

New Jersey Medical School

University of Medicine and Dentistry of New Jersey

Volume 10 Number 1 Winter | Spring 2012

# pulse

## Making History at the AMA

*Plus...*

**A New Weapon to Fight Viruses**

**Best Knee Experts Anywhere**

**Chronically Sick Child? Call Dr. J.**

*AMA Student Leader LeAnne Roberts*

## Message from the Dean

There has been a lot of talk about the future of UMDNJ of late, with words like “merger,” “realignment,” “autonomy,” and “name change” being bandied about. This follows the release of recommendations by the UMDNJ Advisory Committee, charged by Governor Chris Christie to evaluate the current system of delivering medical education in New Jersey.

The UMDNJ Board of Trustees has done a yeoman’s job at navigating these uncharted waters in an attempt to keep New Jersey’s pre-eminent network of academic health centers on a course of continued improvement and excellence. We at NJMS appreciate and support the efforts of the board and Denise V. Rodgers, MD, UMDNJ’s president (interim). And I am particularly proud of the contributions that members of the NJMS community have made to this ongoing conversation.

As these discussions advance, we are carrying on with the business of effectively and efficiently running the state’s oldest medical school. What does that mean exactly? Well for one thing, it means conducting state-of-the-art research projects that possess the real potential to save lives. It means treating patients expertly, professionally and compassionately. It means forging new community partnerships while maintaining old ones. And it means taking a fresh look at how we educate our students to ensure that they are getting the most out of their time at NJMS.

Featured in this issue of *Pulse* magazine are stories that highlight some of our recent achievements. Take, for example, the cover story about LeAnne Roberts, a fourth-year MD/MPH student at NJMS who was named chair-elect of the American Medical Association–Medical Student Section, the nation’s largest and most influential organization of medical students.

Read “A Home Within a Home,” an article about the new “houses” at NJMS where “bears,” “cranes,” “dolphins,” “lions” and “wolves” come together in a creative approach to promoting overall student success. Check out “Going Places...All Over the World,” a profile of NJMS alumnus Sumant Ramachandra, MD, PhD, the chief scientific officer and senior vice president of Hospira, Inc., a global pharmaceutical and medication delivery company. These and other articles cover a mere fraction of the wonderful things happening at NJMS. They demonstrate the kinds of talent that exist here and that we send into the world.



We are on the cusp of a new era at NJMS. That is certain. Regardless of how the recommendations by the UMDNJ Advisory Committee play out, we enter this new phase of our existence confident in our value and in our ability to continue to serve the people of New Jersey and beyond for many years to come.

*In health,*

**Robert L. Johnson, MD, FAAP '72**

*The Sharon and Joseph L. Muscarelle Endowed Dean  
 UMDNJ–New Jersey Medical School*

## pulse

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When Sergei Kotenko began studying cytokines back in Moscow, he didn't know his discovery would make medical history.

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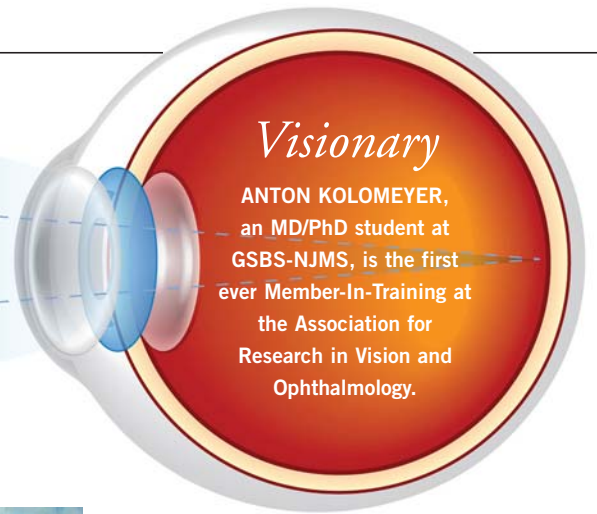


34

26

# FYI

# Notable



## Visionary

ANTON KOLOMEYER, an MD/PhD student at GSBS-NJMS, is the first ever Member-In-Training at the Association for Research in Vision and Ophthalmology.

## A ROYAL INVITATION

Edwin A. Deitch, MD, professor, surgery, got the prestigious Award of Fellowship *ad hominem* from the Royal College of Surgeons of Edinburgh. This medical group, which incorporated as “barber-surgeons” in 1505, also invited Deitch to be their keynote speaker in Scotland in February.



HANA AVIV

Our 10-year-old, home-grown Arts Festival at NJMS won a spot in the National ARTS Program (NAP), which features the work of employees and family members in more than 450 cities, counties, airports, hospitals and

organizations across the country. The NAP exhibit will be up until the end of April. Go to <http://nationalartsprogram.org> and click the links to the University of Medicine and Dentistry of New Jersey.



SUSANNE PITAK-DAVIS

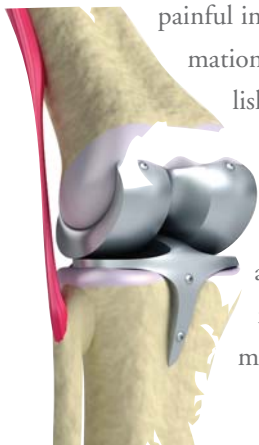
# ARTS FEST

## PAINFUL, CREAKY JOINTS?

William Gause, PhD, senior associate dean of research, a professor in the Department of Medicine and director of the Center of Immunology and Inflammation (pictured below), and Joseph Benevenia, MD, professor and chair of orthopaedics, have discovered that titanium in artificial joints may cause painful inflam-



mation. Their findings, published by the *Journal of Immunology*, suggest that tiny titanium particles that flake away from the artificial joints through normal wear and tear may play a direct role.



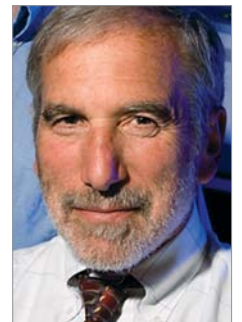
## Happy Birthday

The Healthcare Foundation Center for Humanism and Medicine at NJMS turns 6! To help celebrate this milestone, an Inaugural Humanism Day Conference will be held on March 14 featuring Mark Nepo, a cancer survivor, poet, philosopher and best-selling author. To learn more, visit: <http://www.bit.ly/humconference2012>.



## To Cure Obesity

Barry E. Levin, MD, professor, and interim chair, neurosciences, won the 2011 Naomi Berrie Award from Columbia University Medical School at the Frontiers in Diabetes Research Conference in November. Levin’s team has focused on how metabolic-sensing neurons regulate glucose and energy homeostasis. Key to the work are rats bred to be either susceptible or resistant to obesity.







## Starvation = Heart Failure

The November 2011 issue of *Cell Metabolism* ran a paper by Junichi Sadoshima, MD, PhD, NJMS, GSBS, interim chair, cell biology and molecular medicine, and fellow researchers, that explained how a protective response to starvation may promote heart failure. Two proteins are involved and it may be beneficial to target them in patients with heart failure.

**The Write Stuff...** Nimala Hariharan, PhD, '10, got the Best Manuscript Award from the editors of *Circulation Research* for "Deacetylation of FoxO by Sir1 Plays an Essential Role in Mediating Starvation-Induced Autophagy in Cardiac Myocytes"... especially good news because she won as a graduate student at GSBS–NJMS.

**Need Research \$\$\$?** Check out the Calendar of Funding Opportunities on the Office of Research and Sponsored Programs (ORSP) website. Grant and fellowship opportunities, sponsors and application deadlines are all there.

**Splice Secret...** Cells often multi-task when synthesizing and splicing RNA. But timing is everything, says Sanjay Tyagi, PhD, associate professor of medicine at PHRI at NJMS. Tyagi and his colleagues published their finding in the November 2011 issue of *Cell*: when unconventional splicing is required, synthesize first and splice later.

## NJMS News by the Numbers

# 1

University Hospital ranks first in the country among academic medical centers for the care of heart failure patients, according to the University Health Consortium (UHC), an alliance of 115 academic medical centers and 257 affiliated hospitals.



# \$940,265

The Student Family Health Care Center in the Department of Family Medicine is awarded this highly competitive federal grant from the Health Resources and Services Administration to expand and improve its services to the medically underserved in Newark.



# 65

Joel DeLisa, MD, MS, professor and chair, Department of Physical Medicine and Rehabilitation, and an internationally known physiatrist, is among the 65 new members elected to the Institute of Medicine (IOM) of the National Academy of Sciences.

# \$956,318

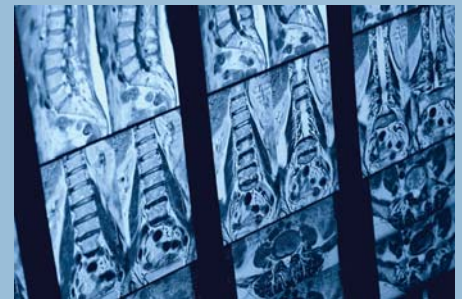
The National Cancer Institute awards the NJMS–UH Cancer Center this five-year, interdisciplinary training grant.

# 35

The Division of Adolescent and Young Adult Medicine in Pediatrics celebrates 35 years of providing clinical and preventive care services to the Newark community.

# \$2.28 million

Grant given to the Northern New Jersey Spinal Cord Injury System at NJMS by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education, a cooperative effort of the Kessler Foundation, Kessler Institute for Rehabilitation and UMDNJ.



# FYI Quotable

“Gross anatomy is exactly as it sounds. You learn anatomy, and smell gross afterwards.”

EXCERPTED FROM “ANATOMY – A NEW FRONTIER” ON THE HUMAN FABRIC BLOG ([HTTP://THEHUMANFABRIC.UMDNJ.EDU](http://THEHUMANFABRIC.UMDNJ.EDU))

“Humanism is about passion. It is what I feel undeniably and resoundingly burning within that allows me to momentarily switch places with my patients as I offer them my attention and service.”

DORIAN J. WILSON, MD, DIRECTOR, HEALTHCARE FOUNDATION CENTER FOR HUMANISM AND MEDICINE

AMA President **Peter W. Carmel, MD, DMedSci**, and chair emeritus of NJMS neurosurgery, is encouraging all med students and physicians to call the AMA hotline (1-800-833-6354) about the Medicare crisis. He is also urging everyone to contact their U.S. representatives and senators. “Just say, ‘You must increase funding for Graduate Medical Education.’ It is a crisis. You cannot remain silent on this issue. Your future is at stake.”



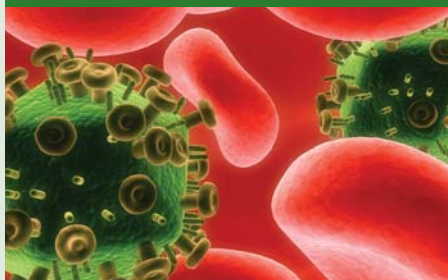
## FYI Seen&Heard

Don't miss these one-of-a-kind lectures. Make a note to check the UMDNJ website ([www.umnj.edu](http://www.umnj.edu)) as well as **This Week at UMDNJ** for upcoming events.

### AUGUST

“The Graying of Surgical America” was the perfect title for a talk given by Michael C. Lewis, MD, senior associate dean for graduate medical education at the University of Miami–Miller School of Medicine. Lewis is an expert on perioperative issues facing geriatric surgical patients.

### SEPTEMBER



Bruce Schackman, PhD, chief of the Division of Health Policy at Weill Cornell Medical College in New York, discussed “Implementation Science for the Prevention and Treatment of HIV/AIDS.”

### OCTOBER



This was a fascinating discussion on “Attacking Human Pathogens in the Mosquito Belly” by George Dimopoulos, PhD, MBA, associate professor, molecular microbiology and immunology, and director of the Parasitology Core Facility at Johns Hopkins Bloomberg School of Public Health. He mapped out the role and mechanisms of the mosquito's innate immune system and the naturally-occurring microbes of this insect's intestine as well as how they can directly and indirectly influence the mosquito's susceptibility to infection with human pathogens.

### NOVEMBER

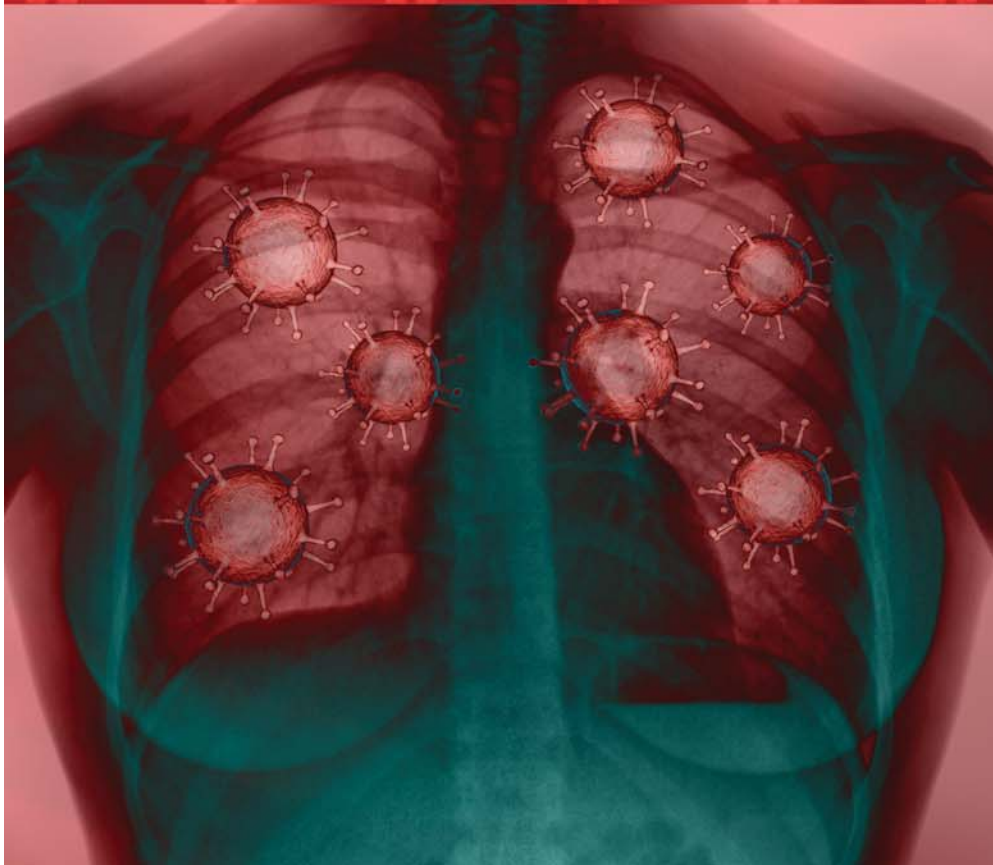
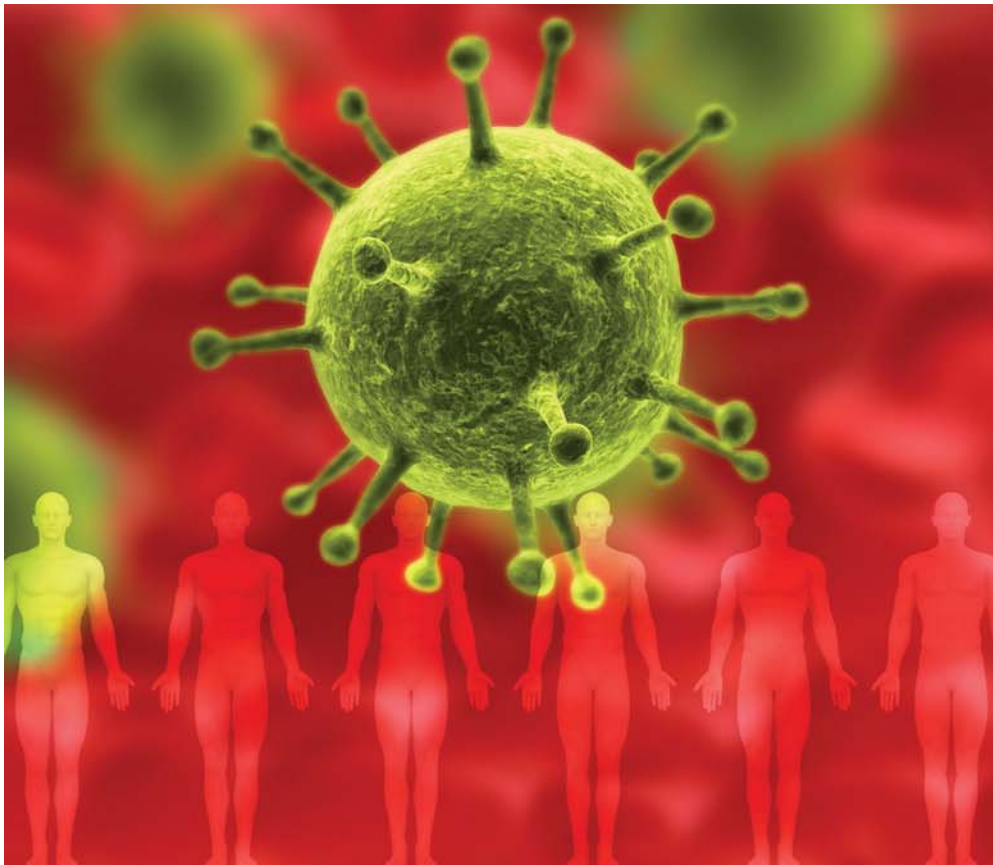
“Career Planning 101: Strategies for Scientists” was a really worthwhile lunchtime session given by Monica L. Kerr, PhD, director of The New York Academy of Sciences.

### JANUARY

“Of Mice and Herpes: Delineating determinants of chronic infection” was presented by Laurie Krug, PhD, assistant professor, molecular genetics and microbiology at Stony Brook University in Long Island. She described the ease of generating recombinant murine gammaherpesvirus 68 (MHV68), the availability of genetically altered mice and how they provide a model system to identify and characterize virus and host determinants of chronic infection.



Section compiled by Maryann Brinley and Carole Walker



## The Reality Behind a Movie Thriller

Steven Spielberg's film *Contagion* depicts the outbreak of a lethal virus pandemic threatening human life, but within the walls of PHRI, our experts deal every day with the real thing. **BY DAVID MCKAY WILSON**

A poster for the 2011 movie thriller, *Contagion*, hangs from the wall outside David Perlin's office at the Public Health Research Institute (PHRI). Perlin, a PhD researcher, is the executive director of PHRI. The poster stands as a sober reminder to staff and visitors that the new \$38 million Regional Biocontainment Laboratory (RBL) managed by PHRI has the infrastructure — and the scientific firepower — to investigate a pandemic virus similar to the one portrayed in the film.

In *Contagion*, there's an outbreak of a lethal virus that spreads from bats to pigs, and then to humans. The film's heroes are the steadfast microbiologists who race against time to create a vaccine to stop its spread.

"Emerging infectious diseases are everywhere," says Perlin, who came to PHRI in 1985, when its labs were located at New York City's Department of Health Bureau of Laboratories. "They occur all the time, and no matter how clever we think we are, there's another one that comes along that throws us for a loop. It's good that we have the infrastructure to safely study these highly transmissible agents."

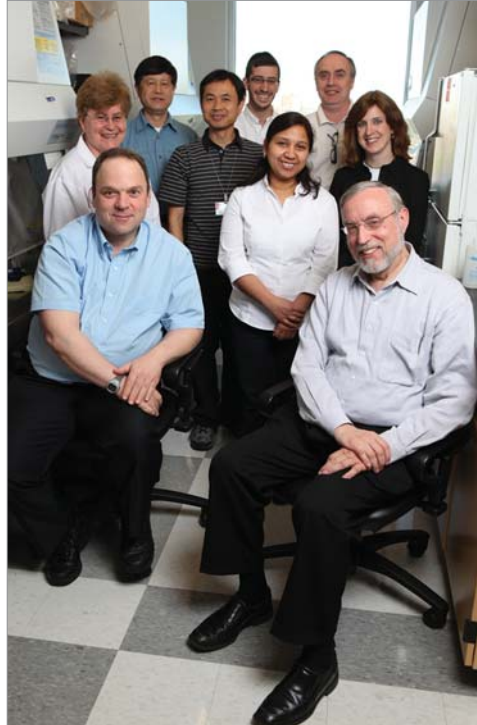




PHRI was established 70 years ago in New York City as a biomedical institute dedicated to infectious disease research. It relocated to the International Center for Public Health (ICPH) in 2002 and was established as a center of UMDNJ–NJMS in 2006. PHRI’s faculty members study a broad range of infectious disease issues.

In fact, the effort underway at PHRI involves some of the world’s most pressing—and intractable—public-health problems. Some investigators delve into the mysteries of the HIV virus, the world’s leading infectious killer, which claims 3 million lives a year. Others study the bacterium that causes tuberculosis, the lung infection that kills up to 2 million annually. And some of the scientists are focused on hospital and community-acquired infections, as well as potential agents of bioterrorism. PHRI’s researchers have developed novel molecular tools, such as molecular beacons, and they work with clinicians, helping to manage patients and track infectious disease as it spreads.

“We are interested in infectious agents with the potential to cause high morbidity and mortality,” says Perlin. “And we want to develop counter-measures with new vaccines, new therapeutics, new diagnostics,



Far left: David Perlin, PhD; and members of the Pinter lab at NJMS, clockwise, from left, Charles Reichman, PhD, Kathy Revesz, Zhong Lai, Lianping Peng, Sholem Blobstein, Adhuna Phogat, PhD, Chavdar Krachmarov, PhD, Aidy Salomon, and Abraham Pinter, PhD

and new understandings of the biology of the organisms.”

Of growing concern to Perlin and Karl Drlica, PhD, a molecular biologist at PHRI, are the always-evolving pathogenic strains of bacteria that are resistant to antibiotics. Their new book, *Antibiotic Resistance: Understanding and Responding to an*

“Imagine life without antibiotics. You couldn’t get surgery because all the bugs would be there. And when you got pneumonia, you would die. People used to die a lot from infectious diseases.” —Karl Drlica, PhD

*Emerging Crisis*, published in late 2011, details the misuse of antibiotics today and discusses the ramifications of using antibiotic doses that aren’t strong enough to kill all the bacteria and their mutants that develop in a bad infection.

Drlica’s research at PHRI focuses on the basic principles involved in the antibiotic fluoroquinolone’s ability to kill the organisms that cause a variety of lethal bacterial

diseases. “If we can figure out the principles, then the drug companies can do the rest,” says Drlica. “I think antibiotic resistance is second to global warming as the world’s most serious issue. Imagine life without antibiotics. You couldn’t get surgery because all the bugs would be there. And when you got pneumonia, you would die. People used to die a lot from infectious diseases.”

Many of the studies involving highly transmissible agents occur within the specialized biosafety Level 3 laboratories of the new RBL, which is part of a network of 13 such laboratories in place across the U.S. These national centers were developed by the National Institutes of Health (NIH) in the aftermath of the anthrax attacks in the fall of 2001, which rattled a nation already reeling from the events of September 11.

When PHRI relocated in 2002, its biosafety Level 3 facilities included animal labs there in Newark’s University Heights Science Park. So when the federal government

sought partners in the national program, PHRI was well-positioned to participate.

The RBL, developed through the federal program, expanded its space for research scientists and the newly opened lab is already operating at about 50 percent capacity, says Perlin. “We needed a home for fundamental research,” he explains. “It’s good to have a place where we can study these dangerous pathogens safely.”



A walk through the high-security laboratory provides a glimpse of how the cutting-edge research moves forward. Safety systems are designed to protect both the research staff within the facility as well as the general public outside the laboratory.

The labs operate with a system of negative pressure, which means air is constantly mov-

ing into the labs from the outside. But it is only released after going through a high-efficiency particulate air (HEPA) filter that traps greater than 99.97 percent of contaminants 0.3 microns or larger in size. Back-up generators kick on in case of a power failure to maintain the lab's negative pressure.



ing into the labs from the outside. But it is only released after going through a high-efficiency particulate air (HEPA) filter that traps greater than 99.97 percent of contaminants 0.3 microns or larger in size. Back-up generators kick on in case of a power failure to maintain the lab's negative pressure.

When Steven Park, the lab's biosafety Level 3 manager, enters the lab, his first stop is an ante-room, which is under negative pressure. There, he dons what he calls his personal protective equipment, a Tyvek pro-

ective suit, gloves, booties, headgear that protects his face with a plastic shield, and a stream of air blowing out from an air-pack on his back.

Then his security clearance allows him into the actual lab where experiments take place in biosafety cabinets, which also keep the infectious agents from circulating in the air, using negative pressure.

"In addition to the negative pressure in the room, there's external air coming into the cabinet," says Park, who has worked with Perlin at PHRI since 1997. "It gets dis-

charged through a filter, which prevents any infectious material from escaping."

charged through a filter, which prevents any infectious material from escaping."

These measures provide safe working conditions for about 40 investigators and research staff as well as a dozen technical, animal-care, and biosafety personnel.

Among the researchers is G. Marcela Rodriguez, PhD, who studies *Mycobacterium tuberculosis*, the pathogen that infects about one-third of the world's population and is responsible for at least two million deaths each year. Her research is aimed at understanding how the bacterium interacts with its human host to obtain the mineral iron, which it needs to survive. Iron is not freely available, but this bacterium has

developed strategies to capture the iron from its host. Rodriguez studies the molecules that the pathogen uses to obtain the iron and transport it. "Those molecules are potential targets for drug therapy," she says.

Abraham Pinter, PhD, joined PHRI's staff in 1985, just as the HIV virus emerged in humans. More than two decades later, his research team is still exploring the mysteries of the virus and working to overcome barriers towards developing a vaccine. Pinter's research is focused on isolating antibodies from some infected patients that are highly protective against the virus and understand-

## Did You Know...

**The Public Health Research Institute (PHRI)** at NJMS has been on the cutting edge of infectious disease research since its founding? For seven decades, this institute has addressed challenges posed by infectious diseases. Scientists at PHRI have an impressive record of accomplishments during the past seventy years. Here are just a few of the historically dramatic highlights from past decades:

**1940s** PHRI produced and distributed the smallpox vaccine in New York City.

**1950s** The Institute's scientists developed methods to boost antibody response to infection.

**1960s** Work was done at PHRI which led to a vaccine for dengue fever.

**1970s** PHRI researchers identified cancer-causing oncogenes.

**1980s** Institute scientists discovered the gene for toxic shock syndrome.

**1990s** PHRI researchers identified the multi-drug-resistant TB strain "W."

ing the structure of the targets recognized by these antibodies.

His latest research has shown promise as his lab designs new immunogens and vaccination strategies that could induce broadly protective antibody responses in the human body. "This virus has been more challenging than any other virus studied to date."

As Pinter works on HIV and Rodriguez investigates the TB bacteria, Perlin and colleagues at PHRI and NJMS stand ready to battle the world's next bewildering bug. As Perlin says, "A lot of them are quite happy in their initial hosts. But when they jump to another host, they can cause very serious disease. We have the infrastructure to work safely with a wide range of pathogens and parasites." ●

## A CLOSER LOOK AT THE COMMUNITY TRAINING CENTER



### Life-Saving Learning

Did you know that The University Hospital provides classes in everything from Basic Life Support to Cardiopulmonary Resuscitation and Pediatric Emergencies...is the largest provider of these life-saving lessons in the state...and has a global reach? **BY JILL SPOTZ**

Dennis Boos has seen his share of cardiac arrests. As director of the Community Training Center at The University Hospital (UH) and a former emergency medical technician (EMT), Boos has a long connection to UMDNJ which has provided up-close and personal experiences with heart attack victims, especially in Newark. And unfortunately, according to the American Heart Association (AHA), a person's chance of surviving a heart attack is only 8 percent nationally, a sad statistic that might shock the rest of us but not Boos. He knows full well that 80 percent of cardiac emergencies occur at home and most people are not properly trained to administer cardiopulmonary resuscitation (CPR) until medical personnel arrive. Without CPR, patients can die. For residents of Newark, those chances

of surviving that heart attack outside a hospital are even worse: less than one percent. Boos and the Community Training Center at UH (973-972-4373) have big plans to change these odds.

His high hopes for increasing survival rates are supported by a training center that has shown record growth. One of the largest providers of AHA training in the state, the center has more than 300 trainers, both UMDNJ employees and independent contractors, who teach a comprehensive list of courses for both health care personnel who need to stay up-to-date with required certifications as well as for non-medical members of the community. In 2010, the center educated approximately 12,000 individuals, the largest group ever. With numbers like these, Boos and his in-house staff of only three are



extremely busy. They maintain all the training files and produce the required certification cards for everyone who takes a class.

In addition to providing classes in Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) for all UMDNJ medical personnel on the Newark, Piscataway and Camden campuses, the center also trains students in most of UMDNJ's eight schools.

Other courses offered at the center include: Pediatric Emergency Assessment, Recognition and Stabilization (PEARS), Bloodborne Pathogens, Quantitative and Qualitative Fit Testing, and Heartsaver AED (automated external defibrillator) for non-medical personnel.

Participants can take courses in classroom settings or learn online, which Boos describes as the wave of the future. Online is a great option for "the seasoned health care worker because these courses may be redundant, especially since people have to recertify and take them every two years." What's more, "The AHA says that within a few months of taking life support training in a classroom, the average participant retains only approximately 50 percent of the information. Online, participants are more likely to concentrate because they take quizzes throughout the session, thereby retaining the information longer," says Boos.

Students complete the instructive portion on the computer and then come into the classroom for the "hands-on" work. Approximately 20 percent of the center's curriculum is currently offered online and the plan is to increase that number by 10 to 20 percent a year.

Meanwhile, the center also has 32 contracts with outside companies and organizations and Boos describes these classes as "cool." One contract is with the Federal Bureau of Investigation (FBI). "We certify between 100 and 200 agents of the FBI each year," says Boos. "The agents come to the Newark campus for training and we also provide courses at their off-site training facilities at Fort Dix, the organization's Newark offices, and various other locations

throughout the state. The number of agents varies each year depending on when they need to recertify." Other offsite training is provided to staff employed by East Orange, Orange, and Jersey City school districts; the Prudential Center and Corporation in Newark; Christ Hospital in Jersey City; Hoboken University Medical Center; City College of New York; all of the New Jersey state prisons; and various physicians' offices, urgent care centers and corporations throughout the metropolitan area.



**"We certify between 100 and 200 Federal Bureau of Investigation agents each year," says Dennis Boos. "These FBI agents come to the Newark campus for training."**

Besides training so many people in life-saving techniques, Boos has found other opportunities to increase survival rates by starting where incidents happen most: at home. Last year, the center received funding from the Healthcare Foundation of New Jersey to provide what is known as the Infant CPR Anytime Training Program to 800 families. Families caring for a child discharged from the neonatal intensive care unit (NICU) at UH now receive easy-to-learn instructions on how to administer infant CPR and how to perform the Heimlich maneuver. "The earlier CPR is administered, the greater the likelihood the child will survive," explains Boos.

The program relies on a kit that includes an infant CPR mannequin and a 22-minute training DVD that reviews chest compressions, rescue breathing and how to handle choking. Prior to discharge, parents and

caregivers voluntarily watch the video at the hospital and practice chest compressions under the direction of a nurse. "Then we ask each family to show the video to all members of their household as well as anyone who will be caring for their infant," says Boos. "Assuming that every kit has the capability of reaching approximately five family members, we will be able to reach 4,000 people in total." Boos recently applied for a second grant to expand the program to include all high-risk patients discharged from UH, including adults suffering from a stroke or a heart attack.

The center uses simulation training for many of its programs. Through the use of the breathing, talking, beating-heart SimMan®, Boos and his team administer CPR challenges to nurses at UH. "We arrange the mannequin in a patient room and call a code," says Boos. With the interactive SimMan®, we can control the situation by altering rhythms and patient responses and the machine shows actual outcomes." The center plans to expand the use of the SimMan® to ACLS and PALS courses as well as to other education requirements for UMDNJ students. However, SimMan® will not be used for BLS because "we perform 800 chest compressions on the dummy per class. We wouldn't want to wreak that type of havoc on such an expensive robot," Boos admits.

Not only is the Community Training Center one of the largest in New Jersey, it also has a global reach. Shai Jaskoll, a paramedic and former UMDNJ employee, brought Community Training Center classes abroad five years ago when he moved with his family to Israel. Jaskoll had been manager of the Regional Emergency Medical Communications System (REMCS), which is the 911 medical answering center for the city of Newark and he also taught BLS and Heartsaver AED for the center. After accepting a position with an international defibrillator company, Jaskoll moved his family back to Israel where he is from and he is

*Continued on page 11*

# A Dose of the Real World

What happens when med students get stuck in the poverty rut? How one seminar puts the patient's point of view front and center.

BY DAVID MCKAY WILSON

Evicted from his home, and behind on his utility bills, second-year student Luis Alzate-Duque struggled to feed his three children, including his teenage daughter about to give birth. His refrigerator had broken, and the supermarket clerk had taken his voucher for food but refused to give him any groceries.

Meanwhile, his spouse had been laid off, unemployment benefits had run out, and his monthly take-home pay of \$1,324 fell considerably short of his family's monthly expenses of \$1,875.

"I'm completely overwhelmed," explains Alzate-Duque one afternoon in November. "What am I going to do? It's so frustrating, and then I feel like I'm neglecting the kids. That's the worst of it."

Luckily for Alzate-Duque, his eviction and financial struggles weren't real. They were part of the Community Action Poverty Simulation (CAPS) he participated in that afternoon with medical and nursing students, medical residents, UMDNJ staff, and members of the Newark community. CAPS is a tool designed and copyrighted by the Missouri Association for Community Action.

The simulation, organized by Sophia Chen, DO, assistant professor, pediatrics and co-director of the NJMS Physician's Core curriculum along with David Cennimo, MD, assistant professor, medicine and pediatrics, is designed to sensitize health care professionals and prepare them to have

empathy for their patients who are among our nation's poor.

The financial pressures conjured up in the simulation are the kinds of issues that arise daily for patients who seek medical care. An estimated 49 million—or one in six Americans—live in poverty, according to the 2011 U.S. Census. Rising Medicaid premiums, higher deductibles and the cost of prescription drugs have added to the burden. Many of the poor are among the estimated 50 million Americans who lack health insurance, including one in four of working age, according to the Census.

"Poverty is not a game," Chen warned the students as the simulation began. "We're asking you to walk in the shoes of the poor."

Chen says the experience can help fledg-

ling health care professionals appreciate the struggles of their patients, and remind them that writing a prescription might not be enough. One student remarked that he was unaware that the community action agency had resources that could have helped his family.

"We tend to send patients home without considering what other resources they might need," Chen says. "We want students to become more sensitive and empathetic to families who are struggling and might not be able to fill a prescription given to them."

The simulation was played out over three hours one Thursday afternoon in November. Students were randomly assigned roles to play in one of nine families, each with its own financial and personal challenges.

Their goals: to keep their home secure, feed their family, make mortgage and loan payments, and meet unexpected situations, which cropped up when Chen handed them a "Luck of the Draw" card. Those cards could bring bad news, like an illness, or good news, like the payment of \$50 for winning an art contest.

Second-year students Nitin Argarwal and Olga Kovalerchik were both children in their simulated families. They gained an

Co-director of the Physician's Core Course Sophia Chen, DO, oversees the action while students (left to right) Nitin Argarwal and Olga Kovalerchik are lectured by UMDNJ police officer Armando Quinones.







**Left: Student Luis Alzate-Duque needed vouchers for food and clothing for his three imaginary children. “Luck of the Draw” cards brought bad news.**

appreciation for the plight of kids growing up in poverty, who may be unsupervised as their parents or caregivers focused on making ends meet.

“I never experienced that in my own life because my parents or a babysitter were always around,” says Argarwal. “My parents in the simulation couldn’t afford daycare or after-school care, so we ended up wandering about, and got in trouble. The police officer found us, and took us back to the precinct, where a parent had to come get us.”

Kovalerchik reports that the simulation opened her eyes to the responsibilities of parenthood, and how those duties can conflict with scrambling to make ends meet in the lower echelons of American society.

“I really saw how parents’ financial obligations can take over their lives, and leave the children neglected,” she says. “And you could see how if you grew up uncared for, you might not have an incentive to care about yourself or others.”

In the multi-purpose room at New Jersey Dental School, tables were set up along the room’s periphery. Each table had a particular community resource. There was a bank, check-cashing operation, Big Dave’s Pawn Shop, employment center, an inter-faith social-services agency, daycare center, school, supermarket, the state Department of Social Services, community-action agency, and police station. As the simulation developed, with each 15-minute segment equal to a week, the students adopted the situation of their character, and lived out the scenario.

No one had enough money, the kids demanded attention, and job prospects were

scarce for the unemployed, who shuffled from line to line, filling out forms but not landing a job. Even trying to raise money by selling a camera or television to the pawnbroker was problematic because he only communicated in Arabic. Accessing resources cost too—you needed to purchase a transportation voucher for every stop, adding to the financial pressures.

The participants grew resourceful in their desperation. One mother ended up charging for translation services at the pawn shop. Two children panhandled to raise money for their family. Others became despondent, and were easily manipulated by those manning the agency booths.

At the community action agency, Michael Anne Kyle, a nurse practitioner who serves as chief operating officer of Newark Now, showed how there were community resources to provide help for those slipping through the social safety net.

“It wasn’t quite like real life, where we’d send people home to provide documentation of their need,” she says. “And I was a bit gentler here with the students.”

But NJMS alum Ryan Chadha, MD’11, an internal medicine resident who served as the customer service representative at the Food-A-Rama Food Center, did his best to frustrate the mothers and fathers who arrived to use food stamps or their dwindling cash. He challenged them, cheated them out of their hard-earned money, and made their difficult lives more miserable.

He recalled how the simulation influenced him during his second year at NJMS, and had volunteered to help out. “Many of us students feel pretty entitled and don’t really know that much about suffering, *per se*,” he says. “The world just isn’t warm and kind to everyone.” ●

## Life-Saving Learning

*Continued from page 9*

now teaching Heartsaver AED classes on behalf of the Community Training Center to faculty, staff and tenth graders enrolled in the International American School. Calling this a great opportunity to educate a new generation of young adults to be non-traditional first responders, Jaskoll explains, “With this training, students are prepared to take critical action in the event of a medical emergency. They complete the program with the knowledge and desire to assist others and many of them take this valuable information back to their home countries.

Additionally, it allows them to get a feel for the health care field, which could initiate their journey down a professional path.”

Certification cards for Jaskoll’s students are maintained by the Community Training Center back in Newark. The center even prints and mails the cards back to Jaskoll to distribute to those who have successfully completed classes.

The payoff for a job like this is not just that trainers can help health care providers do their jobs better or not just that ordinary individuals can handle health emergencies, but when former students use their training to save lives. Three months after completing one of Jaskoll’s Heartsaver AED classes, a student “was babysitting a toddler when the child began to choke on a piece of hard candy,” this teacher explains. “She remembered the Heimlich maneuver I taught in class, performed it on the child, and dislodged the candy.”

Like Jaskoll, Boos also encourages students to contact him if they ever use their training in real life situations. He teaches Basic Life Support (BLS) to outside organizations and heard recently from a woman employed by a local company who had taken his course. “A co-worker went into cardiac arrest and she was able to provide mouth-to-mouth resuscitation and saved the person’s life.” And that’s the kind of news this life-saving trainer lives for. ●

LEANNE J. ROBERTS

## Fighting For Future Docs

Meet one extraordinary student with non-stop energy and passion.

BY KAYLYN KENDALL DINES

LeAnne J. Roberts knew she had to respond when members of Congress were on the verge of slashing Medicare funds last November. If enacted, the proposed reductions would drastically impact medical residency programs and Medicare reimbursements for physicians nationwide. So, she teamed up with fellow medical students to urge lawmakers to increase Graduate Medical Education funding.

According to Roberts, legislators throughout the U.S. received approximately 30,000

emails and 20,000 calls in just 36 hours. This flurry of activism occurred just two days after Roberts was named chair-elect of the American Medical Association's Medical Student Section (AMA-MSS). She is a fourth-year student at NJMS who is pursuing a graduate degree in public health.

Roberts and T.R. Eckler, the current AMA-MSS chair, a student at the University of Rochester School of Medicine and Dentistry, received this project from AMA headquarters. Their charge was to swiftly galvanize support from the organization's membership of 50,000 medical students to influence public policy.

Here's why: The Congressional Joint Select Committee on Deficit Reduction, dubbed the "super committee," was attempting to finalize the Budget Deficit Reduction Act. Medicare, which funds Graduate Medical Education, is in jeopardy and this could contribute to the looming national shortage of physicians. "Even though the super committee failed to produce anything, I think our effort says something about future physicians. While we medical students tend to have tunnel vision and only think about our next exam or the next patient, we do have the ability to come together on an issue that we really care about," says Roberts, who considers herself an "East Coaster" even though she was born in Sacramento, CA.

Roberts will continue promoting her message in June when she succeeds Eckler for a one-year term as chair of the AMA-MSS, the nation's largest and most influential organization of medical students. She's held several leadership positions with the AMA since 2008, her first year in medical school.

This is the second time since 2010 that a member of NJMS has been elected to a top post with the AMA. Peter W. Carmel, MD, DMedSci, an internationally recognized pediatric neurosurgeon and chair emeritus at NJMS, is currently the AMA President.

Roberts refers to Carmel as one of her "top mentors." According to Carmel,

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LeAnne J. Roberts



JIM GONZALEZ

## Back at UH

This consummate problem solver has returned to the hospital after 17 years away and admits, “There is a lot to do.” **BY MARY ANN LITTELL**

Walk through the halls of Newark’s University Hospital (UH) with Jim Gonzalez and you soon realize how much he cares. He greets everyone from orderlies to surgeons with a bright smile, a wave or a handshake. He’s just passed a milestone—his first six months as acting president and CEO of UH. Managing this large institution—the busiest trauma center in New Jersey, the principal teaching hospital for NJMS, and a primary provider of health care for the underserved and uninsured—is akin to running a small city. “I’m very glad to be here at UH,” he states. “But there’s a lot to do—no question about it.”

Gonzalez is known throughout UMDNJ as a strategic leader, problem solver, consummate communicator and all-around nice guy. In 2000, when former UMDNJ President Stuart D. Cook, MD, asked him to take charge of Newark’s Broadway House, he admits being less than thrilled.

Launched in 1995 by UMDNJ as an acute-care facility for people with AIDS, Broadway House was beset by problems. At the time Gonzalez was assistant vice president of administration at UH, a job he’d held for 18 months. He had a nursing home license and Broadway House was classified as a nursing home. So it was seen as a good fit. “Broadway House ran in the red and employee morale was poor,” says Gonzalez. “There were doubts about whether it could even be salvaged.”

He rolled up his sleeves and went to work. “I hired a new executive director and we set out to transform the organization,”



Jim Gonzalez

he says. “We hired a great group of people and things turned around.”

This temporary assignment became long-term and today Gonzalez is still president and CEO of Broadway House, now the gold standard for HIV care. It has won numerous state and national awards and was recognized in 2011 as one of America’s best nursing homes in the country by *U.S. News and World Report*.

Holding two demanding, full-time jobs at once is a challenge Gonzalez relishes. He’s been fascinated by health care management since his days as an undergraduate at Northeastern University. The school’s curriculum is based on a five-year work-study program. Gonzalez found work as an administrative resident at Kings Park Psychiatric Center, a state-run hospital in Kings Park, NY. He kept this job throughout college and gained an interest in the complexities of working with psychiatric patients.

After obtaining a master’s in Health Services Administration from Yale University on a full scholarship, he held a series of executive positions at SUNY at Stony Brook and the Rusk Institute of Rehabilitation, both in New York; Bayshore Community Hospital in Holmdel; Christ Hospital in Jersey City; and East Orange General Hospital before coming to UMDNJ.

Now that he’s at the helm of UH, Gonzalez says half-jokingly, “I’m not sleeping much.” His major focus is on continu-

ing the many successes the hospital has achieved operationally. “We’ve been able to sustain our budget in challenging economic times,” he says. With capital funding, several initiatives are planned, including improvements to infrastructure, renovations to the OR, replacement of OR equipment and refurbishment of the cardiac catheterization labs and radiology diagnostic rooms.

“Our most important goals are improving employee satisfaction and patient satisfaction,” he adds. “These big challenges are vital to the hospital’s success.”

UH will implement several programs in 2012 designed to improve employee morale, one of them an employee recognition program. “When we see an employee proactively do something right, something that they were not necessarily trained to do, that employee will be recognized,” he says. “It’s a small gesture, but we think it will result in happier workers.”

Another idea being rolled out in 2012 is the “Be the Hero” program. “This idea is so simple,” he says. “If you see a problem, or one is brought to you by a patient, try to solve it rather than punting or handing it off.” A new program will encourage employees to help patients navigate the maze of UH. “When you see someone who looks lost, ask where they want to go,” explains Gonzalez. “Then take them there rather

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NEIL KAUSHAL

# A Hard Day's Night

Like the Beatles sang, this student's day stretches from morn to night. He's hoping to be sleeping like a log when it's all over. **BY GREGORY BEAN**

For fourth-year NJMS Student Council President Neil Kaushal, a perfect day would be about 36 hours long — maybe just a little longer.

Kaushal graduated from Montgomery High School in Somerset County in 2005 and is just finishing up his seven-year BA/MD program. When Match Day comes this March, he'll find out where he'll spend the next five years as a resident in orthopaedic surgery. He'd like to stay in New Jersey because of his attachment to the Newark community and NJMS, but anywhere in the tri-state area will do.

One thing is certain, however: He will be well prepared for the grueling hours and rigorous schedule of a resident. As any NJMS student knows, it is difficult packing everything that needs to be accomplished and learned into a day. But some students also find time to serve their communities in extracurricular ways. Kaushal, who has been on the student council for the last four years, is one of those.

He was elected to the council as one of six class representatives in his first semester of medical school. "I took it upon myself to serve as a leader for my classmates," he says. "I wanted to make sure students felt comfortable in their transitions to medical school, and I wanted to be a political leader and represent the best interests of my classmates with the administration and the UMDNJ community."



Neil Kaushal

In his second year, he was one of the programming chairs and helped organize many of the functions that the organization holds throughout the year like the Fall Formal, and the Golden Apple Awards in April. In his third year, he became vice-president of the council, acting as a liaison to the school's leadership for the student body, and all of the curriculum and administrative committees.

He was elected council president in his fourth year, and although there are no defined duties for that position, he believes that he still needs to be omnipresent and available for all the council members who are conducting day-to-day business and

planning. "I really relished that role this year, because it has helped me forge great relationships with our administration," he says. The fact that most of the organizational work is done by first-, second- and third-year medical students has allowed him to concentrate on the hectic schedules and responsibilities of the orthopaedic rotations he's done at various hospitals for the last several months.

His day starts at about 4 a.m., when he rolls out of bed in order to arrive at the hospital he's working at by 5 a.m. Most recently, he was commuting to Westchester, NY, from his home in Hoboken. For the next 12





Left: Fourth-year med student Neil Kaushal starts his day about 4 a.m. Above: Making peanut butter sandwiches along with fellow student Olga Kovalerchik. And below left to right: With students Frank Wang, Richard Schmidt and Jerel Chacko.



to 14 hours, he spends time seeing patients with residents and attending physicians, prepping for the day's surgeries, following up those procedures, and learning what would be in store for the next day.

Often, that part of the day does not end until 6 or 7 p.m., and then he is back home working on student council and other extracurricular activities. He touches base regularly with programming chairs to make sure the council's functions, like the Golden Apple Awards, are on track, as well as with the treasurer to monitor how the finances and budget are doing. He's on call for representatives from any of the other 50 or 60 active campus organizations as well as approximately 700 students who might need his input or attention.

He also keeps close tabs on what's happening administratively and politically with-

in the medical school and UMDNJ. Part of his job as council president is to be a liaison to the UMDNJ Governor's Advisory Committee. Last July, for example, he gave a presentation to this group about NJMS and offered its perspective. Kaushal also spoke on behalf of the student body before this advisory commission at a packed and emotional town hall meeting in Newark about the strength of NJMS.

"That probably was one of my proudest moments," he recalls. "My goal in speaking that night was to let the entire community know that there are many proud schools here in Newark, and I challenged them to create the best possible university in this community." When that was all done, he still had to read the next day's round of orthopaedic cases and surgeries. Typically, on this last rotation, his day does not end until 11 p.m. or later. Then, he is up again at 4 a.m. to start all over.

"It's been tough the last few months, but I think that after all my interviews for residency are over, and the final countdown is on towards graduation, I'm going to have a good time," he says. "I'm going to make sure I spend the last few months of medical school enjoying life with my family, friends and classmates."

With a little luck, he will also get a few extra hours of sleep. ●

## Back at UH

*Continued from page 13*

than just giving directions."

Another initiative is strengthening the partnership between hospital and medical staff. "We all must work together collaboratively to improve the hospital and the medical school," he says. "Cooperation is critical to our success."

For now, Gonzalez divides his workday between Broadway House and UH. While the hospital clearly is a priority, he remains committed to the Broadway House residents. "People with AIDS are living much longer now," he says. "Once our residents are stabilized, they are able to leave and live on their own, but they still need services. So there's a great need for supportive housing."

One of his most rewarding experiences was his push to build supportive housing in Newark, motivated by the difficulty in finding affordable apartments for Broadway House clients. He spoke with former New Jersey Governor Jon Corzine and Newark Mayor Corey Booker. He also approached outside agencies, including HELP USA, a nonprofit providing housing and supportive services for the homeless and others in need.

With the assistance of rock star Jon Bon Jovi, whose foundation was a major contributor, the Jon Bon Jovi Soul Home was constructed in Newark at a cost of \$15 million. It includes 51 apartment units, 15 of them set aside for Broadway House residents. "This was such a complex project, and very rewarding when it all came together," he says. "From this experience, I learned that it's so important to be networking all the time. You cannot do things by yourself."

With the prospect of reorganization looming, 2012 looks to be a challenging year for UMDNJ and UH. For now, Gonzalez plans to keep moving forward. "We can't solve all our problems overnight, but focusing on areas where we have room for improvement will make a big difference in morale. Employee satisfaction will roll over into patient satisfaction." ●

ISSAR SMITH

# Forget the Barcalounger

This scientist may have retired from active research in the lab but “Smitty” shows no signs of ever wanting to give up his work days at the Public Health Research Institute. **BY TY BALDWIN**



Issar Smith

“Well, I don’t like to play golf,” says Issar Smith, PhD, laughing, when a reporter asks why he has kept working long after most of his contemporaries have settled into a Barcalounger, one of those deeply-padded lounging chairs. “But I did kind of retire from research,” adds this 78-year-old researcher. “I quit working in the lab when I was 75.”

For Professor Smith, associate director for programs and development at PHRI, retiring from his lab, now headed by Gloria Rodriguez, PhD, (where he still, nonetheless, sits in on weekly meetings), has only

meant becoming more involved in other areas of service at UMDNJ. David Perlin, PhD, director of PHRI, “asked me to stay on as an administrator,” Smith says. “I work on developing new programs, organizing PHRI symposia on infectious diseases and recruiting and mentoring younger faculty. It’s not new to me, but now I have more time to think about trends in science and to transmit my knowledge to the next generation. I love the institute and the people here. In a sense, they are like your scientific progeny. You want to see them do well.”

Smith, who goes by the nickname

“Smitty,” grew up in New York City, the son of immigrants from what is now Lithuania (his father worked as a printer, his mother as a furrier). “The name ‘Issar,’” he says, “it’s unusual. I think my parents made it up. As a kid, you want to fit in, so I’ve been called ‘Smitty’ since I was a child. Even my students call me that.” He completed his education in New York (BA, City College; MA and PhD, Columbia) and, after fellowships at Sloan-Kettering, New York University and a junior faculty position at Albert Einstein College of Medicine, began his long association with PHRI in 1967.

In his postdoctoral studies, Smith—er, Smitty—had become interested in the molecular biology and genetics of the bacterium *Bacillus subtilis*. “It lives and grows normally,” he says, “but when threatened by its environment *B. subtilis* has the unusual property of forming spores that can survive in the soil for hundreds of years. I was motivated by scientific curiosity and wonderment. It seemed like a great opportunity to study cell differentiation.”

He continued this work at PHRI, but in 1994, when New York City experienced a mini-epidemic of tuberculosis, Smith realized that his work with *B. subtilis* had been good preparation for the study of *Mycobacterium tuberculosis*, the causative agent of this disease. “The same questions that I’d been using for *B. subtilis* also applied to tuberculosis,” he says. “For example, once *M. tuberculosis* infects the human body, how does it change? How does the bacterium deal with the threat from the human host that’s trying to kill it? The point, though, was not just to ask nice questions, it was to help fight the disease. I thought that if I understood how the bacterium responded to the lung’s environment, then that would give me a good idea of how best to attack it.”

All bacteria, he explains, have similar, regulatory processes to turn on the genes that allow them to adapt to new environments, and in the case of pathogens like *M. tuberculosis*, to survive and grow during an infection. “If you can find something that’s very



important for the *tubercle bacillus* to grow and cause disease in its host, then you can use that information to develop a vaccine strain, or a target for a drug.”

In addition to his work on tuberculosis and other administrative duties, Smith also plays a major role in PHRI’s summer program for minority students in Newark high schools. The program, a hands-on laboratory research experience, has been headed for many years by Yak Saturen, a high school teacher. It is funded by external grants and Smitty, of course, helps to write the proposals. About a dozen students each year attend a two-week workshop on lab protocols followed by six weeks in one of PHRI’s labs,

during which time each is paired with a mentor, while working on his or her own research project.

“The students aren’t allowed to handle anything toxic or dangerous,” Smith says. “They don’t work with live pathogenic bacteria or viruses like HIV, but they can work with surrogate (non-pathogenic) bacteria, do cloning, or study antibiotic resistance.” At the end of the summer, the students give oral presentations on their research before PHRI staff, representatives of funding agencies and importantly, the students’ families. While Smith is quick to point out that these PHRI alumni do very well in state and national science competitions, his greatest

satisfaction comes from the pride he sees in their parents’ faces and the motivation these students provide for their younger siblings in the audience.

“I’ve been a socially committed person my whole life,” Smith says, “very active with causes relating to peace and social and economic justice. Good scientists need to be completely involved with friends and family, with causes they believe in, and with their community.” For example, he adds, “homelessness and HIV were largely responsible for New York’s mini-epidemic of TB. You can’t just be a bench scientist. You have to treat the social causes as well as the disease, itself.” ●

## Future Docs

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Roberts is well suited to lead. “The reason LeAnne was elected was because she understood the problems related to the state of health care. She is more than just an advocate, she’s knowledgeable. There are very few people in the room who have a better understanding of what is happening than LeAnne,” says Carmel. “She translates that knowledge as her message in a way that is not overbearing, her manner is very pleasing, and very informative. It is collegial. She is not trying to be the majordomo. ‘You and I can understand this, we can do this’ is her attitude.”

This future OB-GYN juggles course work, her AMA responsibilities, and a part-time gig in retail along with two of her favorite pastimes: baking and reading Civil War history books. She also likes football and rugby. Roberts recalls visiting NJMS when she was a student at Rutgers. “The first time I stepped on this campus I felt like this is where I belonged. I just felt that this is my new home. Before I went into my interview and I was walking up the escalators I said, I have to be here. I can’t describe it and I couldn’t reproduce it anywhere else that I went to interview. Five minutes before

I walked into my interview I said, I have to be here.”

Since that day, she has thrived on and off campus. Roberts was an Arnold P. Gold Humanism Honor Society inductee in 2011 and a Pozen Community Scholar in 2010. She’s accumulated a list of memberships, affiliations and achievements and will graduate with the Class of 2013 earning both her MD and her Master’s. When Roberts realized medical students in New Jersey did not have formal representation in the state’s medical society, she worked diligently with colleagues to form an official Medical Student Section at the Medical Society of New Jersey (MSNJ). She articulated student needs while serving as a member of the Board of Trustees at MSNJ for two years.

“Our society is actively involved and supportive of our efforts to maintain the viability and future of the profession in our state,” says Roberts, whose parents, Leander and Shirley Roberts, are her heroes. Her father retired as a lieutenant colonel after 27 years in the Air Force and is now in education. Her mother is a career educator.

Roberts’ enthusiasm and passion for progress are as infectious as her smile. Just ask Avantika Mishra, a third-year student at NJMS and the current chair of the student section of MSNJ, the oldest professional medical society in America. Mishra thinks

Roberts’ best quality is her ability to intrigue people and get them excited about issues they may not regularly ponder. “It’s really hard not to pay attention to her. She’s so passionate and sincere about what she believes in. It makes you want to be as motivated and as passionate about the issues.”

An advocate at heart, Roberts is motivated by empowering others. As a third-year student she completed a clinical rotation in the OB–GYN unit of University Hospital (UH). At first she thought her growing interest in health-related policy “had pulled me so far out of wanting to do clinical medicine, but I woke up every day excited to go into UH for my rotation. I had a blast. It was such a great learning experience. I had some of the best teachers that you could possibly ask for while I was on rotation. It made me remember that this is why I’m here. So, I do know that I want to practice, but I don’t know if you’re going to get 30 or 40 years out of me.”

You might wonder how she manages so many responsibilities. Roberts, age 26, says, “If you ask most med students, prior to coming to medical school if they thought that they would be able to function the way they do now, they would say, ‘no way.’ But when you’re thrown into it, you just figure it out and make it happen.” ●

# SAVING JONTY

“Our patients come from across the country and all over the world,” explains Agnes Cushing-Ruby, the clinical coordinator of the NJMS–Pediatric Center for Rare and Complex Diseases (PCRCO). Under the direction of Harumi Jyonouchi, MD, a shy, Japanese-born doctor who is one of the world’s leading pediatric immunologists, the PCRCO takes “rare, complex and time-consuming patients,” the kind of kids with diseases that have no standard diagnoses. “Last week, we had someone from Ireland,” Agnes says, “and there was also a set of twins from Russia, whose care was sponsored by the Chernobyl Foundation.” But when encouraged to recall cases that tug at the heart, Agnes keeps returning to the story of Jonathan Micallef Fisk, better known as Jonty. “He’s exceptionally bright,” Agnes says, “and so special to Dr. Jyonouchi.” Just last fall, she saved this boy’s life after an infection...once again.

BY MARYANN BRINLEY

## *Some Things I Want People to Know About Me*

— JONTY FISK

- 1. That I am really earnestly nice and I am a decent person and not a mean person.*
- 2. That I am not retarded and that I am actually smart and know a lot about a lot of things.*
- 3. I am very tired of proving myself to people who will think I'm retarded no matter what.*
- 4. I stay inside myself mostly because I'm afraid people won't like me.*
- 5. I am diligent in not caring about being normal. I know I am not normal but I know I can have a great life.*
- 6. I am peerless in my set of thoughts. I am quiet on outside, but loud on inside.*
- 7. Stings that I am so alone. I wish I had a friend who I could talk to and who really understood me.*
- 8. Lastly, I want to formulate a plan for my life. I want to have a meaningful life and not end up in an institution.*





Jonty Fisk is good at math, a poet, and for the first time in years, his mother proclaims, “I have hope for his future. So does he. We would have zero hope if it weren’t for Dr. J.,” says Maura Fisk who affectionately abbreviates Harumi Jyonouchi’s name. Her son is 17 now and he has been a patient of Dr. J.’s for more than a decade.

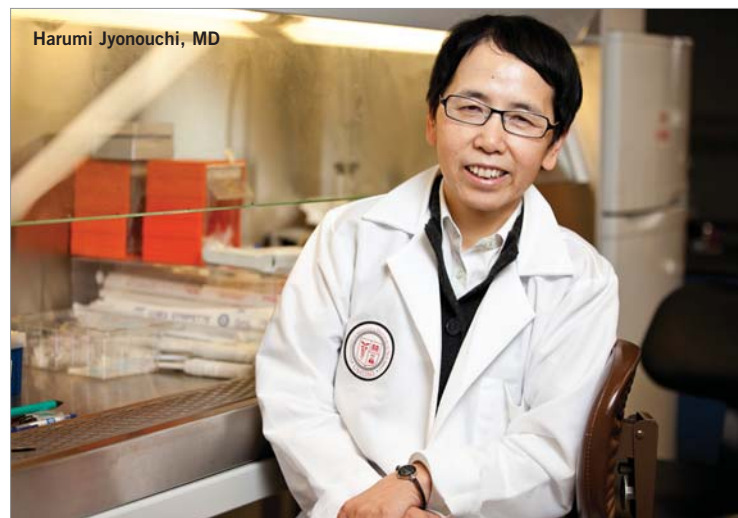
Jonty was a full-term, first-born baby who was hitting his milestones on time at first. However, normal childhood illnesses like colds and ear infections severely affected him. He would cry inconsolably for hours, according to Maura, and he often had fevers that were difficult to control as well as frequent stomach upsets and diarrhea. Most alarming for this Minnesota mother of two sons was that every time he had a normal childhood illness or got a regular vaccination her son seemed to lose skills that he had attained. Sometimes he would regain them but sometimes he wouldn’t and he’d have to relearn them. “Even when apparent symptoms of an illness were gone, Jonty still seemed to be in distress,” Maura recalls.

Concerned that something was wrong with her child, Maura was given standard answers for worrisome first-time mothers during doctors’ office visits. She was told that children often drop doing one thing when they move onto something else and that Jonty was probably just more sensitive or colicky than normal. “His reactions to regular childhood vaccinations were so extreme with spiking fevers and high-pitched crying that he would end up in the ER where staff thought he had meningitis. He’s had several spinal taps,” she explains. “Mostly he would be given ibuprofen to help reduce the fever.”

Maura remembers that after one ear infection followed by vaccinations, Jonty’s fontanel got so large it bulged and covered the top of his head. “The pediatrician who saw that Jonty’s head circumference had grown so quickly referred us to a pediatric neurologist,” Maura remembers. That neurologist measured both parents’ heads, said that Jonty’s was larger than normal because both his mother and father had larger than normal heads, and told her, “Enjoy your baby.”

“Of course I wanted to hear ‘Everything is okay,’ but I also secretly knew something was wrong. I had hoped there would be a fixable answer from the neurologist. I wanted to feel relieved, but unfortunately, I wasn’t.”

This pattern of immune insult, prolonged illnesses, and regression has gone on for Jonty’s entire life. Before he became Dr. J.’s patient, various specialists tested him for metabolic, genetic, gastrointestinal, endocrine, fatty acid and neurological disorders. “His brain MRIs showed scattered ‘ubos’ (unidentified bright objects), which would come and go, or increase and decrease in size,” Maura explains. “Neurologists and radiologists could never determine what these were and ruled out known possibilities such as tuberous sclerosis, neurofibromatosis, and demyelinating diseases. Testing of his long-chain fatty acids, B12 and folate levels, and for BH4 (a metabolic disorder) showed abnormalities but never anything fitting a known pattern. The one thing I felt sure about,” says Maura, “was that Jonty’s constellation of problems was somehow immune-related.” However, conventional immune testing did not show anything obviously wrong.



Then, Harumi Jyonouchi entered their lives. “I remember it was 1999. Jonty had just turned 5 and he was sick again. It is particularly difficult to celebrate your child’s birthday when it feels as if the milestone marks just another year of suffering and the sum of a lot of time searching but not finding answers. You feel like someone racing against time. He was supposed to start kindergarten then. How could he when he had lost so much of what he had known and he was constantly sick and in distress?”

Even with all his loss and regression, Jonty had often been far ahead of other children in skills, Maura says. “He knew all his letters and their sounds by his first birthday. Jonty had been able to recognize almost every two-dimensional shape and all the colors in a deluxe-sized crayon box. He had known his numbers and could count objects but became less able to do so. By age 5, his illness and the regression left him spinning in circles—something he had never done before—making unintelligible sounds. There were no words I recognized coming out of him. It was heartbreaking.”

Feeling strongly that Jonty had an immune-related disorder, Maura was so desperate that one night she stayed up emailing researchers all over the world asking if anyone would read Jonty’s medical records and offer advice. She would pay for their time. Dr. J. responded immediately, saying she would be happy to do so. To Maura’s surprise, she was also practicing medicine at a University of Minnesota clinic then, not far from the Fisk home. Even better, she discovered that Dr. J. was a researcher as well as a clinician.

Half-way through their first appointment, “I realized that we had finally found someone who ‘got it.’ She was able to explain a complex subject like the cytokine network as it related to Jonty’s condition.” Maura’s relief was huge. She had given up the hope of getting any answers from specialists. “It was too difficult to bear the inevitable disappointment, and too frequently all of Jonty’s medical problems were dumped into an ‘autism’ diagnosis, a label he had been given earlier. Even diarrhea, weight loss, and limping were supposedly manifestations of autistic behavior,” an idea Maura discounts.



Jyonouchi explained to Maura that Jonty had an abnormal innate immune response to illness. Tests showed that his inflammatory cytokine production was very high in his cerebrospinal fluid (CSF). “Dr. J.’s approach is to be both conservative and aggressive in treatment,” Maura explains. “She’s conservative because she is able to target the problem area. For instance, she’ll use a specific inflammatory cytokine inhibitor instead of a blanket steroid anti-inflammatory. Yet, she’s aggressive. Because of her experience handling complex cases of all kinds and her astute clinical approach, she is able to recognize and verify conditions early on and address them right away. Outside of Dr. Jyonouchi’s care, too many times you are told to take a wait-and-see approach until the symptoms become bad enough to fit a textbook definition.”

A pediatric allergist as well as an immunologist, Jyonouchi graduated top in her class from the Yokohama City University School of Medicine and shuns the spotlight but is well known in medical circles for her approach to very sick children with chronic conditions and a

## THE JONTY FOUNDATION

In 2000, Jonty Fisk’s family and a good friend, Robert Weyerhaeuser, formed a private foundation to raise funds for neuro-immune disorder research. As Maura Fisk, Jonty’s mother, explains, “We prefer to support translational, or ‘bench-to-bed-side,’ research that has a reasonable chance” of making a difference in the lives of sufferers in the near, not distant, future. “Dr. Jyonouchi’s research is an ideal model of the type of work we like to support,” Maura states. One hundred percent of all Jonty Foundation grants go directly to research. The organization has underwritten many of Harumi Jyonouchi’s research projects at PCRCDC and has donated generously to her work since 2002. Last summer, a successful fundraiser was held in Newark at the Spanish Pavilion and drew the additional sponsorships of Coram™, specialty infusion services, Home Care Services, a patient-focused infusion service and a Kabafusion Company, Walgreens Home Care and Home Solutions Infusion Therapy. Maura, a trustee of the foundation, points out, “We are very keen about matching grants and fundraisers for the PCRCDC and invite people and organizations to contact us. In this day when all budgets are stretched and charity dollars are tight, we think that everyone would welcome doubling their donation dollars.”

If you are interested in donating to PCRCDC, please contact Inya Chehade (ichehade@NJHF.org) at the Foundation of UMDNJ, (866) 44-UMDNJ, www.umdj.FoundationOfUMDNJ.org. If you are interested in having The Jonty Foundation provide a matching grant for a PCRCDC fundraiser or PCRCDC grant, contact Maura Fisk (mmfisk32@gmail.com).

puzzling array of symptoms. At the University of South Florida, she trained under the late Robert Good, MD, a pioneer in immune system research who performed the first successful human bone marrow transplant and emphasized good clinical skills. She was recruited to NJMS in 2002. Obviously brilliant with a depth of knowledge not only about the immune system but also other systems, she is an expert in diagnosing and treating complex patients because of her clinical skills. As

Maura knows so well, “She listens to her patients and their caregivers. She watches the patient’s behavior. She is respectful of her patients and even children who are not ordinarily cooperative will do so for Dr. J.”

Because of his difficult behavior, Jonty, Maura admits, has been asked not to return to some clinics and labs where they have gone for treatment. When she tells her son that Dr. J. thinks he should have a test or treatment, however, he willingly obliges. “Jonty told me he cooperates with Dr. J.’s requests because she is smart, knows what she is talking about and doesn’t make him feel worse. She makes him feel better.”

Back in 1999, Dr. J. started seeing more children with autism spectrum disorder (ASD) when Maura started spreading the word about Dr. J. in the autism community. Now, children with developmental disabilities make up a good portion of her overall patient population, in fact. PCRCDC describes itself as “an integrated health care plan center applying innovative, investigative measures for very sick, chronically ill children. PCRCDC evaluates each child as a whole and develops a comprehensive diagnostic and treatment plan including an action plan for emergencies...On-site custom and esoteric testing capabilities provide the patient with immediate, state-of-the-art testing and treatment options reducing the invasive procedures and the need for ER visits and hospitalizations.”

Though they live thousands of miles away, this mother and her son continue to travel to Newark to be treated by Dr. J. “I do not know what we would do without her. She has made all the difference in the world to Jonty and our family.”

“All of my cases are rare, difficult, time-consuming but very rewarding,” Jyonouchi says. There are few medical protocols for dealing with symptoms that can’t easily be categorized. “You have to think of every adaptive mechanism in the body, how each organ affects another as well as the whole child. Many genes interact with many others, as well as the environment, triggering the immune response. One system compensates for another, affecting multiple organs, causing different and complex health issues. Clinical features can be disparate and deceiving.”

Explaining her diagnostic skills to Maura once, Dr. J. said, “Well, how are babies diagnosed when they cannot tell you what hurts? You have to really look at them and know what you know, see the whole child, read the history, remember it all and pull everything together.” ●

*Near death I reside  
Itself a noble nesting  
Senses edged*

— JONTY FISK





Joujou Yaghi with Julien, 4, Nadia, 3, and Adrien, 9



TO GET JOUJOU

# Dancing

AGAIN

**IN MY OWN WORDS**

*by Inya Chehade*

*To find the best orthopaedic care anywhere for an indispensable grandmother, this employee discovered there was no place better than her University home.*

“Mama, how long will Teta stay at the hospital? Will she be asleep? Will she feel any pain?” Our four-year-old son, Julien, quietly asked these concerned questions, waiting for my answer. It was the morning of August 31, 2011, just two days after Hurricane Irene had blown through the northeast. Many homes in New Jersey were still without power, streets were completely flooded, trees and power lines were down in all suburban towns, and the roads were impassable in many places. Some people were using rowboats to get down their streets.

Francis Patterson, MD, and  
Inya Chehade



Teta (a name of affection akin to Gram) Joujou, my mother-in-law, beloved grandmother and caretaker of our three children, was preparing for knee revision surgery that morning, slowly shuffling along and packing the small bag of personal items which she would take to University Hospital (UH). This surgery was three months in the planning but 10 years in the making. A decade earlier, Joujou Yaghi had experienced a very bad fall which tore her knee and required emergency knee replacement surgery. My mother-in-law's first name is actually Joumana. Joujou is her nickname.

All was well for Joujou until 2010 when something snapped and broke inside her prosthetic knee joint, causing deep internal inflammation and making walking extremely painful and barely tolerable. Yet, she persevered despite daily pain—caring for our three children, preparing meals, doing laundry, and keeping the house in order while my husband and I worked full-time. From time to time, we discussed knee revision surgery with her, but she simply was not ready and petrified of the pain she would experience post-surgery as well as the physical therapy sessions which would be necessary for healing. When 2011 arrived and we continued to gently discuss the necessity of this surgery with her, she finally relented.

I have spent the last 10 years of my career as the senior director of development at the Foundation of UMDNJ, the fundraising arm of the University. My office is based in Newark and I have worked with dozens of NJMS faculty members over the years—writing grants, organizing galas and fundraisers, and interacting with our medical school alumni. Every day at my job is different and unique and, every day, I greet many faces of friends and colleagues. This school has become my second home. I have had the opportunity to work closely with many of the faculty members in all departments, including orthopaedics.

I am always telling others both inside and outside the University that there is an excellence within these walls. There are so many people doing miraculous things here day in and day out. That's why I concluded early on that this would be the best place for my mother-in-law to have her complicated surgery. Joseph Benevenia, MD, chair of the Department of Orthopaedics, has brought together a compassionate and humanistic team of surgeons, anesthesiologists, residents, physician assistants, and nurses. I have interacted frequently with Dr. Benevenia, and we've talked about his life not only as a surgeon, but also as a passionate artist-sculptor. His art work has been displayed at our medical school and he clearly loves being a surgeon as well as an artist. My husband and I knew that Joujou would be in the best of hands here under the guidance of Benevenia and his team. We also knew the orthopaedics department at NJMS and UH serve as a tertiary referral center for more complicated surgeries which other orthopaedic surgeons would not attempt to perform. In addition, Joujou's rare model of prosthetic knee was one most surgeons had not worked with, and the specialists here had valuable experience with her particular knee prosthetic.

What we didn't realize was the scope and depth of the pre-work which would be necessary before surgery. Joujou's old prosthetic knee



All was well for Joujou until 2010 when something snapped and broke inside her prosthetic knee joint, causing deep internal inflammation and making walking extremely painful and barely tolerable.

(This image is not of Joujou's knee but for illustration only.)



had been manufactured in Germany so this meant that the team had to contact the German manufacturer directly to find out more about that particular prosthesis, to get the right equipment to remove the prosthesis as well as the exact matches for the broken pieces which were being replaced. Although this sounds relatively easy, it required months of back-and-forth phone calls overseas, emails with large CAD drawings of various knee parts, and detailed planning about how best to proceed with this complicated surgery. In addition to Benevenia, several other key people were involved, including Francis Patterson, MD, the lead surgeon for Joujou's case; Daniel Eloy, MD, anesthesiologist; Nader Ghazal, MD, orthopaedic fellow; Alvaro Cabezas, MD, orthopaedic resident; Allyson Wright, PA; Cindy Bowman, PA; Rassan Cobbs, scrub tech; and Lualhati Caluag, RN, operating room nurse.

When my husband, Ghassan, and I finally had the opportunity to meet everyone in person, we saw a dream team working as a united front. Patterson stands 6 feet 6 inches, with large burly hands, a huge smile, and a kind, unintimidating demeanor. He completely put us at ease in the first minute we met. I will never forget what he said, "Joujou, we're going to get you dancing again!" A former Massachusetts Institute of Technology pitcher for the school's baseball team, he has a winning spirit and can-do attitude. The two PAs working on this case were equally passionate, caring, and supportive—always willing to answer our endless questions and give us updates on progress. A week before surgery, Allyson Wright called to let me know that the knee parts had been delivered, that Patterson had tested them out, and that all was a go. August 31 was finalized as the official surgery date.

The surgery itself lasted eight hours door to door...a tense eight hours, as my husband and I anxiously awaited news from the team. An hour into surgery, Wright came out of the operating room to let us know that they had made the incision and all was well thus far. A few hours later, she let us know that they would be replacing one additional part, but that things were going fine. Finally, after eight long hours, we met Patterson outside the operating room and he had a huge smile so we knew that it had been a success.

This outcome was the result of hours of preparation, thoroughness, and exacting precision. It was the result of the years of training these medical professionals pursued. It was the result of compassionate and humanistic care before, during, and after surgery. In addition to the OR team, there were numerous staff members and nurses on the PACU unit, H-Green, and on the floor who all cared for Joujou. The resident team included Alvaro Cabezas, MD, as well as John Koerner, MD, Kenneth Koury, MD, and Heather Kong, MD. All of them were involved in her post-operative care.

These individuals quietly do their work, day in and day out, in order to bring comfort, relief and hope to so many fellow human beings. Today, two months following her surgery, Joujou has gotten her life back and is once again dancing with her grandchildren, Adrien, 9, Julien, 4, and Nadia, 3. ●



Allyson Wright

### *A Force More Powerful than Hurricane Irene*

As Hurricane Irene tore through the northeast, I remembered Patterson's physician assistant Allyson Wright, PA, telling me that her home was located in a major flood zone. Allyson and I had interacted on a weekly basis for more than three months in preparation for my mother-in-law's surgery. As the lead physician assistant on our case, Allyson was the point person for any and all of our questions. She was the liaison between the physicians and the medical device companies, she arranged all of the logistical details prior to surgery, and she was the calm, reassuring voice through it all.

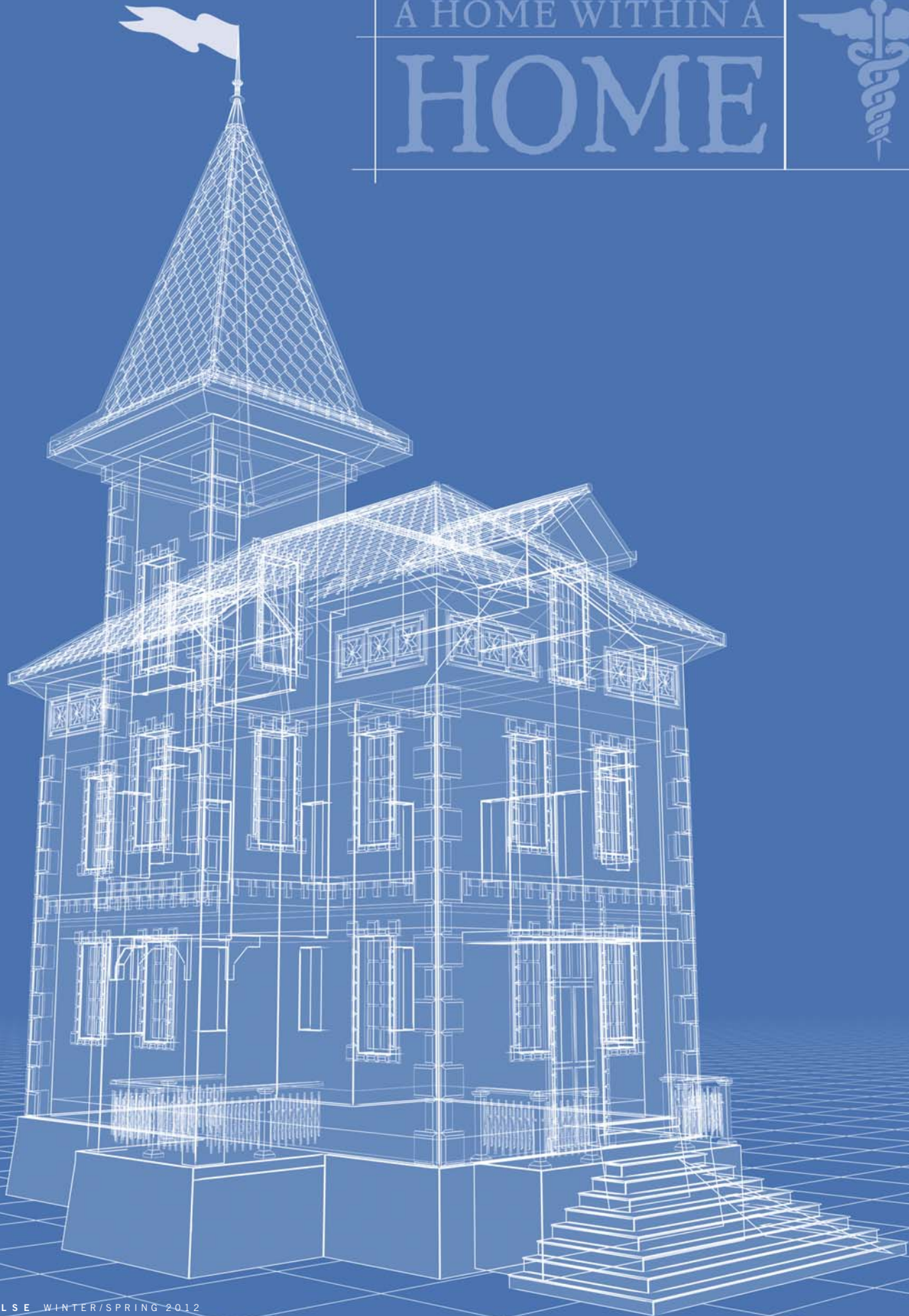
On the day of Joujou's surgery, two days following Hurricane Irene, we came to the hospital in the early morning dawn to check in, following our pre-operation instructions. As I turned the corner of the hallway on H level at UH, there was Allyson, smiling, composed, and reassuring, as always. I asked her how things had fared at her home during the hurricane only to discover that her home was underwater. She had to flee with her two-year-old son to her parents' home, while her husband stayed back to salvage personal items. His only way out of the house was by using his neighbor's rowboat. The home was in ruins and they would probably not ever be able to return to it. But there was Allyson, ready to scrub for this case, going above and beyond the call of duty. I said, "Allyson, I can't believe you're here!" Her answer, simple and humble, was, "I made a promise to be here, and here I am."

Patterson couldn't agree more. "By far, she's the most professional physician assistant I've ever worked with. She cares about the patients and she cares about doing her job with compassion."

STORY BY GENENE W. MORRIS

A HOME WITHIN A

# HOME





With a nod to Harry Potter's experience at Hogwarts School, "houses" have been designed for a new way of learning and living during medical school.

As nighttime descended on Washington, DC, shrouding the U.S. Capitol and its famed landmarks in darkness, Maria Soto-Greene, MD, and James Hill, PhD, boarded an Acela bound for their respective destinations in New Jersey and New York.

The NJMS administrators had been in DC for the annual meeting of the Association of American Medical Colleges (AAMC) and soon began batting around ideas to bolster the school's career advising efforts. By the time their train pulled into Newark's Penn Station two-and-a-half hours later on that November 2010 evening, Soto-Greene and Hill had laid the groundwork that would bring learning communities to NJMS.

Rolled out to the students in August 2011, these new communities—where small cohorts of people with common interests and goals learn together and from each other—are aimed at enhancing the Careers in Medicine program; boosting camaraderie and school spirit; maximizing interactions between students and faculty; and promoting overall student success and wellness. Learning communities vary from institution to institution depending on their individual objectives. At NJMS, as Soto-Greene explains, they are built around the Careers in Medicine program, which helps students identify career goals, explore specialty and practice options, select and apply to residency programs, and make good career decisions.

Soto-Greene, vice dean, says, "The four years, honestly, they go quickly. It's critical that students have an opportunity to explore various specialties, receive appropriate feedback and make informed decisions so they will be successful when they leave us."

It was that AAMC five-day "2010 Annual Meeting: Shaping the Physicians of the Future" that got the idea underway, says Hill, associate dean, student affairs. "We attended sessions where people presented their work with learning communities. We had been thinking about different models to use in our career advising program. During the train trip we decided that we would look into this more," he says. After consulting with colleagues, they worked out details and in spring 2011 presented a plan to NJMS Dean Robert L. Johnson, MD, who approved it. "It really came out of hearing what other people are doing."

Widespread at the undergraduate level, learning communities are relatively new to medical schools. But the trend is catching on, with approximately one-third of med schools implementing them, Hill says. There is even a Learning Communities Institute to share ideas and promote initiatives. These facts are not surprising, considering that in 2008 the Liaison Committee on Medical Education began requiring schools to document how they are providing supportive learning environments. A 2009 study in the AAMC's journal *Academic Medicine* states, "Evidence from undergraduate medical education suggests that developing learning communities is one approach for enhancing the learning environment and thereby improving student satisfaction, retention and performance."

To achieve program objectives at NJMS, students are assigned to

one of five houses: *Delphinus*, *Geranos*, *Leontos*, *Lykos*, and *Ursus*. Thirty-six students from each of the four classes are parceled into one house where they come together like carefully woven strands of thread—their dreams, aspirations, talents and values crisscrossing into a tightly knit group. There, they will remain for the rest of their time in medical school. This arrangement sets the stage for "vertical mentoring" where newer students learn from the upper-classes. To name their houses, organizers started with characteristics all doctors should possess, identified animals that represent each attribute and assigned the corresponding Greek or Latin name. They agreed the ideal doctor should demonstrate the judgment and courage of a lion (*Leontos*), the communication and collaborative skills of a wolf (*Lykos*), the resourcefulness and nurturing spirit of a bear (*Ursus*), the altruism of a dolphin (*Delphinus*) and the balanced approach to life and work demonstrated by the crane (*Geranos*).


Using the term "house" was a decision made by students on the orientation committee, an apparent nod, says Hill, to the wildly popular books by J. K. Rowling about Harry Potter, a boy wizard enrolled at Hogwarts School of Witchcraft and Wizardry where students are grouped into houses by a "Sorting Hat." At NJMS, administrators replaced the Sorting Hat. "We tried to make the houses as diverse as possible," Hill explains, looking at both the male to female ratio as well as where the student had gone to college. "We didn't want everyone who went to Rutgers in one house. We spread them out to create the most diverse houses we could."

Each house is led by two faculty mentors whose primary role is to provide career counseling, refer students to resources that can assist them with their career decisions and serve as role models. At the helm of *Delphinus* are Chantal Brazeau, MD, a psychiatrist and family medicine physician, and Devashish Anjaria, MD, a surgeon. Overseeing *Geranos* are Christine Gerula, MD, a cardiologist, and

Continued on page 31



Maria Soto-Greene, MD, student  
Parimal Patel and James Hill, PhD



# THE VIRUS BUSTER

When Sergei Kotenko began studying cytokines (proteins that are active in intercellular communication and play a pivotal role in the body's immune system) in the 1980s in Moscow, little did he know that one day he would make medical history with his discovery of powerful antivirals called interferon lambdas.

*by Eve Jacobs*

There is no equivalent in the virus world for the bacteria-slammability of antibiotics. Since the late 1920s—with the introduction of penicillin—countless bacterial infections have been treated and lives saved by a long line of these powerful drugs. Their importance is underscored by the medical world's anxiety over the emergence of antibiotic resistance, which threatens to push us backwards in our battle against infectious disease.

Vaccines to prevent, or diminish the impact of, viral disease became household words long before the first antiviral therapies came on the scene. Edward Jenner derived a smallpox vaccine from cowpox in the late 1700s; Louis Pasteur introduced a rabies vaccine in 1885; and a polio vaccine was welcomed on the scene in the 1950s. But it wasn't until the 1980s that antiviral treatments (to fight already established disease) took off, sinking their teeth into such major viral threats as HIV and hepatitis B.

Unlike bacteria, viruses do their damage by infiltrating their host cells and using the cell's machinery and metabolism to replicate. Antivirals jam the replication mechanism. But creating an effective antiviral is extremely complex since the host cell must be preserved undamaged while the antiviral stops the infiltrating virus from multiplying.

So, the real leap in the development of antiviral therapies came with fairly recent technological advances, which moved the genetic sequencing of viruses forward more rapidly, yielding pivotal insights into viral replication and how that replication can be halted.

Sergei Kotenko, PhD, earned an undergraduate and Master's degree in biophysics from the Moscow Engineering Physics Institute in 1985 and a doctoral degree from the Moscow Institute for the Genetics of Microorganisms in 1990. With an interest in science, a talent for math and theoretical physics, and a desire to work with his hands and his brain and “to see the results” of his work, Kotenko bypassed surgery, his first professional inclination, moving into the study of cytokines and their effects on the body's immune response.

In most viral infections, the immune system stages an attack on the invading virus, ignited into action by antigens that appear on the

infected cell's membrane. Cytokines are integral to this immune response to viral onslaught, setting in motion a host of physiological mechanisms that help to undermine the virus's trajectory.

“This was a new field and the work was very exciting; it was a time when novel cytokines with unique abilities to regulate various aspects of immune response were being discovered,” Kotenko says. “I learned and used genetic engineering to clone and produce interferons and interleukins [two types of cytokines] to study their biological activity.”

His timing could not have been more ideal. After receiving his PhD, he continued his investigations at the Institute for about two years, proving himself an adept investigator in this rapidly developing area. But in 1991, the Soviet Union disintegrated, producing massive political turmoil that spilled into the world of science. The positive side for many was that the break-up opened the country's borders, allowing scientists to seek employment abroad.

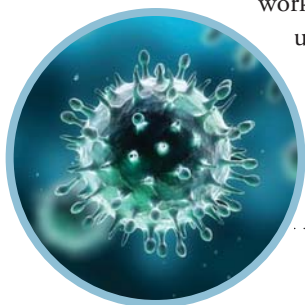
“Life there was not easy at the time,” says Kotenko. Funding for research dried up, the infrastructure collapsed, and scientific work came to a halt. Consequently, many researchers left the country, among them several of Kotenko's friends. One, Lara Izotova, PhD, came to the U.S. for a research position in the laboratory of Sidney Pestka, PhD, a renowned scientist and professor at UMDNJ's Robert Wood Johnson Medical School in Piscataway.

Izotova's new position also proved fortuitous for her Russian friend. The pioneering interferon research in Pestka's lab was moving ahead rapidly and Izotova recommended her friend to Pestka, who invited Kotenko to join the team. According to his official bio, “Sidney Pestka is known as the ‘Father of Interferon’ for his seminal work on interferon that gave birth to what is, today, a \$6 billion market directed at the therapy of hepatitis, multiple sclerosis, cancer, and other diseases that affect mankind. He was the first to purify interferon, the first to clone mature interferons and the first to develop a commercialized recombinant biotherapeutic—interferon alpha...” On January 13, 1992, Kotenko landed in the U.S. to begin work in this dynamic laboratory and the next chapter of his life began.





“This was a very exciting time for me,” says the scientist. In addition to the camaraderie of working with fellow interferon researchers, Kotenko says, “The human genome project was forging ahead rapidly, providing scientists new information on almost a daily basis.” The ambitious project, which had begun in October 1990, produced a working draft of the chemical base pairs that make up our DNA, identifying and mapping the approximately 20,000 to 25,000 human genes by 2000. The immediate accessibility of the information on the Internet helped move scientific research forward more quickly.



**Kotenko's discovery changes the landscape of interferon research, adding a pivotal chunk of knowledge and potential avenues for new and improved therapies for chronic viral diseases.**

In Pestka's lab, life was very heady. Kotenko was part of the team that made deep inroads into the understanding of interferon gamma, interferon alpha, and interleukin 10, publishing their findings in such major journals as the *Proceedings of the National Academy of Sciences*, *EMBO Journal*, the *Journal of Biological Chemistry*, *Cell*, *Immunity*, and *Oncogene*, among others. “With the abundance of novel untapped information from the sequencing of the human genome, it was a perfect time to apply my skills in database mining to identify and clone quite a few novel receptors and novel cytokines,” says the scientist, “and to match the cytokines with the receptors.”

In 2001, Kotenko had the opportunity to set up his own laboratory in the Department of Biochemistry at NJMS. With ample federal funding, he continued his exploration into the field of cytokines and forged ahead to pursue new knowledge about their roles in the immune response. His scientific “hunch” was that there were more cytokines than had yet been discovered. In 2003, his research team reported the cloning and characterization of a new type of interferon that he named interferon lambdas (also called type III interferons) in *Nature Immunology*. Kotenko says that “this discovery opened new directions in antiviral research and paved the road for solving some of the puzzles in the field. For example, it provided an explanation of why even with deleted receptors for types I and II interferons, an antiviral response against certain viruses is still able to be mounted.”

Interestingly, a group of scientists from a small biotech company made the same discovery at the same time, published their results in the same issue of *Nature Immunology*, called their findings Interleukin 28 and 29, and applied for patent protection.

“Lambda became the focus of my research,” Kotenko continues. What he discovered about this new type of interferon is that it signals

through a different receptor complex than interferon alpha and beta, yet its antiviral action is similar to that of the other interferons. “But interferon lambda provides protection even when interferon alpha and beta are absent,” he explains. The scientist and his group cloned three related cytokines that they named interferon (IFN)-lambda 1, 2 and 3.

“IFN-lambda 1 and 3 are almost identical in their function, whereas IFN-lambda 2 is the weakest one in the family,” explains Kotenko. After a number of years, the team from the biotech company was awarded the patent for interferon lambda 1 and Kotenko's team was recently awarded the patent for interferon lambda 3.

The researcher has high hopes for the discovery. “Interferon lambda 3 is the most biologically potent and active of the three,” he says. “Its strong antiviral activity and antitumor action is similar to interferon alpha, which is an established treatment for a number of viral diseases and cancers. But interferon alpha is a toxic therapy, often causing severe side effects.”

IFN-lambda has been shown to produce fewer and shorter-term side effects because, unlike receptors for interferons alpha and beta, which are expressed in all tissue, receptors for interferon lambda are expressed primarily in epithelial tissue. “This is where you need the most antiviral protection,” he explains, “because this is where most viruses enter the body.”

Kotenko's discovery changes the landscape of interferon research, adding a pivotal chunk of knowledge and potential avenues for new and improved therapies for chronic viral diseases. In fact, just last year he was recognized with the prestigious Seymour and Vivian Milstein Award for Excellence in Interferon and Cytokine Research.

“Our interferon can be used to treat chronic hepatitis B and C infections and could be part of a combination therapy against certain cancers. Its therapeutic potential for the treatment of some autoimmune diseases is just starting to be studied. For example, it has a connection to asthma, because asthmatic children demonstrate a deficiency in interferon production during respiratory infections,” he says.

IFN-lambda 3 has the potential to be used alone, or in combination with other drugs, as a therapy for a wide range of human diseases (not all of them caused by viruses). Vince Smeraglia, Esq., director of UMDNJ's Office of Technology Transfer and Business Development, calls Kotenko's finding “a great technology.”

There's no doubt that Kotenko will continue on the forefront of interferon investigation as IFN-lambdas steadily gain recognition within and beyond the field of cytokine research. “Although the discovery of IFN-lambdas advanced our understanding of the antiviral response, it also brought to light many additional questions,” he says. “The main one in my mind is why two independent antiviral systems, relying on either type I or type III IFNs, developed during evolution. What are the unique functions of IFN-lambdas, the functions that cannot be handled by classical type I IFNs alone? I hope our ongoing experiments with IFN-lambda receptor-deficient animals, which we recently generated in the laboratory, will bring us closer to the answer.” ●



## A Home Within a Home

Continued from page 27

Basil Hubbi, MD, a radiologist. Iris Herrera, MD, an internist, and Lawrence Chinn, MD, an anesthesiologist, preside over *Leontos*; while Tia Manning, MD, a pediatrician, and Sharon Gonzales, MD, an interventional radiologist, are responsible for *Lykos*. Leading *Ursus* are Karma Warren, MD, an emergency medicine physician, and David Cennimo, MD, an expert in adult and pediatric infectious diseases. “We chose faculty who had a strong interest in working with students and had received strong recommendations from students on course/ clerkship evaluations,” Hill explains. Mentors meet monthly to share ideas. They also work with their students at least twice a year tracking professional and career development.

“We are utilizing new resources to give students tools to help them make the best career choices,” says Gerula, Careers in Medicine assistant dean and assistant professor of medicine. “As we continue with our own faculty mentors, we expect to mature in our learning community environment.”

To strengthen students’ connections with NJMS and each other, administrators knew that levity in the houses would be important. “They come into medical school almost feeling as if, ‘I’ve given up my life because doctors are so sacrificed,’” says Gerula, an NJMS alum who is also the medical director for the cardiology practice and the echocardiogram lab at the Doctors’ Office Center. To combat this thinking, mentors went beyond the facts in their curriculum vitae and shared personal information to show there is more to life than an examination room, says Gerula, a self-professed soccer mom of two and shoe-lover.

“After that first year, every second-year student has something they wish they had done differently and advice to give.” — Parimal Patel

From these extra-curricular faculty bio-sketches, students learned that among their mentors are doting parents who relish the time they spend with their children. There’s a frustrated actor who loves the theater; a community activist; a kayaker who enjoys snow and spending time with friends; a photographer-cyclist and chess-enthusiast; and an orchid-lover who enjoys cooking, the color red, the flavor of caramel and the smell of cinnamon.

To break from the stress of medical school, various activities have been organized. A competition was held during orientation for students to design coats of arms for their respective houses. Other events are in the works, including a wellness competition this spring and a possible dance contest, says Hill.

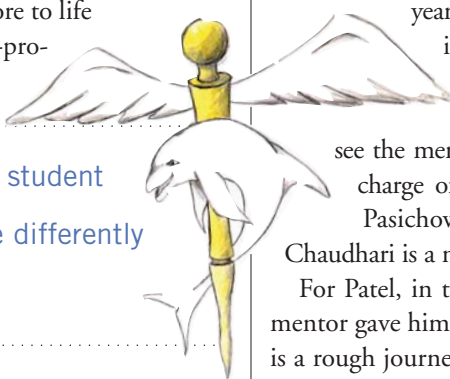
But the support within the house is all important. The 36 students from each class are subdivided into groups of six. Every first-year group has three second-year student mentors as well as someone who is a liaison to faculty mentors. This way, if a first-year student is having trouble, he or she could call on a student mentor for help, Hill explains. This arrangement will continue until the first years have reached their fourth year. “By that time, some of them will have become mentors. It’s like how a family works from generation to generation.”

The student mentoring aspect within the learning communities is overseen by the CALM (Collaborative Approach to Learning Medicine) program, a student-to-student support service. CALM, within the Center for Academic Success and Enrichment (CASE), provides mentoring, tutoring and academic review services, and is “designed specifically to address the learning demands of medical school, which differ significantly from those of college,” says CASE Director Sarah Karl, PhD, an assistant professor of obstetrics, gynecology and women’s health. “For instance, the medical student has to adapt his or her learning style to extremely varied courses—memorizing biochemical pathways versus cadaver dissection versus engineering-like calculations of physiological processes. Peer mentoring from upper-class students guides first-years as they adapt with less time lost in trial and error and with empathetic support from those who have recently been through it.”

Following an application process, 120 second-year students were selected to mentor, tutor or provide academic review services to first-years. Of that, 90 are mentoring while the remaining volunteers tutor and, Karl says, “a select number of star students from the second-year class prepare academic review sessions just before important examinations.” A CALM executive committee includes second-year student coordinators Parimal Patel and Meghan McCormick who oversee the mentors; Jennifer Lee and Michael Ingargiola who are in charge of the tutors; and Chris Morton, Jade Ku and Scott Pasichow who coordinate the academic reviews. Amit Chaudhari is a networking coordinator.

For Patel, in the *Delphinus* House, becoming a coordinator and a mentor gave him a chance to share what he’s learned. “Medical school is a rough journey. It is hard for a person outside of the environment to truly understand what you are going through,” Patel says. “After that first year, every second-year has something they wish they had done differently and advice to give. The house is a resource for me, a place where I can get advice from upperclassmen and faculty.”

Soto-Greene says that faculty mentors are getting as much out of the program as students. “We didn’t anticipate their excitement about their own house within this NJMS family.” And, while the overall goal of the learning communities is to ensure that students make appropriate career choices, equally important, adds Soto-Greene, is that students “develop as individuals who have an even greater capacity to care for their patients.” Meanwhile, all of these connections are helping to make each new house “a home within a home.” ●





**ROBIN S. SCHROEDER, MD'86**  
ALUMNI ASSOCIATION PRESIDENT

## Dear friends,

Over the past eight months as president of the Alumni Association, I have become ever more appreciative of our alumni who give their time, talents and generous financial support to our students. All of us are pulled in so many directions these days: family responsibilities, professional obligations and many requests for contributions. It seems that every organization in need of support has our “number” (or address as it may be). I find this overwhelming. In speaking with others, I have learned that there are several ways that people, in general, respond to these requests. Some send a little bit to every organization that asks. Others become so overwhelmed or annoyed by the sheer number of requests, that they all go in the trash. Then there are those who realize that they cannot give to all organizations, but rather, take the time to reflect on which “cause” stirs passion and makes the best use of the contribution.

In 2012, I am encouraging you to become one of these thoughtful donors. I assure you that all of the donations that the Alumni Association of NJMS receives for student scholarships go to student scholar-

ships. Currently, we are considering several special projects, including upgrades of the main lecture halls. I am also interested in replacing the floor of the old gym (next to the cafeteria) with a multipurpose floor that would allow for athletic activities as well as general student activity space. Space continues to be in short supply in the Medical Science Building. Why not make 2012 the year that you make a difference for a current student?

### *How else can you reconnect with your medical school?*

- Join your classmates for Alumni Reunion weekend, April 27–29.
- Let us give you a tour... lots of new facilities.
- Host a gathering for alumni in your area (with our help).
- Mentor an NJMS student about your specialty.
- Ask for a contact list for your classmates (and then contact them!).
- Chat with the student who calls you for our spring phonathon.
- Be a representative for your class (volunteers always welcome).
- Participate in our first alumni/student golf outing on September 10, 2012.
- Purchase some NJMS merchandise from the school store—<http://www.theheinrichmaneuver.net/2011/?q=catalog>.
- Attend the Scholarship Awards Dinner next fall because you have become a donor of: A **Named Scholarship** in honor of a friend, family member, or mentor (\$1,500+), or an **Endowed Scholarship** in perpetuity (\$25,000+).

Finally, I would like to reassure you that despite the changes to UMDNJ, New Jersey Medical School will continue to thrive and provide an outstanding medical education to our students.

Please share your ideas, thoughts, or concerns with me: [schroers@umdnj.edu](mailto:schroers@umdnj.edu). ●

## SAVE THE DATES!

**April 27, 28 & 29, 2012**  
**NJMS Alumni Reunion Weekend**

*Join your classmates for a great weekend!*

### **FRIDAY, APRIL 27**

9:15 a.m. • “Progress in Primary Care—Transforming the Future of Care”  
Speaker: Robert Eidus, MD, President, NJ Academy of Family Physicians

11 a.m. • The 44th Annual Harold J. Jeghers, MD, Memorial Lecture, speaker to be announced

12:30 p.m. • Alumni Luncheon and Campus Tour

6:30 p.m. • Welcome Reception  
Sheraton Parsippany Hotel\*

### **SATURDAY, APRIL 28**

Noon • Newark Museum Tour

7 p.m. • Wine Experience/Cocktail Hour and Dinner  
Dance at the Sheraton Hotel

### **SUNDAY, APRIL 29**

9:30 a.m. • Farewell Brunch at the Sheraton Hotel

\*There is a limited block of rooms at the Sheraton Hotel, available at a special rate, so please reserve before March 27 by calling 1-800-627-8148.

### **September 10, 2012**

#### **NJMS Alumni & Student Golf Outing**

Crestmont Country Club, West Orange, NJ

*For information or reservations for these events, please contact Dianne Mink at (973)972-6864 or [minkda@umdnj.edu](mailto:minkda@umdnj.edu).*

## *In Memoriam...*

*The Alumni Association and the NJMS community extend deepest sympathies to the families and friends of:*

**Andrew “Diko” Gnoy, MD’98** on September 27, 2011 in Pompton Plains. Gnoy practiced obstetrics and gynecology in Wayne, where he lived with his wife Stephanie Potts-Gnoy.

**Michael Brian McKenna, MD’00** on July 11, 2011. McKenna served his residency and fellowship at Brown University and was an oncologist, practicing in Cleveland, OH. He is survived by his wife Laura; his daughter Lindsey; his mother Dorothy Figurski; his father Jeffrey McKenna; two brothers and many other relatives.

**Claude R. Poliak, MD’60** on October 27, 2011. He served in the U.S. Air Force during the Vietnam era as a flight surgeon/ophthalmologist and retired from the U.S. Navy as a commander. Poliak had private practices in both Tampa, FL, and Cartersville, GA and is survived by his wife Diana and daughter Juliana.



## CLASS NOTES

### 1960'S

**Daniel Cowell, MD'60** has been retired since July 2009 and enjoys beach life on the Delaware coast, working part-time as an independent contractor and volunteering for the local fire department. His wife Diana retired as a hospice social worker. They have four children and five grandchildren, enjoy traveling, power boating and entertaining. He would welcome contact from friends.

**Peter Dorsen, MD'62** is teaching biomedicine at the American Academy of Acupuncture and serving as an alcohol and drug counselor at the Neurophysiological Institute in MN.

**John Killion, MD'62** retired from the active practice of pediatrics in June 2011 at age 75. He is now involved as a consultant in pediatrics, specializing in autism.

**Gerald S. Levey, MD'61** and his wife, Dr. Barbara Levey, are still actively working at the David Geffen School of Medicine at UCLA. He just published a book on leadership at large organizations, entitled *Never Be Afraid To Do The Right Thing*. The Leveys, who celebrated their 50th anniversary last June, are well and thoroughly enjoying their children and grandchildren.

### 1970'S

**William Annitto, MD'74** is not planning retirement yet because his youngest daughter, Leah, will be graduating from the Lawrenceville School this year and plans to become a surgeon.

**Peter Blume, MD'77** had the opportunity to visit NJMS in June 2011 and commented, "What a great place!"

**Alvin Goldberg, MD'76** announced that he has a new grandson, Asher Stephen Goldberg, born in March 2011.

**Enrico P. Veltri, MD'79** is currently vice president, U.S. Medical Affairs at Sanofi Aventis.

### 1980'S

**Michael Kane, MD'83** joined the Fox Chase Cancer Center as an assistant professor of medicine and has been appointed medical director of medical oncology and infusion services at AtlantiCare Cancer Care Institute in Egg Harbor Township.

**Gerard Cicalese, MD'89** and his wife Alyssa had a baby boy, Gerard Pasquale, born on July 2, 2009.

**Michael Finkelstein, MD'83** married Leslie A. Bowman on June 22, 2011.

**Mark Kortpeter, MD'88** became the director of the Infectious Disease Clinical Research Program (IDCRP) in August 2010. The IDCRP is a network of researchers focused on infectious diseases of importance to the military.

**Lauren D. LaPorta, MD'88** presented a paper at the Society for Criminal and Police Psychology on narcissistic personality disorder and filicide in October 2011; and a poster on a new alcohol withdrawal protocol at the Academy of Psychosomatic Medicine Annual Conference in Phoenix, AZ, in November 2011.

**Kenneth Paonessa, MD'84** was elected chairman of the Global Outreach Committee of the Scoliosis Research Society, coordinating surgical volunteers in the developing world.

**Donna Alison Pearce, MD'89** received her MPH and CPH in May 2011 from the Columbia University Mailman School of Public Health.

**Mark Pollack, MD'82** is the Grainger Professor and Chair of the Department of Psychiatry, Rush University Medical Center, Chicago, IL.

**Mark Silidker, MD'83** has been elected chairman of the Department of Radiology at Doylestown Hospital in Doylestown, PA. He is also the medical director of PET/CT there.

**Michelle Torchia, MD'86** was awarded her MPH from the University of North Carolina, Chapel Hill in May 2011. She is the medical director and vice president of medical affairs for Complete Care Health Network, a primary care organization in south Jersey.

### Join the Alumni Association of New Jersey Medical School

General Dues	\$65.00
Resident in Training	\$15.00
Lifetime Membership	\$1,000.00

Visit <http://njms.umdnj.edu/>, click on **Alumni** and **Alumni Association** and then **Online Dues Payment** to pay your dues online.

The Lifetime Membership is being offered to our alumni as a means to perpetuate the goals of the Alumni Association and enable its members to sustain their support in a more meaningful way. All categories of membership will afford you the opportunity to keep connected with us. You will continue to receive all membership benefits, including NJMS *Pulse* magazine, information about upcoming events and reunions, and library privileges.

**Alumni Association of NJMS**, 185 South Orange Avenue, MSB-B504, Newark, NJ 07101-1709. Photos are welcome. You can also send your news via e-mail to: [njmsalum@umdnj.edu](mailto:njmsalum@umdnj.edu) or fax us at (973) 972-2251.

**Allan Tunkel, MD'84, PhD, MACP**, is the chairman of the Department of Medicine at Monmouth Medical Center, Long Branch. He was honored on December 8, 2011 with an APPLE award by the Institute for Nursing. The award recognizes physicians who are supportive of nurses and the kind of patient advocacy that is the foundation of nursing.

**Henry Ushay, MD'86** is the director of the Pediatric Critical Care Unit at the Children's Hospital at Montefiore Medical Center, NY, and was promoted to professor of clinical pediatrics at the Albert Einstein College of Medicine.

### 1990'S

**Sarah Jones Sapienza, MD'98** writes that her daughter, Catherine Ruth, turned two in November 2011.

**Richard Peck, MD'94** passed his recertification exam for the American Society of Plastic Surgery and has a new office in Morristown.

### 2000'S

**Janice Brown, MD'09** gave birth to her first child, Zan Demara Moses, on May 20, 2011. Everyone is doing well.

**Crystal S. Denlinger, MD'01** received a CHASE Award at the Fox Chase Cancer Center survivorship celebration in June 2011. The award recognizes an individual who exemplifies the spirit of survivorship. Denlinger, a

medical oncologist at Fox Chase, spearheaded the interdisciplinary initiative to establish the Center for Survivorship at Fox Chase. The program creates a coordinated care plan to make sure a survivor's oncologist and other providers are involved in the effects of treatment as well as preventive care for future health.

**Joana Emmolo, MD'05** is an attending radiation oncologist at Overlook Hospital in Summit.

**Sunny Kim, MD'01** is busy running a private practice and raising two children with his wife Yun. He thanks NJMS for teaching him the core values of a good physician.

**Christina Pisani, MD'02** was married to Shawn Conway on October 1, 2011. She is currently a fellow in maternal fetal medicine at the University of Pittsburgh, and will graduate in June 2013.

**Laura Goglas Robinette, MD'06** announces the birth of Charlotte Rose Robinette on April 1, 2011. Three months later, she joined Primary Care Associates of NJ, a medical/pediatric practice in Montville.

**Carolyn Van Why, MD'08** and **David Van Why, MD'07** are practicing in Philadelphia, PA and were expecting their second child in the fall of 2011.

**Sylvia Washington, MD'07** loves living in Georgia and is married with two children, Christian, 2, and Daniel, 1.



SUMANT RAMACHANDRA, MD-PHD '97

## Going Places... All Over the World

BY MARYANN BRINLEY

Oh, *The Places You'll Go*, the classic book by Dr. Seuss, couldn't offer a more perfect backdrop for the life of Sumant Ramachandra, the chief scientific officer and senior vice-president of Hospira, Inc, a global pharmaceutical and medication delivery company, one of the world's leaders in generic, injectable drugs, biosimilars and medical devices. "Life takes you in many directions," he says, and he, more than most 42-year-old superstars, should know. An MD-PhD graduate of NJMS and GSBS-Newark, Ramachandra did his internship and residency at Harvard-affiliated Massachusetts General Hospital and also earned an MBA from the University of Pennsylvania's Wharton School of Business.

"Everyone has a different thing that drives them. Ever since I was young, part of my pleasure has been in knowing that I am doing something that is creating value."

Born in the United Kingdom, Ramachandra says, "I have lived and moved all over the world"...Nigeria twice, many places in India as well as in the United States, four countries, four continents, lots of schools including an all-boys Roman Catholic boarding school in rural Arkansas that was part of a Benedictine monastery. "The monks were very nice at Subiaco Academy but I was in tenth grade, 14 years old, and it certainly had its challenges. It was a real European style monastery in the middle of nowhere started by the

Benedictines more than 150 years ago. This was the 1980s and it wasn't New Jersey or the northeast. But I liked it and made some very good friends."

Ramachandra's father was a civil engineer who worked for an American company that sent him on long-term assignments and took the family to these far-flung places. "He loved his job and had a strong work ethic. I ended up at Subiaco because my father and mother were heading back to Nigeria for a third time and my brother and I didn't want to go along. The education system there could be problematic. My parents were not wealthy so they had to find a good education for us that wasn't expensive. My father had seen an ad for this monastery school in a newspaper when we lived in Houston. Even though we moved around a lot, my parents were always seeking one thing: a stable education for us."

In fact, the longest he lived anywhere in the world was right in Newark when he spent seven years earning his MD and PhD. Ramachandra graduated from Rutgers University where he had met his wife, Leena, a pharmacy major. He fell in love not only with Leena but also with her area of study. "Her courses were much more interesting than mine," he remembers. He had been an engineering major to start but finished up in biochemistry and even found time for a research project in the School of Pharmacy. When he was applying to medical schools, his lab director, Deborah Laskin, PhD, thought he would be a perfect MD-PhD candidate.

"The seven years I spent at UMDNJ set the foundation for where I am today," says Ramachandra. He leads a worldwide team of more than 600 scientists, clinicians and professionals, was named in the Top 40 Under 40 by *Crain's Chicago* and this past year, he was listed by *PharmaVoice* as among the 100 Most Inspiring People. "I was just 21 when I started at UMDNJ and it was such a critical time." He spent that first year of medical school studying and making friends but also planning ahead. "I hit all the labs that first summer so I could make a decision on my



PhD research quickly.” He chose cancer investigator Elizabeth Raveche’s laboratory. A professor of pathology with an interest in leukemia, Raveche is “the most wonderful person,” but Ramachandra also gives credit to other NJMS and GSBS mentors including Sylvia Christakos, PhD, Harvey Ozer, MD, Robert Wieder, MD, PhD, Helen Fernandes, PhD and Pranela Rameshwar, PhD. “These people really shaped my life.” Because of them and the fact that he had to give so many talks during his three PhD years of study, Ramachandra built confidence. “I wasn’t a good public speaker at first.” But gradually and with encouragement and critiques, “I gained the knack of explaining science in layman’s terms. This skill has helped me get into management positions. Being able to explain science and clinical medicine to people who are from a wide variety of backgrounds is a very powerful tool.”

“The seven years I spent at UMDNJ–NJMS and GSBS–Newark set the foundation for where I am today,” says Sumant Ramachandra. He leads a worldwide team of more than 600 scientists, clinicians and professionals and was listed by *PharmaVoice* as among the 100 Most Inspiring People.

One UMDNJ memory that stands out is the sadness while watching his class get ready to graduate after their four years of medical school. By design, the PhD program would extend his years in Newark. “Deep in the lab by then, I was working on that day of commencement and it was very emotional for me. I had built deep relationships with my classmates those first two years together in med school and I saw them getting ready in the courtyard. They were leaving school but I was still there. It was tough. I didn’t know how long my PhD research would take and was spending day after day in a department of pathology with no windows. But I have no regrets and I was doing good research.” In

fact, Ramachandra believes that the MD–PhD program provided great leverage for his future career as a physician researcher. “This is what I always wanted in medicine. There was never any question in my mind after that senior year at Rutgers but frankly, the skills I learned at UMDNJ got me the internship and residency at Mass General, Harvard University’s oldest hospital. This helped make my career.”

Set on a future in academic medicine when he was there at Harvard, Ramachandra switched directions when a close family member was diagnosed with cancer. This sad news brought his family—wife, Leena, and three daughters, Yasmine, Avani and Shalini—back to New Jersey. Then he accepted a position at Merck and the die was cast for sure. “I enjoyed it so much that I knew this was what I was meant to be doing. I always want to do the best that I can with any opportunity and I can sense when I am

ready to grow. I’ve had people around me...my mentors, my bosses...who have also sensed, ‘This guy is ready for the next level.’ I’ve done the right things but I’ve also had the right people around me. There is no way you can get to where you want in life without other people’s help.” Ramachandra also believes, “As a professional starting out, or even if you are already in a career, always keep your choices wide open, stay relevant, understand where your liabilities are, and choose one or two areas of yourself to fix...continuously.” Right now, he’s trying to become a better listener.

“I talk a lot,” he laughs. “One skill I am working on is to say less and listen more.”

Sumant Ramachandra and his wife Leena recently established “**The Ramachandra Family Endowed Scholarship**” at NJMS. “Giving money to our alma maters is one way to give back,” he says. If you are interested in contributing, contact Dianne Mink at the Alumni Association–NJMS, 973-972-6864 or [minkda@umdnj.edu](mailto:minkda@umdnj.edu). To explore the idea of a scholarship in the name of your family or in someone’s memory at either NJMS or GSBS–Newark, you can also contact Elizabeth Ketterlinus at the Foundation of UMDNJ, 973-679-4684 or [eketterlinus@njhf.org](mailto:eketterlinus@njhf.org).

When he’s in Chicago where Hospira is headquartered, Ramachandra works from 7:30 a.m. to 7 p.m. weekdays. “It’s a good 11-12 hour day.” He also puts in a couple of hours on weekends from home. “I love my family and kids,” he explains, joking that we could have caught him doing physics homework the other night with his daughter. “There is a lot going on” in his life as well as lots of travel all over the world. “My wife and kids have adjusted beautifully to the move to Chicago from New Jersey.”

Ramachandra’s career focus at Merck and then later at Schering–Plough was on developing drugs in oncology and immunology for diseases like cancer and arthritis. Now, in this position at Hospira for the past four years, “Every therapeutic area under the sun” is in his domain and takes him from two sites in Australia, to the Philippines, to India, the United Kingdom, San Diego, and Kansas. “I have to be involved in pretty much all of medicine, including chemistry and formulations, electromechanical, materials and software, all research and development, as well as medical and regulatory affairs. I am not an expert in many of these fields but along with having strong technical

*Continued on page 37*

JENNIFER DENTON HIP-FLORES, MD'06  
 JULES DAVID HIP-FLORES, MD'06

# Doctoring, Distance, and Deployment

BY LISA JACOBS

In the Hip-Flores family, decisions are easier made than executed. From choosing medical school to enlisting in the military to marrying and starting a family, each choice for both Jules and Jennifer was made swiftly and without hesitation. The decisions were easy, but the ramifications extremely difficult, including a 230-mile distance separating Jules from his wife and son during his orthopaedic surgery residency, and Jennifer's recent six-month deployment as a psychiatrist to Afghanistan.

Jules and Jennifer always wanted to be doctors. "For me, it was an easy decision," Jules says. He never wavered in his conviction. "It's a lot of satisfaction, and never burdensome. It's never felt like a job that I disliked and had to work at endlessly."

Both grew up with strong physician role models. Jennifer's grandfather was a pediatrician in Hawaii whose personal, longitudinal patient relationships made her consider a career in primary care. "He was known in his community and people trusted him," she says. "I was eventually drawn to psychiatry for the same reason. You sit down with people and really get to know them." Jules was similarly impressed by his father's work as an internist, by his capacity to help people, and by the independence he enjoyed.

"Medicine is a means of public service," Jennifer explains. She had volunteered at nursing homes and for hospice during college, but felt her capacity to contribute was



limited by her knowledge. Jules, who worked for Americorps in the Jersey City public school system as a Spanish language translator before starting medical school, echoed this sentiment.

Service also brought the couple to the military. Upon enrolling at NJMS, Jennifer accepted a Navy scholarship and Jules enlisted in the Army Reserves. "It seemed like an exciting way to give back. It was something I had always wanted to do," Jules explains. Jennifer always had a positive view of the military based on her father's service in the Navy during the Vietnam War. "It appealed to me to pay for medical school with time and service as opposed to money or debt. I was always patriotic and am even more so now. It was shortly after 9/11 and I wanted to serve the country," she says. At that time, she "wasn't even thinking about family. I just thought it would be fun to travel, go on a ship, and have adventures."

Jules and Jennifer became fast friends as classmates. No romance blossomed as they studied together and supported each other through two years in the classroom and their third year hospital rotations, when both rethought their former specialty choices. Jules had wanted to be a cardiac surgeon but was inspired by the orthopaedic surgery residents, the "hardest workers, most efficient, most prepared, and most independent. I aspired to be them," he says. He found orthopaedic surgery satisfying. "The patients are healthier and do better," he adds. "You know what you can achieve. The procedures are straightforward. The work is tangible."

Jennifer shied away from the rushed nature of the medical clinic and gravitated towards psychiatry. "It was the only the rotation where I got to spend as much time as I wanted with patients. In medicine, I never felt like I knew the whole story," she admits.

They started dating during their fourth year at NJMS. Jules knew he wanted to marry Jennifer almost immediately. "We got along so well, there was never a question in my mind," he says. Seven months later, he proposed to her in the Philadelphia train station. A few weeks later, right after gradua-

They started dating during their fourth year at NJMS and Jules knew he wanted to marry Jennifer almost immediately. "We got along so well, there was never any question in my mind," Jules says.

tion, they went on a trip to Hawaii and spontaneously eloped. "Looking back, it's kind of crazy," Jennifer says. "I'm not usually that impulsive. I just knew."

They kept their marriage a secret temporarily and prepared to move apart to start their residencies: she in psychiatry in Washington, DC, and he in orthopaedic surgery in Brooklyn. Determined to overcome the distance, Jules and Jennifer took turns doing the drive whenever their schedules allowed. This plan worked well until their son was born one year later. After this point, it was Jules who did most of the travelling. After finishing 24 hours on call, he would leave the hospital and drive directly to Maryland, where he would have only 12 hours to sleep and be with his family before getting back in the car at 1 a.m. to return to Brooklyn. They kept this travel arrangement for three years.



Jennifer was deployed to Afghanistan only a few weeks after completing her residency in August 2010. She was stationed at a NATO hospital in Kandahar for six months, but was apart from her family for eight months total. Jules, then chief resident in orthopaedic surgery at SUNY Downstate, temporarily relocated with his son to his parents' home in New Jersey during Jennifer's deployment. While Jules commuted to Brooklyn each day, his mother watched their son, Javier, known as "Javi." He was just about to turn three years old when Jennifer left. "How do you explain to your kid that you're leaving?" she asks. "It hangs over me still. I hope I won't have to explain something like that to him again."

Jennifer found her work in Afghanistan to be both challenging and rewarding. She immersed herself in it completely, working 14-hour shifts each day and overnight call every fifth night. She enjoyed practicing medicine in an environment with minimal bureaucracy and believed in the purpose of what she was doing, supporting the psychological well-being of both the troops and the trauma center hospital staff, who often experienced compassion fatigue and burnout.

"The work was meaningful," she says. "I felt good about what we did. It was really fulfilling." Part of that work was teaching people how to focus on the meaning and relevancy of their personal contributions to

the war effort. "A lot of guys join up feeling one way and get there and feel like what they're doing is pointless," she explains. "It's hard to get them to focus on some meaningful aspect, and realize that everyone's job is important on some level."

For her service, Jennifer was awarded five medals, including the Navy and Marine Corps Commendation Medal, which recognized her work getting wounded servicemen moved from distant, crowded tents to dorms near the hospital. The walk from the tents to the hospital involved a mile-long hike over rocks and was nearly impossible for those on crutches. Bathrooms and showers were only accessible from the tents via stairs. Jennifer says that she was given the medal for pointing out "the obvious:" dorms with accessible plumbing and electricity reserved for "VIPs" that were nearly always empty should be put to good use.

Jennifer returned to Maryland in February 2011 and began work at the psychiatric consult liaison service at Walter Reed National Military Medical Center in Bethesda. "It feels like a privilege to work here every day," she says. In August 2011, five years after medical school graduation, the Hip-Flores family became one household for the first time, when Jules was awarded a fellowship in adult reconstruction at Sinai Hospital in Baltimore. And, says Jennifer, "Things finally feel normal." ●

## Going Places...

*Continued from page 35*

and business leaders around me, I try to use the same compass of customer-and-patient-centricity in driving my questions, guidance and decisions."

His mission from the day he started has been to drive the "rigor of the science" into his group. To do that, he stays in close communication. "As a leader, sometimes you get filtered information so to know what is really happening in the guts of an organization, you have to travel and interact at a local level, one to one, having roundtable discussions and meeting people in the hallways and the labs. It takes talking with the staff and listening carefully to what they are really trying to tell you." Just back from India and the United Kingdom when we caught up with him, he recalls being surprised by the way chemotherapy was being delivered to patients in an English hospital. As an experienced clinician, Ramachandra asked the British medical team, "Why do you do it this way? That's not how it's done in the U.S."

"Health care varies from location to location and even I have to learn how customers will truly use our products, our drugs and our devices," he explains. It turned out that the British health care team was simply following their rules set by the National Health Service (NHS) for chemo delivery. "My job may be global but at the end of the day, how medicine is practiced is all local... which makes the job even more exciting and more interesting."

Remembering back to his recitation of the Hippocratic Oath when he was at UMDNJ and the awe he felt to be in the company of all health caregivers everywhere, he admits, "The benefit of taking care of patients is that you touch one life at a time and every life is precious. That kind of gratification is harder to get at my level but I am making an impact by benefitting patients all over the world. This was an incredible jump from where I was to where I am going." And even Dr. Seuss would have to agree. ●

## Alumni @ UMDNJ

Check out the blog devoted to alumni from all the UMDNJ schools, including New Jersey Medical School and the Graduate School of Biomedical Sciences in Newark. Go to <http://umdnjalumni.blogspot.com>.

Your fellow alums are involved in research, clinical care, teaching, writing, technology, policy-making and much more. Share your story with the editors of this online newsletter by sending an email to Carole Walker at [walkerca@umdnj.edu](mailto:walkerca@umdnj.edu). Tell us what you've been up to. The blog posts news about all UMDNJ alums, invites your comments and will link you directly to your alma mater's website. We also want your opinion. **The current poll is asking: Do you think health care reform will have a positive impact on the number of people choosing a health care career?**



## Attention NJMS Grads! Do You Have A Website?



If you have a business or personal website and would like the Alumni Association to help promote you, let us know. At

<http://njms.umdnj.edu/alumni/websites.cfm>, on the medical school's website, we are trying to create an alumni referral system so that everyone can keep in touch. Send your email as well as your web address to Dianne Mink at [mink-da@umdnj.edu](mailto:mink-da@umdnj.edu) or call the Alumni Office (973-972-6864) for more information. Here are alums who currently post links to their sites:

Mitchel Alpert, MD'82  
Robert A. Battista, MD'86  
John Belardo, MD'87  
Richard S. Bercik, MD'83  
Robert M. Bernstein, MD'78  
Frank J. Borao, MD'94  
Paul Carbonaro, MD'96  
Diane Carlson, MD'96  
Jose F. Colon, MD'78  
Charles J. Crane, MD'88  
Patricia Cucci, MD'89  
John V. Dunne, MD'61  
Michael H. Entrup, MD'84  
Patricia L. Estrada, MD'01  
Patrick Foye, MD'92  
Howard Frauwirth, MD'00  
Andrew R. Freedman, MD'79  
Lawrence Frieman, MD'72  
Robert J. Gilroy, Jr., MD'84  
David T. Greenspun, MD'99  
Roger J. Hartman, MD'85  
Kevin J. Kerlin, MD'88  
Michael King, MD'82  
James LaBagnara, MD'74  
Daniel J. Licht, MD'97  
Thomas Anthony Lois, MD'73  
Arturo Maldonado, MD'99  
Paul Martinetti, MD'97  
John Norris, MD'90  
Robert J. Rubino, MD'91  
Rahul Sachdev, MD'87  
Kulpreet Sahota, MD'05  
Kenneth C. Schneider, MD'61  
Stephen Sun, MD'96  
Stephen A. Szabo, MD'91  
John Derrick Van Doren, MD'85  
Kai-ping Wang, MD'99  
Deborah Huff Wozniak, MD'76

## Defeating Cancer

*Continued from page 40*

with patients and their families from diagnosis to the end of treatment.

The Valerie Fund is one of the best things to happen to pediatric cancer patients in New Jersey. It was started in 1976 by Ed and Sue Goldstein, who lost two daughters to cancer. Before The Valerie Fund existed, many children—such as the Goldsteins' daughter Valerie—had to travel long distances because the treatment they needed was available only at major medical centers in large cities.

The Goldsteins are well-known throughout the state and beyond for their philanthropy. They have generously supported UMDNJ's Cancer Institute of New Jersey (CINJ) and in 2009, the breast cancer center at CINJ, in collaboration with the Goldsteins, was renamed the Stacy Goldstein Breast Cancer Center in memory of their daughter Stacy. The Goldsteins funded the Stacy Goldstein Breast Oncology Fellowship Award at CINJ and support UMDNJ on a myriad of initiatives benefiting patients. Sue Goldstein also serves as a trustee to the Foundation of UMDNJ.

"The staff at The Valerie Fund Center was fantastic," says Meghan. "I felt comfortable there right away." Each morning she'd go for chemo accompanied by her mother, who has a flexible work schedule as a realtor. "I was thankful she could be with me," says Meghan. "Many kids had to come by themselves, some by bus. I realized how fortunate I am to have a strong support system." In the afternoons, a procession of teachers arrived at her house to 'home school' her. "Sometimes I was so tired I'd be falling asleep, but I was determined to keep up," she says.

Meghan's "career" as a volunteer fundraiser and spokesperson began around this time. "Dr. Kamalakar put my name forward," notes Meghan. "The Valerie Fund was looking for a speaker and he said, 'Meghan would love to!'" Since then, she's spoken at numerous events for The Valerie Fund, including their major fundraiser, the Thanksgiving Gala Ball. "I wasn't nervous at all and I'm not shy at all about asking people to contribute," says Meghan. She's also done many television and radio interviews. "I want to raise awareness about cancer."

Meghan was strong enough to return to school for her sophomore year, and even played on the basketball team that winter,



Meghan  
Gambichler and  
her mother,  
Joanne Magliaro



“but running was a lot harder now,” she recalls. “I often felt off balance.” She pushed through anyway, playing in almost every game. In March 2009, she and her family took a ‘wish trip’ to Hawaii, sponsored by the Make-A-Wish Foundation. “We went to Maui and Oahu and swam with the dolphins, an amazing experience,” says Meghan. “But while I was there I developed a weird pain in my groin. It was like nothing I’d ever felt before.” Upon returning home, she went straight to the doctor and was diagnosed with avascular necrosis of the right hip. This frequent side effect of chemotherapy involves the breakdown of bone. Kamalakar told Meghan she’d need hip replacement surgery and referred her to Joseph Benevenia, MD, chair of orthopaedic surgery at NJMS, who is well-known for his work in treating bone, joint and soft tissue tumors. Benevenia’s unique bedside manner is designed to put pediatric patients at ease. “We bonded right away,” says Meghan. “He’s a fantastic doctor.”

Meghan had to wait until her chemotherapy was finished to have the hip replacement. Her junior year was challenging. In intense pain and on crutches, she couldn’t attend school for the entire year. The hip replacement, performed in June 2010 at University Hospital (UH), was successful, and after a few months of physical therapy she was walking without crutches or a cane. “I was pain-free and ready to conquer the world!” she laughs. She returned to high school for her senior year. Though she couldn’t play sports, she was the manager for both the basketball and the softball teams. She wrote for the school paper and the yearbook and was elected for the fourth year as vice-president of her class as well. “I wasn’t going to let cancer get me down,” she says.

Her mother laughs. “When Meghan wants something, she’s relentless. That’s probably helped her get through this.”

In March 2011, Meghan began having pain, this time in her left hip. It was the dreaded avascular necrosis again. For several reasons, she deferred her second hip replacement until December 2011. Following her

high school graduation she was looking forward to a long-planned backpacking trip in Greece with her cousin. College was on the horizon as well. She was going to New York University (NYU) and didn’t want to do anything to jeopardize her entry. She went on the backpacking trip, had a great time, and enrolled at NYU in September, getting around campus with a cane or crutches. A few days before Christmas, she had her second hip replaced by Benevenia at UH. She came through the second procedure as well as the first and returned to NYU after the Christmas break, while continuing physical therapy for several months. She hopes to be walking without assistance by the end of February.

Meghan, who continues to be in remission, says she couldn’t have gotten through this experience without the support of her high school friends and teammates. “They were always there for me,” she says. They even helped her raise money—and lots of it—for The Valerie Fund. At West Essex High School, every Monday was “Meghan Monday,” and all the students wore black t-shirts printed with inspiring words from reggae singer Bob Marley: “For Meghan—Be strong. Don’t worry, every little thing is going to be all right.” There were bake sales and car washes as well.

These first efforts raised an initial \$5,000 for The Valerie Fund—just the tip of the iceberg. Since then, Meghan has been involved with a variety of other fundraising activities, including charity walks and Cans for Cancer, an aluminum can collection project sponsored by the Fairfield, NJ branch of the civic organization UNICO. The Valerie Fund was also a recipient of money raised on the 2009 BGC Charity Day, a fundraiser commemorating the victims of 9/11. Meghan served as representative of The Valerie Fund and had an opportunity to meet Lady Gaga (“She’s my girl!”) and Whoopi Goldberg.

“Having cancer has been a frightening experience. I can’t say I’m glad this happened, but it’s opened my horizons in so many ways,” says Meghan. “I’ve learned a

## The Valerie Fund

Meghan Gambichler, the patient in our story, is just one of the many children who have benefitted from The Valerie Fund, named in honor of Ed and Sue Goldstein’s daughter Valerie. The Goldsteins, longtime supporters of UMDNJ causes, received the University Medal for Distinguished Leadership for their philanthropy last fall at University Day. Sue Goldstein also serves as a trustee to the Foundation of UMDNJ. This fund’s mission is to provide support for the comprehensive health care of children with cancer and blood disorders. Families turn to The Valerie Fund because of the unique combination of medical care, counseling, and other services it provides. The Valerie Fund Children’s Centers comprise the largest network of health care facilities for children with cancer and blood disorders in New Jersey and one of the largest in the nation. The centers have more than 25,000 patient visits each year. For more information, contact The Valerie Fund, 2101 Millburn Avenue, Maplewood, NJ, 07040 or email Bunny Flanders, Director of Communications, [bflanders@thevaleriefund.org](mailto:bflanders@thevaleriefund.org).

lot from this experience and met so many people. I appreciate every day. It’s taught me how to really live my life.” She’s majoring in psychology and education and is considering going into teaching. “For the rest of my life, I’ll be volunteering for nonprofits,” she says.

Thus far, she’s raised a whopping \$45,000 for The Valerie Fund. And she’s not done yet. “I’ll be working with The Valerie Fund forever,” she says. “I want to give back to them what they gave me.” ●

*For information about contributing to a UMDNJ project, contact Elizabeth Ketterlinus at 973-679-4684, toll-free at 866-44-UMDNJ or email [eketterlinus@njhf.org](mailto:eketterlinus@njhf.org).*



Meghan Gambichler

## Defeating Cancer, Helping a Cause

New York University freshman Meghan Gambichler spent part of her holiday break at UH taking one more step in a survival story that started four years ago. **BY MARY ANN LITTELL**

On a cold night in December 2010, a thousand-plus fans came to the Centercourt Athletic Club in Chatham to watch tennis played by some of the greatest legends ever: Pete Sampras, Lindsay Davenport and others. The money raised at this charity event would benefit The Valerie Fund, an organization supporting children with cancer and blood disorders and their families.

Between matches, a 17-year-old girl with a dimpled smile stepped onto the courts to tell her story. The crowd grew quiet. The girl was Meghan Gambichler. Her story of recovery from a deadly cancer is compelling, frightening, and ultimately, upbeat.

Poised and articulate, Meghan wasn't there to garner sympathy. Glossing over the details of her own illness, she launched into an enthusiastic pitch for The Valerie Fund. She's surprisingly skillful as a fundraiser, consider-

ing her age. "I can't do enough for The Valerie Fund," says Meghan. "I'll be connected to them forever. They saved my life."

That connection began four years ago. Meghan was 14, an outstanding student and three-sport athlete at West Essex High School. She was vice president of her class and played in the school band. Her life was a whirl of activity. But in February 2008—the height of basketball season—something felt wrong. "I wasn't sleeping well," she recalls. "I coughed all the time and had difficulty breathing." Her doctor thought it was a cold or bronchitis, surely nothing serious.

As an athlete, Meghan was in great shape and could play in an entire basketball game without getting winded. But in one game midway through the first quarter, fatigue overwhelmed her. She slumped on the bench. The next day, still feeling miserable, she stayed home from school. That's when she

felt a large lump protruding from her neck. "I said, 'Mom, feel this. What is it?' From the look on her face, I knew it wasn't good."

Her mother, Joanne Magliaro, rushed her daughter to the emergency department at Saint Barnabas Hospital, where she was X-rayed. The shocking findings: a nine by 12-inch tumor in Meghan's chest cavity. "It was the size of a football," recounts Meghan. "It was crushing my heart and lungs and pressing on my windpipe, which is why I couldn't breathe."

She was transported by ambulance to Newark Beth Israel Medical Center, which has an outstanding pediatric oncology department. After undergoing a biopsy with no anesthesia (because the physicians feared she might not wake up) and other painful tests, including a spinal tap and bone marrow biopsy, she learned her diagnosis: T-cell lymphoblastic lymphoma, a cancer involving the T-cells in the thymus. It often results in a large mass in the chest and tends to spread rapidly to the bone marrow, lymph nodes, and sometimes even the brain.

Meghan's physician, Peri Kamalakar, MD, director of The Valerie Fund Children's Center for Cancer and Blood Disorders at Beth Israel, treated the tumor aggressively with chemotherapy. It was a grueling experience for Meghan and her family. "There were times when we didn't know if she would make it through the night," her mother recalls. "It's the worst thing a parent can go through."

Two months into treatment, the tumor disappeared—along with Meghan's hair. Kamalakar was pleased at her prompt response to chemotherapy. For her best chance at survival, she'd continue this therapy over the next two years at Beth Israel's Valerie Fund Center. There are seven such centers in the area, dedicated to providing cancer treatment for children close to home. They're all at regional outpatient treatment facilities affiliated with top pediatric hospitals. Teams of physicians, nurses, social workers and other health professionals work

*Continued on page 38*



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