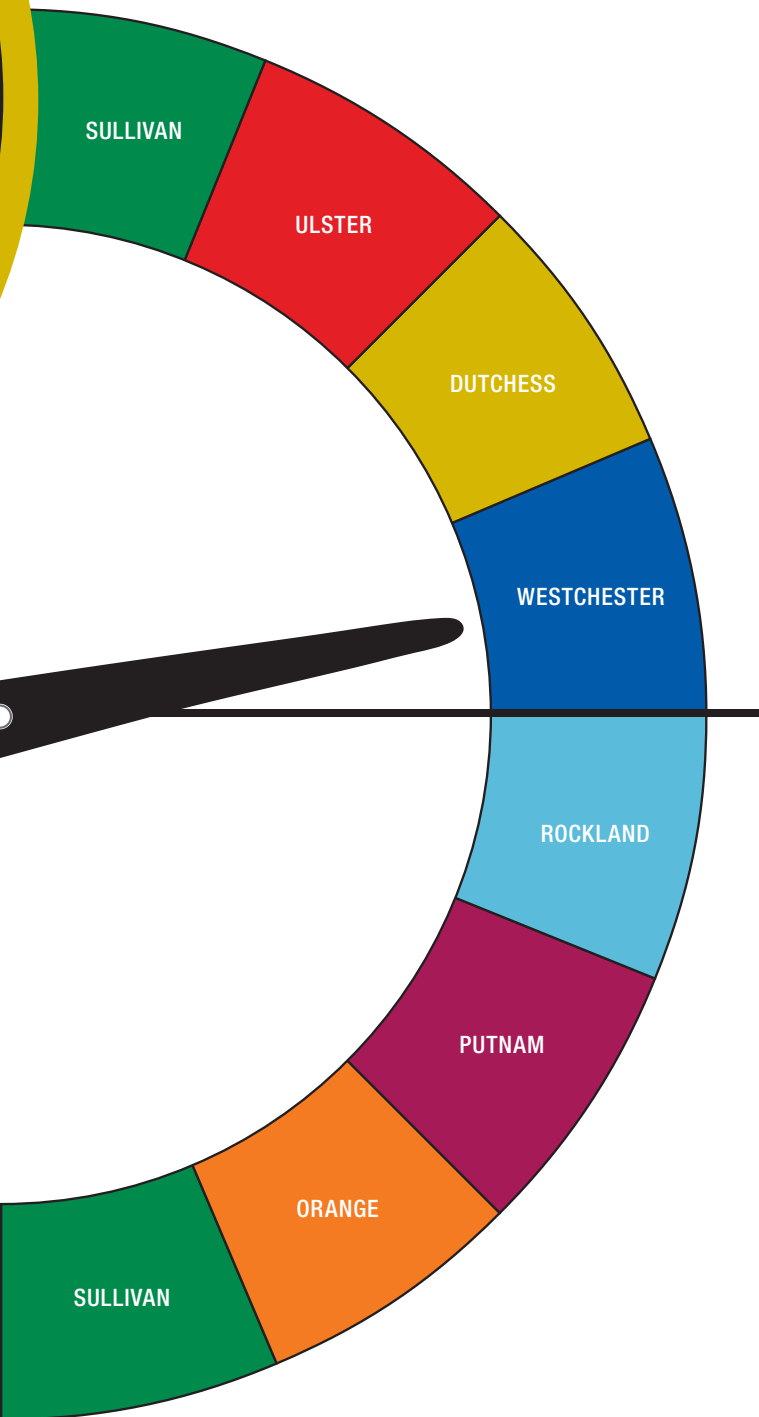
RIGHT HAND



Faculty and students help the Hudson Valley region join forces and pool resources to tackle the public health issues that plague residents.

The prospect of battling public health issues—from chronic disease to maternal health—is enough to twist any county health department into knots. So in 2008, when New York State announced a grant to support local health planning initiatives, a team from New York Medical College jumped aboard a merger that drew together seven neighboring counties with shared goals into an alliance.

The state program that made the grant possible is called the Health Care Efficiency and Affordability Law for New Yorkers (HEAL NY). The Rockland County Department of Health applied for the grant on behalf of six other county health departments in the Hudson Valley, and sought assistance from the College and its School of Health Sciences and Practice. “The strength of our application lay in our ability to bring together seven counties with a common objective to plan regionally,” says Peter Arno, Ph.D., professor of public health practice and director of doctoral studies in the Department of Health Policy and Management. “Having all seven counties buy into the concept, ready to put their resources behind that commitment, was key.”



RIGHT FOOT

In early 2009, New York State awarded \$1 million to Rockland County—the single largest award among several grants totaling \$13.8 million—to help pinpoint initiatives that target critical health needs in Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester counties.

To help the counties share information, ideas and resources, E. Oscar Alleyne, director of epidemiology and public health planning at the Rockland County Department of Health, approached Deborah Viola, Ph.D., M.B.A., associate professor of public health practice and associate director of the doctoral program. The two served as principal investigators on the grant, along with Arno and Joan Facelle, M.D., M.P.H. '03, Rockland County Commissioner of Health.

As Viola explains: “We saw how, within individual counties, different municipalities come together to coordinate and plan initiatives. A regional approach was a logical next step, but we just hadn’t seen it.”

“On another level,” adds Arno, “we saw this was an excellent opportunity for collaboration between doctoral students and our faculty.”

While applying for the grant, the team reviewed community health assessments from each county in order to develop a list of common health issues. Not surprisingly, the top three were access to care, chronic disease prevention and control, and maternal and child health. Once funding kicked in, the team confirmed those priority areas with a detailed and comprehensive survey, timed to coincide with each county’s process of updating its individual health assessments. “Every time we’ve rolled out an initiative, we’ve tried to do it in lockstep with other efforts so we can efficiently use everyone’s resources,” says Viola. Students canvassed each county with an eye toward getting direct feedback from as many residents as possible, including low-income and minority groups.

“Since the seven counties are different, in terms of demographics and geography—some rural, some urban—it was surprising to learn that many barriers to better health, as well as ideas to improve health, were the same,” says Viola, citing lack of transportation as one example. “It appears that we can put a man on the moon, but we can’t get a pregnant woman to her prenatal care visit.”



After conducting focus groups over the winter and spring, the team held a summit on June 10 in Newburgh, N.Y., with Richard Daines, M.D., Commissioner of Health for New York State, as a keynote speaker. Invitees included not only CEOs from hospitals and directors of nonprofits, but also heads of literacy programs and religious groups, and others who were familiar with underserved populations. The summit generated more than 100 ideas for regional programs that would tap the resources, expertise and best practices in each county, with strategies for streamlining efforts and replicating successful initiatives. Says Viola, “It makes sense to share our resources to get a bigger bang for our buck.”

Dr. Viola served on the Board of Health in Bergen County, N.J., for 12 years, and now sits on Bergen’s Board of Social Services. Dr. Arno, while at Albert Einstein College of Medicine, was involved with a coalition in the Bronx known as CREED: the Center to Reduce and Eliminate Ethnic and Racial Health Disparities. “To have a true partnership between the practical and academic worlds, you have to be out in the community—not just sitting in your office,” says Viola.

In February 2011, a finalized list of recommended pilot programs to New York State will end the grant, laying the groundwork for current and future regional health planning initiatives.

“Our hope is to continue down this road of regionalization,” says Arno. ■

The Student Experience

Two doctoral students in the School of Health Sciences and Practice have played critical roles on the HEAL NY project team. In fact, the regional team concept began with one of them—E. Oscar Alleyne, director of epidemiology and public health planning at the Rockland County Department of Health. Upon getting word of the grant, he says, “I reached out to colleagues to share my idea: instead of all competing against each other for the money, it’s to our advantage to combine our efforts into a regional approach.”

Having secured the coalition, Alleyne, who enrolled in the school’s Dr.P.H. program in 2008, continues to manage expenditures and build consensus among regional partners that include insurers, doctors, clinics and hospitals. It’s no small feat, given that “not everyone may see the overall picture of what we’re trying to accomplish.”

Linda Harelick, the grant’s associate project director, held a senior marketing position at Kraft Foods before starting on her Dr.P.H. degree in 2008. Like Alleyne, she brings career skills to bear on her position. “I work with seven counties and a ten-person project team, all with different styles and multiple responsibilities, so I have to get my point across quickly and clearly,” she says. Harelick helped inject the survey with an unsurpassed level of detail, for example, asking not only: *Do you have health insurance?* but also following up with: *How about dental insurance? Prescription insurance? Cancer screening? Mental health? When is the last time you saw a provider?*

It was Harelick’s idea to invite Dr. Daines as keynote to drive attendance to the June 2010 summit. And now, in the home stretch, Harelick continues to apply her marketing lens. “Each county has its own set of promotions for losing weight or eating better, but people cross county lines all the time,” she observes. “Having the same consistent message is a more efficient use of spending, and a better way to reinforce meaning.”



Dr.P.H. candidate Linda Harelick (top), the grant’s associate project director, has drawn on her experience as a former marketing executive to develop a survey instrument that tapped key attitudes of respondents. Fellow Dr.P.H. candidate E. Oscar Alleyne (left), director of epidemiology and public health planning at the Rockland County Department of Health, first brought the idea to the School of Health Sciences and Practice.



Both Alleyne and Harelick have found their student experience enriched by the grant work. “It’s been extremely helpful to interact on a daily basis with the project team, who are experts in public health,” says Harelick. “Networking with health care leaders across the counties has helped me think more broadly—not just about goals of public health, but how I can add value.”

Alleyne agrees. “By marrying the experience of leadership to the practice of public health, this grant has broadened my scope of how decisions are made, how to encourage teamwork, how to engage community, and what makes a policy successful.”

Both also gained ideas for their dissertations. Alleyne will pursue the study of regionalization, which might be described as broadening perspective from local to regional, and Harelick will explore regional access to dental health.

“In the long run,” says Alleyne, “we’ll have combined efforts to improve health in the entire region.” ■

Soul

Three students
take their muse to
medical school.

By Lynda McDaniel



"The doctor will inspire you now..." Three students came to medical school with a dual passion for the arts and the sciences. Third-year Alanna Chait is a singer, musician and writer, second-year Courtney Riley sings, and fourth-year Aaron Savedoff paints.

Medical students are asked to endure all kinds of hardships as they learn to save lives. They hunker down in the library and give up their social life. Three students share how the arts are *their* lifesavers.

Alanna Chait, Class of 2012, was born into the creative life. Music was “pervasive” while she was growing up in Scarsdale, New York, where her mother is a singer and music teacher and her grandmother was an opera singer. Chait started piano at the age of three, added flute and voice to her repertoire, and became the first person at Scarsdale High School to be in both chorus and band.

At Columbia University, Chait majored in English, which makes her a natural for her current role as one of the editors of *Quill & Scope*, the College’s medical student journal. She contributes poetry to the magazine and plans to incorporate writing into her medical practice.

“I admire Oliver Sacks, the British neurologist who teaches neurology and psychiatry at Columbia University,” she says. “He writes fictional clinical stories, like *The Man Who Mistook His Wife for a Hat*, that delve into bigger issues. I’d love to be like him. I want to write with that kind of creativity.”

This strong passion for writing and music begs the question: Why become a doctor? Again, the answer is family influences. Chait’s father is a physician, and she says she’s always favored a “more traditionally academic career.”

“I was hooked when I got into psychology and psychiatry,” she explains. “I enjoy exploring characters in real life on a more scientific level. One of my favorite courses was Psychoanalysis in Literature, in which we studied characters in novels and applied their behavior to theoretical models of psychoanalysis.”

TRIPLE THREAT

In addition to poetry and creative journal writing, Chait plans to continue with her music. “There’s no question. I can’t give it up,” she says. “Obviously my first priority



is being a physician. I’ll figure out how to balance everything.”

Last year, Chait enjoyed a sign that this merging of writing, music and medicine just might work out. While participating in her clinical skills course during her second year, she was asked by Stephen E. Moshman, M.D., associate professor of medicine, to listen to a patient’s heart to determine what was wrong. Nervous about this new experience, Chait hesitated a beat too long for the exacting Dr. Moshman.

“We need a musician!” Dr. Moshman exclaimed. “We need a musician to hear this heart.”

“I *am* a musician,” Chait retorted.

“Oh, really? What have you done?” he asked.

Chait soon discovered that Dr. Moshman’s avocation is conducting the Albert Einstein Symphony Orchestra, made up of physicians, students and staff at Einstein’s College of Medicine. She also learned that they needed sopranos. She got the part.

“We gave a performance of Gilbert and Sullivan’s *Patience* at the hospital,” she recalls. “That was such a lovely marriage of two of the most important things in my life.”



“If we heard a phrase that matched a line in a song, we’d just break out in song. I do it now while I’m studying. People kid me a lot about that.”

—Courtney Riley

BREAKOUT PERFORMER

The honors program at Clarkson University in Potsdam, New York, has a tradition of giving joke awards to its graduates. **Courtney Riley, Class of 2013**, received the prize for “Most likely to break out in song.” And it looks as though a similar award could be bestowed when she graduates in 2013.

“I’ve been singing my entire life—my family sings all the time,” she says. “If we heard a phrase that matched a line in a song, we’d just break out in song. I do it now while I’m studying. People kid me a lot about that.” When pressed for an example, she recalls: “When I was little, and I used to ask my parents for something I didn’t really need, they would break out into, ‘You Can’t Always Get What You Want,’ by the Rolling Stones. More recently, ‘Bleeding Love’ by Leona Lewis got a lot of attention during the cardiophysiology block last year!”

Riley’s skill has risen well beyond popular ditties. She’s taken years of voice lessons, and sang in chorus in middle school and select choirs in high school and college. She now serves as president of the Arrhythmias, an a cappella group of medical students. Since 1997, the group—with an ever-changing membership as students graduate—has recorded CDs and performed at campus events, assisted living facilities, hospitals and other modest venues.

“We’re made up of first- and second-year medical students, male and female,” she says. “We get away from our books about once a week for an hour to do something besides study. We have a rule that we can’t talk about an exam we’ve just taken—we don’t want that stress to come into our time together.”

As her “most likely” award implies, singing is just something Riley *has* to do. While studying for a



semester abroad in Australia during her undergraduate years, she had no outlet for singing.

“Something was off. It felt all wrong,” she recalls. “Sure, I could sing by myself; that’s fun. But being in a group, sharing with others who love to sing—I need that.”

Riley’s musical ambitions don’t conflict with her plans to be a doctor. In fact, she sees music as an essential sidekick throughout her medical career.

“I may specialize in pediatrics, and a friend who is studying music therapy is giving me ideas about how to incorporate singing into my practice,” Riley says. “I also found a group of doctors on YouTube who do a cappella singing—just four guys in their scrubs. That will probably be me someday.”

Before she has her own practice, though, Riley has another goal she hopes to achieve. “My secret plan is to sing at Carnegie Hall when we hold our graduation there,” she says, her voice rising with excitement. “I don’t know when I’ll get another opportunity like that!” In any case, her secret is out—and she’ll be performing with the Arrhythmias at graduation.

AESTHETICALLY INCLINED

At the Art Students League of New York in Manhattan, people of all ages and backgrounds are busy sharing their love of the creative process. **Aaron Savedoff, Class of 2011**, is among them, working on his latest painting. He considers time spent there to be his “reset button.”

“When I’m at the studio painting, I’m doing something completely different from my daily routine of patient care,” he explains. “After a long day at the hospital, it’s extremely relaxing to take a vacation into the creative part of my brain. Any stress goes out the window, which helps me feel more focused and think more clearly the next day at the hospital.”

Savedoff started drawing as a child and even entertained the idea of becoming an architect. During an architectural internship in college, though, he discovered it wasn’t a good fit. He switched his focus from drawing to painting while in high school, where

he received a couple of commissions for artwork for the school district.

During undergraduate studies at Binghamton University, Savedoff minored in studio art with a concentration in painting and mixed media, working in oils and acrylics and other media such as glass, cardboard mixed with plaster, and wrinkled canvas that add a three-dimensional effect. There he worked with his art professor, James Bohary, who helped him develop a unique style, one in which color—bold, primary, and plenty of it—takes the spotlight.

“I found that bright colors are more fun,” Savedoff adds. “I want my paintings to make people feel good. I think brighter colors make the observer feel brighter.”

The rigors of his first two years of medical school meant Savedoff had to give up painting for a time. Fortunately, during his third year of medical school, he moved to Manhattan and connected with the Art Students League of New York.

“I thought my artistic career was over—but I found out it wasn’t,” he says. “I didn’t realize how much I missed painting until I started again last year. My quality of life increased tenfold. That made me more aware how important the creative process is in people’s lives. I’m also sensitive to aesthetics of hospitals and doctors’ offices. One day, my office will have a lot of artwork on the walls, not just my own but all kinds. In medicine, we often forget about aesthetics. Our offices can be drab and depressing. But when we’re surrounded by an attractive environment, I think it makes us happier. I want the place where I work to have art that takes people out of the doctor’s office.” ■



GRADUATE STUDENTS Explain It All

CAN DRUGS MAKE FLIES SMARTER?

By Linnea R. Vose



It has been known for decades that fruit flies can learn and that mutations in certain proteins can impair learning. One such protein is also responsible for a common human disorder known as Neurofibromatosis Type 1 (NF1), which affects 1 in 3,500 children. Caused by mutations in the NF1 protein, the defect can lead to nervous system tumors in humans and mice, as well as learning impairments in humans, mice and flies.

The protein signaling pathways downstream of NF1 are the same in flies as in humans, and multiple drugs are available that target these proteins. Our laboratory has identified two drugs that have shown improved learning in NF1 mutant flies. One of these drugs also improves learning of NF1 mutant mice and is already in clinical trials for children with NF1.

Flies can be trained to avoid an odor paired with electric shock. By using this simple associative task, we can determine the learning ability of flies with and without drug treatment. Learning can be tested by counting the number of flies that avoid the odor immediately after training. NF1 mutants show a learning defect, but after drug treatment they learn as well as normal flies.

Testing larvae as well as adult fruit flies will allow us to identify any differences in response to the drugs. Since doctors plan to use the drugs to improve learning in young children with NF1, it is important to know if the drugs have different effects on a developing brain (such as larvae) versus a stable brain (adult flies). By training larvae with a similar protocol, we found that NF1 larvae also show a learning defect. We are now conducting tests of the learning response in larvae after drug treatment.

Our experiments should help identify new drugs that alleviate NF1-associated learning defects, which will expedite research in mice. On the horizon are more clinical trials to help children with NF1.

> **LINNEA R. VOSE**, a native of Renton, Wash., is earning her Ph.D. in the laboratory of Frances Hannan, Ph.D., assistant professor of cell biology and anatomy. Collaborators include Peter O'Brien, research associate, and Abraham Grossman, Ph.D., of Mnesis LLC, adjunct assistant professor. Ms. Vose has long been interested in the field of cognition and hopes her work will lead to a better understanding of the protein signaling pathways involved in learning and memory, as well as provide protein targets for NF1 researchers designing drugs to help children and their families coping with this disease. She hopes to mentor young minds, and to eventually teach at a university.

for You

PARASPECKLES: INFLUENZA'S ENEMY OR ACCOMPLICE?

By Jennifer Minieri Arroyo, M.S. '06

Influenza virus infection results in tens of thousands of deaths in the U.S. each year. The goal of this research is to gain insight into the way the influenza virus replicates itself once it infects a human cell. By understanding such strategies we hope to improve current vaccine technologies and antiviral drug development.

Paraspeckles are compartments within the nucleus of cells and are composed of proteins and RNA. We seek to find out whether paraspeckles play a role in influenza replication, and if so, whether they are acting as an enemy to influenza virus or as an unwitting accomplice.

Like all viruses, influenza is required to replicate within a host cell because viruses are not equipped with all the necessary machinery to carry out autonomous replication. Influenza invades a respiratory cell of a human host and hijacks the cell's machinery to replicate itself. In this way, some of the host cellular machinery actually participates as an accomplice to carry out viral replication. However, host cells are armed with immune responses that act to combat viral replication, thus helping to protect the cell.

Recently we determined that, after influenza infection of a host cell, the location of the paraspeckle proteins in the cell dramatically changes. We will determine if this is due to a direct interaction between influenza and paraspeckles or if it is a general response to cellular stress.

The architectural framework of paraspeckles is RNA. In a key experiment to determine if paraspeckles are acting "for or against" viral replication, we eliminate the architectural RNA, thereby eliminating paraspeckles, and test to determine if influenza virus is more, less or equally equipped to replicate itself.

If influenza replication is inhibited when paraspeckles are not available, it would indicate that influenza virus uses paraspeckles to its own advantage. Alternatively, if the virus is better able to replicate itself in the absence of paraspeckles, this would indicate that paraspeckles act to combat viral replication.



> JENNIFER MINIERI ARROYO, M.S. '06, a resident of Yonkers, N.Y., is a Ph.D. candidate in the laboratory of Doris J. Bucher, Ph.D., associate professor of microbiology and immunology. After reading the book *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus that Caused It*, by Gina Kolata, she became interested in flu research. Ms. Arroyo subsequently learned about the vital role that New York Medical College plays in influenza vaccine production. She hopes her work will lead to a better understanding of how the influenza virus replicates in the expectation that this research will aid in improving vaccine production and the development of antiviral drugs. ■

ALUMNI NEWS



NEW PARTNERS HELP RESTORE FORMER STAMFORD AFFILIATION AS A RESIDENCY SITE

By Marjorie Roberts

RUDOLPH F. TADDONIO JR., M.D. '71, AND KRISHN M. SHARMA, M.D. '00

This was meant to be a story about two orthopedic surgeons who graduated from New York Medical College almost 30 years apart. It still is, but Rudolph F. Taddonio Jr., M.D. '71, and Krishn M. Sharma, M.D. '00, have gone far beyond their fledgling partnership to become involved with the educational rudiments of their alma mater and its affiliated hospitals, past and present, with an assist from a savvy department chairman who brought together what political preference had torn asunder.

Dr. Taddonio and Stamford Hospital have made the most of their association. A clinical professor of orthopedic surgery and neurosurgery, he is director of its Division of Orthopedic Surgery. This is where the team does most of their spine and scoliosis surgeries. Dr. Taddonio was point man when the hospital recently upgraded its orthopedic surgical facilities to great acclaim: The Lumbar Spinal Fusion Surgery Program at Stamford Hospital is the first Joint Commission Certified Program in the state of Connecticut.

Dr. Sharma, his new associate, says, "When I was a student, Rudy was an attending at Westchester Medical Center and he had this wonderful reputation as the leading spine and scoliosis surgeon in the region. When I first approached him, he wasn't looking for an associate, so I joined NYCONN Orthopedics based at Stamford Hospital."

TRY, TRY AGAIN

Three years after he first said no, Taddonio answered with a yes when Sharma looked to join his practice again.

Sharma estimates that he and Taddonio operate together "about 90 percent of the time." Besides Stamford, they also operate at Maria Fareri Children's Hospital at Westchester Medical Center, Northern Westchester Hospital in Mount Kisco, Lawrence Hospital in Bronxville, and Phelps Memorial Hospital in Sleepy Hollow, all in New York State, and Greenwich Hospital in Connecticut.



Rudolph F. Taddonio Jr., M.D. '71, right, and Krishn M. Sharma, M.D. '00, graduated decades apart yet found their way into a practice together.

At New York Medical College and Westchester Medical Center he directs the Section of Scoliosis and Spinal Surgery. "Working with Dr. Taddonio was well worth waiting for," says Sharma. "My practice has taken off, just exploded since I joined with him. I have always wanted to work with a group where there was a senior surgeon to guide me along."

"Dr. Sharma is an associate who will become a partner," says Taddonio with a smile. "It was the first time I had found someone whose skills were commensurate with the training he received...Sharma had a spine fellowship at Beth Israel and he was AOA [a member of Alpha Omega Alpha, the national honor medical society] at the medical college...I've made the right decision."

And not a moment too soon, because the demise of St. Vincent's Hospital in Manhattan last April set in motion a series of events that produced a reunion between the College and Stamford Hospital, previously affiliated for 25 years. That association had come to an end in June of 1998, when Stamford's board of directors voted to disaffiliate with the College and join the Columbia Presbyterian Healthcare System.

Twelve years had passed, but this was no time to stand on ceremony. With St. Vincent's' days numbered, the search to find a site for displaced orthopedic residents began and ended when the College managed to arrange a residency program in orthopedics at Stamford Hospital.

Richard G. McCarrick, M.D., vice dean for graduate medical education and affiliations, tries to convey his delight through the following understatement:

"We are particularly pleased to again have a GME presence at Stamford Hospital. Stamford was a founding member of the College's graduate medical education consortium, and Dr. Taddonio is a highly regarded member of the College faculty." When the two institutions were affiliated, there were a half dozen residency programs, but orthopedics was not one of them. Now it is, courtesy of David E. Asprinio, M.D., professor and chairman of the Department of Orthopedic Surgery. Says McCarrick, "It is a tribute to Dr. Asprinio's resourcefulness, reputation and leadership ability that he was able to quickly incorporate such an ideally suited new site as Stamford Hospital into the restructured orthopedic program."

COMMUNITY EXPERIENCE

Losing St. Vincent's as an academic medical center was a major loss to New York Medical College in terms of graduate medical education. "We were aware of the hospital's financial problems since at least 2005, when the hospital declared its first bankruptcy. But the extent of their financial plight only became clear in December 2009, when with one month's notice they shut down five residencies," McCarrick says. "Their administrators kept saying that another hospital might buy St. Vincent's, but it never happened. In April they announced that all residencies would end as of June 30, the usual closing of the academic year. Two weeks later, they moved the date up to April 30. All the continuing residents at St. Vincent's would have to transfer to a different hospital. Fortunately, Westchester Medical Center took over the St. Vincent's orthopedic resident lines until the Stamford Hospital arrangements could be finalized."

The statistics are mind boggling. With only two weeks notice, St. Vincent's had closed 30 programs, displacing 350 residents and fellows who were there to pursue specialty training like cardiology and ophthalmology. The orthopedic requirement was perhaps the most difficult to fill. Notwithstanding St. Vincent's location in bustling

Greenwich Village, it provided a community hospital experience for residents who were able to treat patients who walked in "off the street" with broken bones and torn ligaments.

RESIDENTS GALORE

The orthopedic residency program at Stamford Hospital now accommodates 4 of the 16 medical school graduates who comprise a midsize program that begins after they finish a one-year internship, often at another location. With the closing of St. Vincent's, the College still has 54 programs for some 850 residents.

"Throughout the '90s, we were the largest GME sponsor in the nation. For most of the last decade we have been the second largest," McCarrick says. "I estimate we will be about the eighth or ninth largest in the next listing, so we are still huge considering there are about 700 sponsors of GME in the country."

So although the two alums were simply going about the business of treating their patients when the residents in search of a program came knocking, they willingly opened the door to answer the request of their alma mater. Moreover, with Dr. Taddonio at the helm, the resident experience is not just expected to survive, but to thrive. The hospital is already promoting the spinal fusion surgery program. Dr. Taddonio describes his part in the agenda as *compassion*—making sure that his patients leaving the hospital have enough of it left over to take home. ■



MILESTONES

ALUMNI ACHIEVEMENTS

In this section of *Chironian*, we include all the news you send us, as long as it's timely (within the past 2 years). Submit Class Notes online at www.nymc.edu/AlumniAndDevelopment/Secure/address.asp or mail your news (make sure it's legible!) to Alumni Relations, New York Medical College, 40 Sunshine Cottage Road, Valhalla, NY 10595. You can also follow us on Twitter. Our user name is @NYMC_tweets.

THE 00s

Jordan Wicker, M.D. '10, plans to pursue a residency in anesthesiology at Mount Sinai in New York City.

Tim McNair, M.D. '03, reports the birth of his second daughter Nadia, who joins big sister Kayla.

Martin Graciano Raymundo, M.P.H. '01, was appointed coordinator for public health at Ateneo School of Medicine and Public Health, Ateneo de Manila University, Republic of the Philippines. He is also on the faculty in pediatrics and public health there.

THE 90s

Margaret Chang, M.D. '98, was promoted to medical director of Community Clinic, Inc., in Montgomery County, Md.

Sunit Patel, M.D. '97, recently joined Children's First Pediatrics in Lincoln, R.I., and is affiliated with Women and Infant's Hospital and Hasbro Children's Hospital.

Roy H. Constantine, Ph.D., M.P.H. '94, received the 2010 John W. Kirklin Award for Professional Excellence from the American Association of Surgical Physician Assistants.

Lorna Friedman, M.D. '91, is a partner of Mercer's Global Health Management team in New York City, part of Mercer's health and benefits arm.

THE 80s

Michelle A. (Grosz) Multz, M.D. '87, says, "All is well." Her kids are growing up quickly—Rachel is in tenth grade and Daniel is in eighth grade. She wishes all a happy and healthy new year.

Thomas J. Pacicco, M.D. '85, and **Elaine M. Grammer-Pacicco, M.D. '85**, report they had a wonderful time at the 25th reunion and it was great to see everyone. Their son, Thomas, Class of 2014, is having a great experience at NYMC as a first-year medical student.

Elliott Dreznick, M.D. '84, recorded a public service announcement for the Lustgarten Foundation for Pancreatic Cancer Research. It can be seen at www.curepc.org/campaign/television/dreznick.php.

Patricia A. Barry, M.D. '83, continues to work at St. Francis Hospital Women's Center, where she is involved in all aspects of diagnostic and interventional breast imaging. Her husband, **John Cosgrove, M.D. '83**, and the department of surgery at Bronx Lebanon Hospital Center, where he works, were recently honored at the Metropolitan Museum of Art for the "Year of the Surgeon." Their son John Jr. works on Wall Street, daughter Susan is a third-year medical student at NYMC, and son Patrick is a freshman at NYU.

HEALTH CARE POLICY COORDINATOR OFFERS HOPE AND HELP—SOONER RATHER THAN LATER

HOWARD LIEBERS, M.P.H. '07

By Lynda McDaniel

In 2007, Howard Liebers took a big risk moving to Washington, D.C. For starters, he had to walk away from his acceptance into the doctorate program in Public Health (Dr.P.H.) at New York Medical College. He also didn't know a soul in D.C., having been born, bred, and educated in New Jersey and New York. But the capital city is accustomed to welcoming strangers, and in just three years, Liebers has begun to realize his dream "to connect people who have complex illnesses with the resources they need to help them improve their lives."

That dream was spawned by tragedy: In April 2006, his friend Craig Nolan died before his 25th birthday from a rare non-Hodgkin's lymphoma. "That was my entrée into rare disorders," Liebers says. "Approximately 7,000 rare diseases affect almost 30 million Americans, 75 percent of whom are children. In April 2009, I began blogging about national service and volunteerism, community health centers, and rare diseases. The blog grew and now is syndicated on The Children's Rare Disease Network."

Like a news leak on Capitol Hill, word spread quickly. Liebers heard from families with difficult and challenging experiences. He realized that thousands of people with rare and complicated illnesses couldn't wait for the sweeping health care reform he was fostering at his day job as Senior Policy Coordinator for the District of Columbia Primary Care Association (DCPCA). They needed help now.

In September 2010, Liebers incorporated MarbleRoad (www.marbleroad.org) to do just that. The non-profit offers small grants to people in need. It also helps coordinate care for people with complex illnesses by linking them between primary and specialty care services through the help of community health workers, social workers, and art and music therapists. MarbleRoad celebrated its launch on October 23, 2010.

"The MarbleRoad launch party and fundraising event was more of a celebration than a true fundraiser," Liebers says. "We had lots of food and music, and people donated artwork, paintings and photography for our silent auction, which grossed about \$4,000. It was a great start to something big."



Howard Liebers, M.P.H. '07, is a mover and shaker in the nation's capital, making health care more accessible to those who need it most.

With a full-time job at DCPCA (where he was promoted to director of policy in December) and an emerging nonprofit, Liebers seeks balance through the arts, another benefit of living in D.C. "I love all the arts," he says. "One of my own paintings sold at the MarbleRoad launch. I play the guitar, and I've been into Indie music since I was 13. And I like to hang out at a great music club here in D.C., the 9:30 Club."

Even while rocking out, he's thinking about MarbleRoad. "I've been working on a campaign called 'IndieMatch,'" Liebers adds. "I want to connect musicians and artists with philanthropic opportunities through MarbleRoad, like donating paintings or offering royalties from a song."

Liebers has done such a good job in such a short time that he's a victim of his own success: people assume MarbleRoad is a thriving, established organization with a sizeable staff.

"I have to explain that it's really just me: a staff of one with a board of five volunteers," he says. "I do a lot of juggling, but I love what I do so it doesn't feel like work. I have a million ideas. I plan to someday go back for my Dr.P.H. And, dreaming really big, I see MarbleRoad as a \$10 million foundation that offers financial assistance to anyone who slips through the cracks. I promise you, I will have an impact." ■

Ada M. Marin, M.D. '83, M.P.H. '01, was selected by her peers as one of San Diego's Physicians of Exceptional Excellence ("2010 Top Docs") in the October 2010 issue of *San Diego Magazine*. She was selected as a top doctor in the field of family medicine for the fifth time in the eight years that the San Diego County Medical Society has organized the selection process.

Richard Zerkowitz, M.D. '83, a medical hematologist and oncologist, received the Connecticut Hospital Association's Healthcare Heroes Award for contributions to his field and the community at large.

Kenneth Gelman, M.D. '82, is the medical director of a company called Infertility and Reproductive Medicine of South Broward, providing IVF and other reproductive services in South Florida.

Malcolm Z. Roth, M.D. '82, director of the Division of Plastic Surgery at Maimonides Medical Center in Brooklyn, N.Y., has been named president-elect of the American Society of Plastic Surgeons, with a term beginning in September 2011.

George Tsimoyianis, M.D. '82, reports his daughter Christie is a member of the NYMC School of Medicine Class of 2012.

Mitchell Kirsch, M.D. '81, is in his 25th year of private practice in nephrology.

THE 70s

Laurence Knoll, M.D. '78, has completed 30 years of internal medicine practice in West Haven, Conn. He plays tennis six to eight times a week. His son **Andrew Knoll, M.D. '04**, is an attending radiologist in Orange County, Calif.

Charles Lanzieri, M.D. '78, has retired from politics.

John Repke, M.D. '78, is professor and chair of the Department of Obstetrics and Gynecology at Penn State University College of Medicine. He was recently the Nicholson J. Eastman Visiting Professor at Johns Hopkins School of Medicine and the Rose and Wilfred Cohen Visiting Professor in Ob/Gyn at North Shore-LIJ Health System. He and his wife, Jaque, reside in Hershey, Penn.

William Russell, M.D. '77, has stepped down after 15 years as CEO of Radiology Associates of San Luis Obispo, but he is still continuing full-time clinical duties in the 12-partner group, which services two local hospitals and operates four imaging centers with 100 employees.

Robert Stern, M.D. '76, and his wife Anita are doing well in Poughkeepsie, N.Y. His ob/gyn practice was sold to Healthquest where he still works. They have two grandsons, Elijah and Judah, and more grandchildren on the way.

Graham F. Whitfield, M.D. '76, is in his 29th year of practice in orthopedic surgery in West Palm Beach, Fla. He was recently reappointed clinical assistant professor of surgery (orthopedics) at Nova Southeastern University College of Osteopathic Medicine in Fort Lauderdale, where he has been a faculty member since 1995.

Catherine Dunn, M.D. '75, continues to work half-time as a psychiatrist at the King County Jail in Seattle. The rest of the time she enjoys birding and travelling. She had great visits with NYMC classmates **Nancy Roistacher, M.D. '75**, in March and **Rosemary LoCastro, M.D. '75**, in October.

Dan Morhaim, M.D. '75, was re-elected for his fifth four-year term in the Maryland Legislature's House of Delegates, where he serves as deputy majority leader. He is the only physician in the 188-member legislature and he works hard for physicians and other health care providers. When the legislature is not in session, Dr. Morhaim practices medicine in Baltimore and is on the faculty at the Johns Hopkins School of Public Health. He and his wife Shelley have three grown children.

Stephan L. Kamholz, M.D. '72, was appointed chief of the Department of Medicine at Jacobi Medical Center and North Central Bronx Hospital. He is also professor and vice chair of the Department of Medicine at Albert Einstein College of Medicine and assistant dean for the Jacobi campus.

Richard A. Kresch, M.D. '71, is president and CEO of Ascend Health Corporation, which owns and operates eight psychiatric hospitals.

Kathleen G. Nelson, M.D. '71, is senior associate dean for faculty development and professor of pediatrics at the University of Alabama at Birmingham. She was recently elected to the board of directors of the Association of American Medical Colleges for a two-year term. Her first granddaughter had her first birthday in December 2010.

Rudolph Taddonio, M.D. '71, clinical professor of orthopedic surgery and of neurosurgery at NYMC, received Stamford Hospital's Physician Recognition Award for demonstrating commitment to the hospital's Planetree philosophy of patient-focused care.

Dominick M. Conca, M.D. '70, has retired after 32 years as chairman of system radiology at Geisinger Health System/Geisinger Clinic, one of the largest integrated academic rural healthcare systems in the nation. He and his wife Pat are enjoying time with their children and grandchildren, who are scattered across the country. Dr. Conca continues to travel and spend time with his car hobby, and he has resumed taking college courses.

THE 60s

Richard Hirsh, M.D. '69, continues his mammography teaching projects, and this year traveled to Amman, Jordan, Kosovo and Hanoi, Vietnam. His website is www.radiologymammography.org

Albert J. Bajohr Jr., M.D. '67, retired from practice as a vascular surgeon in January 2009. He is enjoying the freedom of retired life, traveling extensively, gardening and spending time with his four sons and three grandchildren. "Life is good!" he writes.

Norman Cagin, M.D. '67, retired from the practice of cardiology on April 30, 2010.

Alan Wecksell, M.D. '65, is enjoying retirement!

Andrew Roth, M.D. '64, says, "After 46 years as a physician, I'm still at it and busier than ever. I have three years left on my lease and love it."

Gary Gallo, M.D. '63, continues to work doing mostly orthopedic consultation, serving as the medical doctor for a chelation clinic, and works in anti-aging medicine, which primarily involves restoring and balancing bioidentical hormones for men and women.

Robert A. Bennett, M.D. '62, is now fully retired and enjoying a life of leisure. He took up painting and has completed several works. He likes to travel and attend theater and opera. He joined a book club and is a member of his condominium board.

Barry S. Meltzer, M.D. '62, looks forward to his 50th reunion in May 2012 and hopes to see many classmates there. He is enjoying free time and travel in his retirement.

Charles P. Cavaretta, M.D. '61, plans on attending his 50th reunion in May 2011.

Howard Harrison, M.D. '61, is still fishing!

Frederick L. Humeston, M.D. '61, is still in private practice in the San Francisco Bay area. He works three days a week and in his spare time enjoys his grandchildren, as well as doing some gardening and traveling.

Harvey A. Reback, M.D. '61, is still in active practice in a three-person, hospital-based internal medicine group. He has no plans yet to retire.

Ira L. Raff, M.D. '60, is living in Boynton Beach, Fla., and is working two days a week as a urologist. He is also chairman of a non-fiction book club and professional club in his gated community. He bikes everywhere, even to work.



Sharon R. Pine, Ph.D. '03, and her husband Hatem E. Sabaawy, M.D., Ph.D. '02, have overcome the odds: both are doing the work they love at the same research institution.

FAMILY MOTIVATES AND BALANCES THE LIFE OF A CANCER RESEARCHER

SHARON R. PINE, PH.D. '03

By Lynda McDaniel

It's Wednesday afternoon, just after five o'clock, and Sharon R. Pine, Ph.D., and her six-year-old son, Aiman, are playing in a nearby park. To Aiman, it seems like a huge, unexplored world. Actually, Pine feels the same way.

"My greatest pleasure is running through the park and playing tag or climbing trees with my son," she says. "It's much easier to be a kid when you have one, particularly such a fun one. I try to live every day as though it were my first—truly live in the moment as if the whole world were in front of me to explore."

Every evening, from five to nine o'clock, Aiman takes center stage. Like a towering oak in the middle of a busy park, this time stands firm. Life, teeming all around it, must give way. This is how Pine successfully balances a demanding career in cancer research.

"When I was at New York Medical College, I dealt with pediatric oncology, mostly with leukemia," she explains. "That's a very sad environment. At the same time, those kids motivated me to do high-quality research; they stretched me to tackle important questions to move research forward. I also think about my family history of cancer, including my young niece. It's hard enough when an older family member gets cancer, but disease in a child

only six years old is devastating. That drives me to try to better understand how cancer happens, and what we can target to improve therapies.”

Dr. Pine recently completed a five-year postdoctoral fellowship at the NIH in the Laboratory of Human Carcinogenesis. She is now a full-time assistant professor in the Department of Medicine, Cancer Institute of New Jersey (CINJ) in New Brunswick, N.J.

Her passion for science started in elementary school. She recalls filling out a booklet, “All About Me,” which asked what she wanted to be when she grew up. “I wrote, ‘a scientist and a good mother,’” she says. “I remember telling people I wanted to be in school the rest of my life, constantly learning. And that’s all true today.”

By nine o’clock, when Aiman is tucked in, Dr. Pine and her husband, Hatem E. Sabaawy, M.D., Ph.D. ’02, sit side by side, working on their laptops. They met at New York Medical College in 2001, and after marrying in 2003, they moved to Maryland where they both completed their fellowships at the National Cancer Institute. As part of his Ph.D. thesis, Dr. Sabaawy focused on stem cells in leukemia. He is currently researching the transgenic zebra fish model to study cancer development.

The two are happy to be together again after a three-year separation while Pine worked at the National Cancer Institute in Maryland and Sabaawy worked at CINJ.

“A husband-wife team in which both are scientists presents challenges,” Pine says. “While we were apart, it took a lot of sacrifice to make it work. Now that we are both at CINJ, and even in the same department, I couldn’t possibly ask for anything more. We have everything we worked so hard to achieve.”

What if, 20 years later, Dr. Pine filled out another “All About Me” booklet? Where does she want to be in another 20 years? She says she hopes to be part of a large, successful laboratory where she can help educate scientists who will become her future collaborators.

“And I’d like to do an outreach to the community for science education,” she adds. “I did this at NYMC with high school students who came on campus to do research projects. I’d now like to develop a hands-on research project at high schools and give them a sense that science can be fun.”

It’s Thursday afternoon, just after five o’clock. Dr. Pine and Aiman are playing again, this time at home. She hugs her son and thinks about her good fortune.

“Science is certainly not a nine-to-five job, yet we’ve worked out a system—not only to be successful in our careers but also to embrace life and enjoy our son,” she says. “The only way to make it work and give Aiman a good childhood is to give him every minute outside our work. Given that my work is the environment of cancer treatment and research, I feel blessed to be healthy and have such a good life with my family. I’m reminded of that every day.” ■

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IN MEMORIAM

Robert E. Sherwood, M.D. '01 (Fifth Pathway), died March 11, 2010. He was 64.

Edward McCarthy, M.S. '95, died July 29, 2009.

Janet Greene, M.D. '82 (Fifth Pathway), died December 9, 2009.

Michael E. Romano, M.D. '81 (Fifth Pathway), died June 10, 2010. He was 58.

Jeffrey Nadler, M.D. '75, died November 26, 2010. He was 60.

Vincent A. Spagna, M.D. '74, died April 26, 2010.

Robert P. Newman, M.D. '70, died April 10, 2010.

Elaine L. Schulman, M.D. '65, died May 3, 2010. She was 72.

Jack I. Zweig, M.D. '63, died June 13, 2010.

Lester H. Berkow, M.D. '62, died May 8, 2010.

Natale V. Bondi, M.D. '62, died July 16, 2010.

Thomas J. Connolly, M.D. '62, died August 14, 2010. He was 74.

William E. Hennessey, M.D. '60, died September 2, 2010. He was 76.

June V. Schwartz, M.D. '60, died July 13, 2010. She was 89.

David L. Brown, M.D. '59, died February 12, 2010.

Richard E. McCarthy, M.D. '59, died September 9, 2010. He was 76.

Lawrence Sheff, M.D. '59, died April 8, 2010. He was 75.

George C. Muscillo, M.D. '58, died May 10, 2010. He was 77.

James P. Orphanos, M.D. '58, died June 7, 2010. He was 81.

Harry J. Williams, M.D. '58, died June 9, 2010. He was 78.

Robert Littlejohn, M.D. '57, died October 1, 2010. He was 78.

Edgar N. Lasting, M.D. '56, died June 14, 2010. He was 80.

William A. Futch, M.D. '53, died October 17, 2010. He was 84.

Charles A. Kuonen, M.D. '53, died December 3, 2009.

Maurice Safrin, M.D. '53, died February 23, 2010. He was 82.

Don M. Burman, M.D. '52, died May 27, 2010.

Joseph A. Prescott, M.D. '52, died September 25, 2010. He was 83.

Edward A. Talmage, M.D. '52, died February 20, 2010. He was 83.

Albert Dolinsky, M.D. '51, died February 13, 2010. He was 92.

Alta T. Goalwin, M.D. '51, died May 16, 2010. She was 82.

Don W. McCoy, M.D. '51, died April 6, 2010. He was 85.

Paul Tucci, M.D. '51, died October 18, 2010. He was 87.

William E. Gatlin, M.D. '50, died January 10, 2010.

Harriet F. Hanley, M.D. '50, died April 21, 2010.

David H. Lukens, M.D. '50, died October 10, 2010. He was 91.

Donald R. Thurston, M.D. '50, died on October 4, 2010.

Frank W. Prust, M.D. '49, died November 30, 2009. He was 87.

Roger M. Stoll, M.D. '48, died April 16, 2010.

Peter Laderman, M.D. '47, died July 3, 2010. He was 89.

Douglas D. Perry, M.D. '45, died November 23, 2010. He was 90.

Earl H. Eaton, M.D. '44, died August 14, 2010. He was 90.

Kurt Elias, M.D. '44, died March 1, 2010. He was 91.

Emile Lengyel, M.D. '43, died January 10, 2010.

Albert G.J. Cullum, M.D. '42, died December 3, 2009.

Patricia E. Spier, M.D. '42, died January 19, 2010. She was 92.

Louis A. Perillo, M.D. '36, died July 17, 2010.

Sidney E. Wanderman, M.D. '34, died September 29, 2010. He was 100.

Samuel Horowitz, M.D. '33, died September 29, 2010. He was 102.

FACULTY

Christine A. Fusillo-O'Boyle, M.D., assistant professor of pediatrics, died on September 26, 2010.

William H. Gutstein, M.D., emeritus professor of pathology, died on February 16, 2008.

Pathmini Panchacharam, M.D., retired associate professor of clinical pathology, died on August 16, 2010.

TRIBUTES



MARGARET D. SMITH, M.D.
1939–2010

A crash landing of a small plane she was piloting claimed the life of Margaret D. Smith, M.D., senior associate dean and professor of clinical medicine. Dr. Smith, a licensed pilot, was attempting to land her single-engine Cessna at Essex County airport in Fairfield, N.J., on July 5, 2010, when the plane crashed, killing Dr. Smith and her two passengers.

Dr. Smith, 70, was married to Matthew J. Ferguson, M.D., clinical assistant professor of medicine from 1979 to 1998. The couple's son and his wife were also killed in the crash.

In her role as senior associate dean at St. Vincent's Hospital Manhattan, where she also served as program director of internal medicine, Dr. Smith was among several key individuals who worked tirelessly to relocate residents whose training was interrupted by the hospital's closing last April.

Dr. Smith, who received her medical degree from Georgetown University, was an authority in the field of arthritis and rheumatology. An active member of the New York chapter of the Arthritis Foundation, she was awarded its inaugural Women of Distinction honor in 2009. She was recognized by *Cambridge Who's Who* for her "dedication, leadership and excellence in arthritis and rheumatology," and was named its Professional of the Year for her contributions to medical education. She received eight Excellence in Teaching Awards, which are voted annually by graduating students at New York Medical College.



PAUL K. WOOLF, M.D.
1951–2010

Paul K. Woolf, M.D., senior associate dean and associate professor of pediatrics, died on November 3, 2010, at the age of 59.

A pediatric cardiologist who played a key role in the development of Maria Fareri Children's Hospital at Westchester Medical Center in Valhalla, N.Y., Dr. Woolf was a role model for thousands of medical students and residents. He treated literally thousands of children and trained hundreds of new doctors throughout his career. For the past 20 years, through a program funded by the Rotary Club, he had been volunteering his services to treat children flown in from Uganda, El Salvador, Russia, Siberia, China and the Philippines.

Dr. Woolf received his medical degree from Columbia University College of Physicians and Surgeons, and completed his residency and fellowship in pediatric cardiology at The Children's Hospital of Philadelphia. He joined the College faculty in 1984 and was instrumental in developing the pediatric cardiovascular program and the comprehensive Department of Pediatrics. He was a nationally prominent educator, serving for eight years as program director in pediatrics and becoming senior associate dean for graduate medical education in 2004.

He was honored with an Excellence in Teaching Award from medical students, a Graduate Medical Education Award, and two Pediatric Resident Awards for teaching residents and supporting house staff.



JOHANNA HAGEDOORN, PH.D.
1921–2009

Born and raised in the Netherlands, Johanna Hagedoorn, Ph.D., left medical school in 1940 to join the underground Dutch resistance movement to the Nazi invasion. Along with a group of fellow resistance fighters, she was responsible for sparing the lives of innumerable Jewish children by hiding them in her house and sailing them to safety on her family's boat in the middle of the night. Years later, she was honored by a Jewish organization as a chasidah, or "Righteous Among the Nations"—non-Jews who risked their lives to save Jews during the holocaust.

After coming to the United States, Hagedoorn received a B.S. degree from Columbia University and a Ph.D. in anatomy from Albert Einstein College of Medicine. She joined the College faculty in 1968. Countless alumni remember her as a beloved and highly esteemed member of the anatomy faculty who skillfully initiated them to the study of medicine and instilled in them passion for inquiry and caring for the human condition. Eventually a scholarship fund was established in her name, awarded annually to a second-year medical student who exemplified the concern for fellow students that was a hallmark of Dr. Hagedoorn's life.

Around 2000 she was diagnosed with Alzheimer's disease and, with no surviving relatives, spent her final years in an assisted living community in Bradenton, Fla. Yet before her memories had completely left her, she was interviewed and her story recorded by a rabbi at a nearby temple she supported, and eventually by a newspaper reporter who revealed many more details of Dr. Hagedoorn's remarkable past. It was the congregation at this synagogue, Temple Beth El in Bradenton, that engraved a headstone and arranged for the burial and memorial service for Johanna Hagedoorn 18 months after her passing. The complete story can be found at <http://bit.ly/fStztj>. ■



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