NEW JERSEY MEDICAL SCHOOL

ON THE MOVE
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OUR MISSION

The mission of New Jersey Medical School is to educate students, physicians and scientists to meet society’s current and future healthcare needs through patient-centered education; pioneering research; innovative clinical, rehabilitative and preventive care; and collaborative community outreach.

OUR VISION

The vision of New Jersey Medical School is to create, transmit and utilize knowledge to shape the future of medicine and to enhance the quality of life for the people of New Jersey.
Despite the many challenges UMDNJ encountered this year under the extraordinary and unprecedented arrangements of a Deferred Prosecution Agreement and a Federal Monitor, there were many positive developments as well at New Jersey Medical School in Newark and other schools and campuses around the State.

NJMS was at the forefront in the University’s remarkable success in obtaining NIH grants, at a time when total NIH funding is stagnating; in the quality of residency positions for which its graduating students matched; in the continued growth and reorganization of our graduate programs in biomedical sciences; and in growing philanthropic support.

We believe that the fundamental role of universities is one of renewal and growth — to provide the next generation of society’s leaders with the tools they will need, for they will be the ones to shape a better future — and NJMS effectively served that role again, as it has throughout its history.

Bruce C. Vladeck, PhD
UMDNJ President (Interim)
As dean of UMDNJ-New Jersey Medical School, I often pause to reflect on the relevance of an academic medical institution, in our own community and beyond.

From my perspective as an alumnus, a clinician, and now a dean, I believe we hold a sacred contract to not only care for people now, but to propel research that will result in better care in the future, while teaching the next generations of physicians both how to be a doctor and how to shape the future of health science in all its glorious complexities.

How are we doing that?

Research: New Jersey Medical School experienced a 20 percent increase in NIH funding, an indication of the high level of esteem in which our researchers are held. Scientists are making important advances in the areas of brain injury and repair, immunology and infectious diseases, new therapies for heart attack patients, stem cells and cancer.

Education: The excellent clinical training that our students receive makes them highly attractive to residency programs across the state. This year our match rate for residents was 99.4 percent — surpassing the national average by nearly six points — and applications to our school rose 7 percent.

Community Outreach: Since the school’s inception, we have fostered an important relationship with our neighbors in the Greater Newark Metropolitan area. We have entered a new phase which shifts our role from educator to partner.

Patient Care: In a time of reduced charity care subsidies, we remain committed to caring for the patients who need us most.

The face of medicine itself is ever-changing. Physicians and scientists of today — and those to come — grapple with acute issues that impact the future of our health and our society: funding Medicare, curing cancer, warding off a flu pandemic, appropriately harnessing the regenerative powers of stem cells, and addressing health care disparities.

New Jersey Medical School is focused on these issues of the future while ensuring that the needs of the present are met as well. This is our role, our relevance and our reason.

We invite you to join us as we continue to move forward in the pursuit of excellence in all of our mission areas.

Robert L. Johnson, MD, FAAP
The Sharon and Joseph L. Muscarelle Dean (Interim)
UMDNJ-New Jersey Medical School
New Jersey Medical School continued the rollout of its groundbreaking Jubilee Curriculum in the 2005-2006 academic year with the introduction of a revised third-year program. Highlights include enhanced basic science teaching and physical diagnosis training, the creation of the first interdepartmental clerkship at NJMS and an innovative clerkship focused on health behavior.

The new third-year curriculum mirrors the integration of clinical opportunities with the basic science courses of the first and second years by integrating basic science into each clinical rotation, said Alex Stagnaro-Green, MD, MHPE, professor of Medicine, professor of Obstetrics, Gynecology and Women’s Health, and Associate Dean for Curriculum and Faculty Development. “Each clerkship is committed to teaching the basic science principles germane to that specialty through seminars and web-based teaching,” he explained.

In addition, physical-diagnosis training offered as part of the school’s hallmark Physician’s Core course that students take in their first two years has also been expanded in the third-year clerkships. “The goal is to make sure that our students progress in their ability as diagnosticians,” Dr. Stagnaro-Green said. “In every third-year clerkship —
whether it’s Medicine, Pediatrics, Surgery, Family Medicine, Obstetrics/Gynecology or Psychiatry/Neurology — the respective departments are focused on teaching a higher level of physical diagnosis to expand upon what the students have already learned."

Each clerkship assumes responsibility for enhanced training in a given organ system. For instance, during the Internal Medicine clerkship, students receive advanced training on the heart and lung examination, while students rotating through General Surgery focus on the abdominal exam. Students are tested on the material and their performance becomes part of their overall clerkship grade, which also includes results of a standardized exam in that specialty, an evaluation of the students’ clinical abilities, as well as faculty evaluations.

Also new to students this year is the school’s very first interdepartmental clerkship which combines training in Psychiatry and Neurology. Because both areas focus on the brain, learning about each respective specialty is enhanced by the ability to readily compare and contrast the areas.

Another major innovation to the third-year curriculum in 2006 was the introduction of a new course, “Health Beliefs and Behavior,” which provides students with the necessary skills to help their patients change risky health behaviors. This innovative program is based on the fact that most of the 10 major leading causes of death in the United States have a preventable component. The comprehensive, four-week course, which all students take during their Medicine
clerkship, was developed and is taught by Eileen M. Moser, MD, assistant professor, Department of Medicine. “Most people want to stop smoking, eat less or exercise more, but behavior change is difficult and health beliefs can be complex,” Dr. Moser noted. “We teach students the interplay of behavioral, familial, cultural, environmental and social factors on health behavior with a focus on guiding, rather than preaching.” Faculty from the departments of Family Medicine, Pediatrics, Psychiatry and Medicine teach in the course, reflecting the importance of understanding health behavior in all clinical disciplines.

The course also asks students to step into the patient’s shoes by carrying out their own behavioral-change activities — such as exercising more or procrastinating less — and asks that they follow a specific course of action, which might be to measure their salt intake or blood pressure over a four-week period. “Many students fail in these activities, and that’s good because then they can really understand how hard it is for their patients to change their behavior,” Dr. Moser said. This experience is reinforced with a session on non-adherence which helps students understand why patients don’t always follow a physician’s medical advice.

During a popular course highlight, students observe Interim Dean and pediatrician Dr. Robert Johnson modeling a patient-centered approach, an important technique that provides insight into a patient’s point of view. This perspective allows a physician to effectively and appropriately partner with a patient to develop a plan of care for changing a risky health behavior. “Dr. Johnson has a lovely way of going back and forth between giving advice and getting information during an interview,” said Dr. Moser. “The main point we are trying to convey in this exercise is that without an understanding of a patient’s point of view, a care plan may not work or a patient may not follow it.” Students practice these interviewing and counseling skills in classroom exercises with real patients as well as actors filling the roles of standardized patients. Peers and attending faculty observe and provide valuable feedback.

Dr. Moser noted that the skills and techniques that students develop in the course are those that many doctors typically learn through trial and error after years of practice.

“It makes sense to teach students these tools during medical school because we now have a whole body of literature...
about behavioral change along with proven techniques that really do work," she said. “And today — with a staggering 50 percent of the US mortality rate linked to risky health behaviors — those skills are needed more than ever.”

Courses Without Walls

Certain topics in medicine don’t fit into a particular course or clerkship, but are a critical component of a medical student’s education. To ensure that these vital topics are covered, New Jersey Medical School has adopted an innovative “Courses Without Walls” initiative. The approach encompasses what is called horizontal and vertical integration. Horizontal integration is realized by making connections within all the courses a student takes in one year, while vertical integration means connecting information through all four years of medical school.

“The key is to integrate these topics in the right spots, so we know that the material is being presented in the most appropriate context,” said Dr. Stagnaro-Green.

One such “Course Without Walls” is on the theme of medical ethics. A four-year plan for teaching the nuances of situations that involve the importance of honest communication with patients, understanding when a medical intervention may not benefit a patient and respecting a patient’s wishes, the program is spearheaded by Helen Blank, PhD, director of Clinical Ethics. Beginning with an eight-week module in the first-year Physician’s Core course called “Ethics and the Law,” and continuing through all of the clinical clerkships, students are exposed to a variety of situations.

Emphasizing medical ethics across all four years reinforces ethical learning and prepares students for the future, said Dr. Blank: “When you’re a physician, ethical behavior — how you approach ethical dilemmas or conflicts — is part and parcel of everything you do.”

Another Course without Walls that teaches students how to become effective teachers will be implemented in 2007.

NJMS Students Ace the Step 2 Licensing Exam

In 2005, a new United States Medical Licensing Examination (USMLE) licensing exam was added to the series of tests all US medical students need to pass in order to be licensed. The Step 2-Clinical Skills exam is taken at the beginning of the fourth year along with the Step 2-Clinical Knowledge Exam. The Step 2-Clinical Skills exam assesses the ability to apply medical knowledge and skills essential to providing patient care through a multi-station examination in which medical students interact with standardized patients. Students are graded on their history gathering, physical exam and interpersonal skills, as well as their ability to use the English language.

New Jersey Medical School students have extensive training in interacting with standardized patients thanks to a state-of-the-art Clinical Skills Training Center, a facility consisting of 12-exam rooms where students perform mock exams with actor-patients. During all four years of their medical education, students are tested on their clinical skills, culminating with a comprehensive graduation exam. Students report that they are well-prepared for the Step 2-Clinical exam thanks to the rigorous clinical training they receive at NJMS.

According to Dr. Stagnaro-Green, NJMS students have consistently passed the Step 2-Clinical Skill test ahead of national averages, a testament to “our strengths in clinical training.” In the first year the test was given, he reported, NJMS had a 100 percent pass rate as compared to a national pass rate of 96 percent. In the second year, the medical school’s pass rate was 99.6 percent, compared with a national pass rate of 98 percent.

The test results indicate NJMS is on the right track, he said, noting: “Our students have always been ahead of the curve.”
Co-led by Richard Feinberg, PhD, director, Educational Resources, associate professor, Department of Ophthalmology and Visual Science, and Dr. Stagnaro-Green, the “Students as Educators” course will cover adult learning theory, effective presentation styles, constructive feedback tools and evaluation techniques.

“These skills are for the long-term,” explained Dr. Feinberg. Initially, students will be able to apply the knowledge from this course in developing effective presentations, and in team-based learning environments, but this skill set will be especially helpful when students enter their residency programs and become responsible for training and grading medical students.

Another Course Without Walls is helping to broaden students’ knowledge of complementary and alternative and integrative medicine. For instance, when students learn about human anatomy, they also learn about acupuncture as it relates to key points on the body where needles can be placed for therapeutic benefit, as well as massage and other body-based therapies that focus on musculature. Similarly, understanding disease process, prevention and therapeutics means mastering knowledge of traditional pharmaceutical therapies as well as dietary supplements and herbs. During a clinical clerkship in Physical Medicine and Rehabilitation, students learn about alternative therapies for chronic pain.

In addition to learning about different types of complementary and alternative medicine (CAM) and resources for evaluating evidence-based research on the efficacy of non-Western treatments, students also learn the importance of looking at a patient as a whole person, a concept that complements the school’s focus on cultural competency. This type of medicine is referred to as Integrative Medicine, an approach that reaffirms the importance of the doctor-patient relationship and also overlaps with a number of other priority areas in the curriculum such as humanism, cultural competency and ethics.

Adam Perlman, MD, MPH, executive director for the Institute for Complementary and Alternative Medicine (ICAM) at UMDNJ, serves as the CAM curriculum director for NJMS, where he is also an assistant professor in the Department of Medicine.

“We’re not trying to produce physician acupuncturists or physician herbalists,” explained Dr. Perlman. “The objective is to provide students with knowledge that will help them best care for their patients. Since we know that more than one third of Americans used some form of CAM in the past year, it is critical that our future physicians have the training, knowledge and understanding of this growing realm of health care.”

Dr. Perlman believes that NJMS is well ahead of the pack in terms of offering a truly integrated and comprehensive CAM curriculum that provides all students with the same information and experience. “New Jersey Medical School is recognized as a national leader in CAM education and research,” said Dr. Perlman, who serves on the Executive Committee of the Consortium of Academic Health Centers for Integrative Medicine, of which UMDNJ is a member. “This is one area where NJMS is really setting itself apart,” he added.
Academy members are not simply teachers at NMS. They can be advisors, mentors, even collaborators. For third-year student Marie Rinaldi and Alex Stagnaro-Green, MD, MHIPE, professor of Medicine, professor of Obstetrics, Gynecology and Women’s Health, and Associate Dean for Curriculum and Faculty Development, meeting two years ago proved an important connection.

“Dr. Stagnaro-Green was my preceptor during my first year in medical school. I thought he had a great approach to medicine and I knew I could learn more from him,” said Rinaldi.

When Rinaldi had an opportunity to pursue research on thyroid disease with Dr. Stagnaro-Green, she jumped on it, but Dr. Stagnaro-Green credits Rinaldi as the driving force behind the research project.

“Marie basically took the project with me through every step, from designing the study and getting the IRB (Institutional Review Boards) approval to making sure the surveys were completed and then analyzing the data. She did an incredible job.”

While the study was directed by Dr. Stagnaro-Green, Rinaldi served as principal investigator and lead author.

The findings were significant: Doctors have considerable gaps in their knowledge about current research in thyroid disease during and after pregnancy.

The implications are of concern because of the negative impact that thyroid abnormalities during pregnancy can have on a mother and her unborn child, said Dr. Stagnaro-Green. These threats include the risks of miscarriage, early delivery and placental abruption and even decreased intelligence in newborns.

A 16-item survey developed by the research team was used to discover the degree of knowledge that doctors had about four thyroid disorders during pregnancy, which included hypothyroidism, Graves’ disease, postpartum thyroiditis, thyroid antibodies and miscarriage.

More than 400 obstetricians/gynecologists, internists and then family practitioners.

“Our concern is that there is a knowledge gap and that this might lead to gaps in diagnosis and treatment of thyroid diseases during pregnancy,” explained Dr. Stagnaro-Green.

Adds Rinaldi: “This study should be a call to provide more education about thyroid disease during pregnancy and to make sure new physicians are aware of the latest research in this continually changing field.”

The study has riveted the medical community and was the topic of much discussion at two national conferences at which Rinaldi presented her findings.

She gave an oral presentation at the American Thyroid Association’s (ATA) annual meeting in Phoenix this past October. In fact, the ATA was so impressed by the research that it awarded Rinaldi a special travel grant and highlighted the study in a national press release.

Rinaldi also presented her findings in a poster session at the annual meeting of the National Endocrine Society in Boston last June. She is currently working with Dr. Stagnaro-Green on a related journal article.

“It’s rewarding to me personally to see what Marie has accomplished,” Dr. Stagnaro-Green adds. “It’s what being a faculty member is about — working with young individuals to help them develop to their fullest potential.”

**Focusing on Ophthalmology**

As far back as he can remember, third-year student Adrian Jachens has been fascinated by the complexities of the human eye.

“For one thing, I’ve worn glasses since the first grade, so I’ve been in and out of ophthalmologists’ offices almost my whole life,” he says.

Jachens’ passion for ophthalmology has led him to explore interesting student research opportunities at NMS, including an important study with David Chu, MD, assistant professor, Department of Ophthalmology and Visual Sciences, that offers hope to sufferers of a painful eye disease known as noninfectious scleritis.

A difficult-to-treat and sight-threatening disease that affects the wall of the eyeball called the sclera, scleritis has traditionally been treated using steroid-based and nonsteroidal anti-inflammatory therapies.
Current research suggesting that eye infections are often caused by autoimmune diseases has led practitioners such as Dr. Chu to prescribe immunomodulatory therapies — drugs that regulate the body’s immune system — to their scleritis patients. While not traditionally prescribed for this purpose, these drugs often help scleritis sufferers who can’t tolerate extended steroid-based therapies or who haven’t responded to nonsteroidal anti-inflammatories.

In his study, Jachens reviewed data for 18 patients who were treated by Dr. Chu and prescribed the immunomodulatory drug methotrexate between 2000 and 2005. “The big finding is that methotrexate is shown to be both effective and safe in controlling inflammation and reducing steroid usage,” says Jachens.

Jachens was invited to present his research at a poster session during the Association for Research in Vision and Ophthalmology’s (ARVO) annual meeting in Florida last spring. The meeting attracted a record-breaking attendance of 10,250. “I was very, very fortunate to have the opportunity to work with someone of Dr. Chu’s caliber,” says Jachens. “He’s done some really cutting edge clinical work. I learned a lot and I hope that I’ll be able to continue doing research with him.”

An Evolving Understanding of Evolution

Second-year medical student Janet Pullockaran is helping researchers at New Jersey Medical School unlock one of the great mysteries of human development. Her research has led to a breakthrough in understanding how insulin-like growth factors (IGFs) help to regulate fetal and placental growth and the role oxygen
plays in influencing fetal development.

Pullockaran’s scholarship is already commanding considerable attention in the scientific community. In 2005, she was invited by the Society for Gynecologic Investigation (SGI) to give an oral presentation at its annual meeting in Toronto. Considered the most important meeting in obstetrics, gynecology and related basic sciences, the meeting draws an attendance of about 1,200 scientists each year.

To put Pullockaran’s SGI engagement into perspective, Stacy Zamudio, PhD, Pullockaran’s research advisor, notes that of the more than 900 abstracts accepted by SGI for publication in 2005, only fifteen — including Pullockaran’s — were accepted for presentation in the area of fetal growth and placental signaling.

“It’s vanishingly rare for a medical student to be asked to give an oral presentation at SGI,” said Dr. Zamudio, an associate professor in the Department of Obstetrics, Gynecology and Women’s Health.

Working under the direction of Dr. Zamudio and Dr. Nicholas Illsley, professor, Department of Obstetrics, Gynecology and Women’s Health, Pullockaran examined placental membranes obtained by the research team from 25 Colorado and nearly 200 Bolivian research subjects.

In the Colorado study — the subject of the 2005 SGI presentation — Pullockaran set out to learn more about how IGFs help regulate fetal and placental growth. She discovered that the receptor that binds IGFs is located on both the maternal and the fetal side of the membrane separating maternal from fetal circulation. She also found that the amount of receptor per unit of membrane is related to fetal growth.

This discovery puts together part of the puzzle of how it is that IGFs regulate both placental and fetal growth.

“Trying to figure out how maternal resources, which may reflect nutritional status, genetic variation or health status, translate to better or poorer fetal growth is one of the mysteries of science,” said Dr. Zamudio. “Janet’s data suggests the receptor serves to communicate to the placenta and fetus information about resources such as nutrient availability. Babies seem to know to down-regulate their growth where resources are scarce and up-regulate their growth in the presence of nutritional excess, such as in gestational diabetes. Knowing how they do this could lead to interventions to correct fetal under- or overgrowth.”

Research has shown that altitude affects birth weight — with babies in higher altitudes typically born weighing less than babies born at sea level. But an anomaly exists when comparing data on long-entrenched populations. Last year, Pullockaran examined sample placental membranes from high-altitude Native Americans living in Bolivia. She sought to understand why it was that typical birth weights in high-altitude areas of that country mirrored birth weights in sea-level populations. Her findings suggest that with respect to long-resident populations, evolutionary forces have counteracted the effects of high altitude. In fact, in these populations, birth weight is regressing toward the mean.

The knowledge gleaned from Pullockaran’s research is invaluable because it allows researchers to eliminate at least one factor — oxygen — in their quest to understand how fetal growth is regulated, noted Dr. Illsley.

“One of the problems we’ve encountered is that we don’t always know what a lack of oxygen contributes, because usually it’s intermingled with other problems, such as preeclampsia. So here, at altitude, we have a model where all these pregnancies are normal except for the oxygen,” said Dr. Illsley.

“How we know something about what happens at high altitude, and the hope is that we will be able to say we know the role that oxygen plays, allowing us to explore other aspects of fetal growth problems. So, the work Janet has done has a whole series of benefits to health and to understanding evolution.”

Charles Darwin would be proud. ■

The Summer Research Experience

Medical student Janet Pullockaran praises New Jersey Medical School’s Summer Student Research Program, which provided her an opportunity to get involved in basic research early in her training. She has participated in the program for the past two summers and before that was involved for two years in the University of Medicine and Dentistry of New Jersey’s summer research program for undergraduates.

Now in its 38th year, the Summer Student Research Program has given more than 3,100 students the opportunity to conduct research under the direction of medical school faculty. This research is presented during the school’s annual “Poster Day,” with awards given to the best presentations as judged by faculty. In 2005, Pullockaran’s research won a Poster Day award, which included a cash stipend to travel to Toronto for the Society for Gynecologic Investigation meeting at which she presented her research.

Between them, faculty research advisors Dr. Stacy Zamudio and Dr. Nick Illsley have engaged more than 16 students in their groundbreaking research in fetal development through the Summer Student Research Program over the past ten years.

“This program definitely gave me an idea of what was going on in basic research,” said Pullockaran. “It made it easy for me to get involved in some very interesting projects.”
The seminal discoveries critical to advancing medical science are funded in large part through grants from the federal government. A large component of that federal funding comes from the National Institutes of Health (NIH).

In 2005, New Jersey Medical School received close to $56 million in NIH funding, an increase of approximately 20 percent over 2004’s amount of $46.4 million. NJMS advanced three places in the rankings this year, moving from 67 to 64. This positions NJMS just ahead of SUNY-Stoneybrook in Long Island (65) and in close proximity to University of Texas Health Sciences Center in Houston (62), Georgetown University School of Medicine in Washington, DC (60), and Tulane University School of Medicine in New Orleans (59).

A total of 104 research and training projects at NJMS are funded through the NIH. Faculty prepare grant applications which are then reviewed by study sections composed of top senior scientists from research institutions across the county. One of the main reasons NJMS was able to increase NIH funding — in a time when NIH funding is down — is attributed to the recruitment of top-notch, NIH-funded faculty with the ability to bring in funding.
Investigators at New Jersey Medical School continue to make significant contributions to basic and clinical research. These accomplishments have been achieved by the diligence and creativity of individuals in divisions, departments and laboratories throughout the NJMS campus. The school’s “Areas of Excellence” highlight outstanding efforts in select groups of disciplines. Areas include (see chart at right):

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<thead>
<tr>
<th>Areas of Excellence</th>
<th>Number of Faculty</th>
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<tbody>
<tr>
<td>Brain Injury and Stroke</td>
<td>33</td>
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<tr>
<td>Cancer Oncology</td>
<td>96</td>
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<tr>
<td>Cardiovascular Biology</td>
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<td>Cellular Signal Transduction</td>
<td>26</td>
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<td>Immunology</td>
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<td>Infectious Diseases</td>
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<tr>
<td>Neurosciences</td>
<td>51</td>
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<tr>
<td>Psychiatry &amp; Behavioral Sciences</td>
<td>13</td>
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<tr>
<td>Stem Cells</td>
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**New Jersey Medical School continues to be at the forefront of stem cell research, helping to solidify New Jersey’s position as a pioneer in this arena.**

Junichi Sadoshima, MD, PhD, professor, Department of Cell Biology and Molecular Medicine and director of the Center for Molecular Biology, received a Stem Cell Grant from the State of New Jersey’s Commission on Science and Technology to further his research on understanding how to stimulate adult stem cells.
cells to differentiate more efficiently into heart muscle cells following a heart attack. The hope is that this knowledge could lead to the development of an effective method to repair damaged heart tissue.

Dr. Sadoshima’s work, part of the Cardiovascular Research Institute at New Jersey Medical School, is also funded by several NIH grants, three through the National Heart, Lung and Blood Institute and two through the National Institute on Aging. In 2003, Dr. Sadoshima discovered that inhibiting the enzyme Mst1 prevents cardiac cell death resulting from reduced blood supply, and the NIH is funding his research to develop a specific inhibitor of the enzyme.

Two 2005 papers of Dr. Sadoshima’s, which appeared in the Proceedings of the National Academy of Science and the Journal of Clinical Investigation, elucidated another novel discovery that may help patients with heart disease. As cell death begins in a blood-deprived heart, it appears that the body automatically begins to remove dysfunctional cells, offering some level of protection from long-term damage. More research into how this process is triggered may lead to therapeutics that mimic and amplify the effect.

Research Team Receives $1.25 Million Grant from NASA

In the future, when astronauts finally step on the planet Mars, their safety may be ensured partly due to radiation research conducted at New Jersey Medical School. A research team led by Dr. Edouard I. Azzam, associate professor of Radiology, was awarded a four-year, $1.25 million grant from the National Aeronautics and Space Administration (NASA) to help the agency understand and find ways to protect future space travelers from harmful radiation.

“Astronauts are exposed to greater than normal doses of ionizing radiation as well as types of radiation that are not common on the surface of our planet,” Dr. Azzam explained. “On the space shuttle and international space station, the atmosphere and its magnetic fields provide astronauts some shielding against radiation; however, this protection will be lost in deeper interplanetary space and at the Martian surface.”

During a Mars mission, every cell nucleus in an astronaut’s body will, on average, be hit by radiation particles every few days. This radiation could cause cellular and tissue injury, including genetic damage that could extend to nearby cells. According to NASA, the health risks of radiation during space
travel may include cancer, damage to the central nervous system and radiation sickness.

For the project, Dr. Azzam will be joined by a team of researchers at NJMS that includes Dr. Andrew Harris and Dr. Debkumar Pain of the Department of Pharmacology and Physiology, and Dr. Roger Howell and Dr. Sonia de Toledo of the Department of Radiology. The research team will investigate how human cells respond to exposures of low to moderate levels of radiation of the type encountered in space. Specifically, they will investigate how biological processes essential for normal development, physiology and response to disease, are affected by radiation exposure. Their experiments will be carried out at NJMS and at NASA’s Space Radiation Laboratory at Brookhaven National Laboratory on Long Island.

Cancer Research

A recent discovery in the lab of Sergei Kotenko PhD, associate professor, Department of Biochemistry and Molecular Biology, has led to new directions in cancer research. Kotenko’s lab is currently investigating the role of

Highlighted Grants for 2006

Maha Abdellatif, PhD, Cell Biology and Molecular Medicine, National Heart Lung and Blood Institute/ NIH/DHHS, The Role of Histone H2Az in Cardiac Gene Expression, $1,555,000

Steven Zalcman, PhD, Psychiatry, National Institute of Mental Health/NIH/DHHS, IL-2 Neuroimmunology and Behavior, $1,511,685

William Gause, PhD, Medicine, National Institute of Allergy and Infectious Diseases/NIH/DHHS, Gr-1 + Cells and the Response to Nematode Parasites, $1,943,750

Edwin Deitch, MD, Surgery, National Institute of General Medical Sciences/Nih/DHHS, Mesenteric Lymph Linking Gut and Distant Organ Injury, $11,011,218

Sylvia Christakos, PhD, Biochemistry and Molecular Biology, National Institute of Diabetes and Digestive Kidney Diseases/NIH/DHHS, Vitamin D Hormone Function and Mechanism Action, $1,943,750

Roger Howell, PhD, Radiology, National Cancer Institute/NIH/DHHS, Effects of Nonuniform Distribution of Radioactivity, $1,386,851

Dorothy Vatner, MD, Cell Biology and Molecular Medicine, National Institute on Aging/ NIH/DHHS Oxidative Stress and ERK Signaling in AC-5 KO Longevity, $1,943,750

Junichi Sadoshima, MD, PhD, Cell Biology and Molecular Medicine, National Institute on Aging/ NIH/DHHS, Anti-Aging and Stress Resistance by Sir2, $1,943,750

William Hunter, PhD, Cell Biology and Molecular Medicine, National Institute on Aging/ NIH, Myocardial Passive Stiffness: Effect of Aging, $2,599,477

David Alland, MD, Medicine, National Institute of Allergy and Infectious Diseases/NIH/DHHS, (Cepheid) Sample Processing Cartridges for Rapid PCR B Detection, $1,494,124
interferon lambdas — small proteins called cytokines produced by a host during an immune response — in certain types of cancer. In 2003, Kotenko and colleagues discovered and characterized these new cytokines which possess anti-viral capabilities.

Several types of synthesized interferons have been developed to treat a range of diseases such as hepatitis, leukemia, melanoma and multiple sclerosis, but the potential of interferon lambdas is yet unknown. A study by Dr. Kotenko’s lab published this year in *Cancer Research* indicates that newly discovered interferon lambdas retard or prevent the growth of melanoma cells.

Dr. Kotenko’s research is funded by the NIH’s National Institute of Allergy and Infectious Disease.

Engaging the immune system in combating cancer is an important research endeavor because the body doesn’t see tumors as dangerous or foreign. By developing ways to stimulate an immune response, researchers hope to develop both therapeutic vaccines — those used to treat existing cancers — and prophylactic vaccines which are given to healthy people to prevent cancer.

**Grants Fund Rapid TB Test**

For David Alland, MD, professor, Department of Medicine, chief of Infectious Diseases and an expert in tuberculosis, 2006 was a banner year. In June, he was awarded a three-year, $3.7 million grant from the Foundation for Innovative Diagnostics (FIND), a non-profit organization established by the Bill and Melinda Gates Foundation, to fund development of a rapid TB test. And in September, the National Institutes of Health (NIH) approved a $3.9 million grant to provide his laboratory and collaborators with additional support to speed the application of his lab’s research findings into a commercially viable product.

The task of turning Dr. Alland’s two decades of research into a cost-effective TB test is a collaborative effort between Dr. Alland’s lab and partners at Cepheid, Inc., a molecular diagnostics company in Sunnyvale, Calif., as well as FIND in Geneva, Switzerland.

The science supporting the endeavor dates to 1998 when Dr. Alland, along with Dr. Fred Russell Kramer and Dr. Sanjay Tyagi from the Public Health Research Institute, published the first use of molecular beacons (probes that indicate the presence of specific nucleic acids) in bacterial diagnostics, identifying a way to detect tuberculosis and some chronic versions of drug-resistant strains. This approach provided faster results than traditional tests which take several days to process. The stumbling block, however, was that the faster test required sophisticated and costly equipment — the type of equipment in short supply in developing countries hardest hit by TB.

Combining the science with a new diagnostic device produced by Cepheid proved to be the answer and with two sizable grants to support the development of the new rapid test, 2006 marked a turning point not only for Dr. Alland’s research but for the millions of people worldwide affected by TB.

**New Implications of an Old Disease**

The newest member of the Microbiology and Molecular Genetics Department studies one of the oldest and deadliest infectious diseases in the world — malaria. Purnima Bhanot, PhD, MA, joined NMS in 2005 already an established expert in a disease estimated
Malaria is caused by protozoan parasites belonging to the genus Plasmodium. It is transmitted to humans in the form of sporozoites via the bite of an infected mosquito. Sporozoites first infect the liver and then the red blood cells. The life-cycle is completed in the midgut of the mosquito, where the parasites give rise once again to sporozoites. Sporozoites travel to the mosquito salivary gland from where they can be transmitted to the next host.

Dr. Bhanot's laboratory has identified a protein present in the early growth stage of the parasite that appears to enable it to infect 500 million people each year and kill at least one million. There is no vaccine against malaria and the commonly used drugs are becoming ineffective due to the spread of drug-resistant parasites.

Understanding how to render this protein ineffective may lead to the development of new therapies against malaria.

Core Facilities Support Research Enterprise

Core research facilities are vital to the maintenance, expansion and perpetuation of the research enterprise at New Jersey Medical School. These facilities provide the infrastructure necessary to attract new investigators and potential corporate partners to the rich research resources of the institution. In 2006, four new core facilities were established at New Jersey Medical School through the Research Office: the Digital Microscopic Imaging and Tissue Processing Facility, the Flow Cytometry Facility, the Biostatistical Core and the Office of Clinical Research.

The Digital Microscopic Imaging and Tissue Processing Facility provides state-of-the-art fluorescent-imaging capabilities for New Jersey Medical School researchers. The facility operates three laser scanning confocal microscopes, one of which is a multiphoton instrument. These microscopes allow for increased sensitivity in imaging of fluorescent samples and provide three-dimensional data. The confocal images offer enhanced information on the structure and function of living and fixed cells and tissues in digital form so that quantitative image analysis and storage of images is greatly facilitated. The multiphoton confocal microscope permits deeper penetration of the tissues than conventional fluorescence microscopy and in many instances causes less bleaching of the fluorescence than conventional widefield fluorescence imaging. A second component of the facility provides a resource for the processing, sectioning and staining of tissues for light and fluorescent microscopy, either by rapid freezing or by embedding in paraffin wax.

The Flow Cytometry Facility offers another way to analyze cell characteristics. By labeling cells with specific fluorochromes, suspending them in a stream of fluid and passing a beam of light through the sample, specific cell populations can be readily detected and quantified even when present in very small numbers. Investigators specializing in areas including immunology, infectious disease and cancer biology are able to further their research using the Flow Cytometry Facility.

The Biostatistical Core affords statistical consulting services such as data management and analysis, grant preparation and protocol development to faculty. The core’s professional staff have expertise in a wide array of clinical and translational research, protocol design and large scale epidemiologic studies and have served on NIH peer review panels. The lab is equipped with hardware and software necessary for biostatistical analyses, statistical design development and analysis of complex data sets, such as those generated from microarray and genomic studies. The core is also involved with the teaching of biostatistical methods to graduate students, residents, fellows and junior investigators.

The New Jersey Medical School Office of Clinical Research (OCR) facilitates the process of clinical research for faculty, research staff, patients and research volunteers. Clinical research includes translational studies, clinical trials, cohort studies, clinical epidemiology, outcomes research, including peer-reviewed grant funded research and industry sponsored clinical trials.

Internally, a major focus of the OCR is providing educational resources to investigators and staff. Externally, the goal is to help develop an interdisciplinary collaborative environment that fosters the translation of research to the community, to increase the institution’s competitiveness for clinical and translational research initiatives, to promote the development of junior clinical investigators, facilitate subject recruitment into clinical research studies and improve health in the community by increasing access to university-based clinical research.
New Jersey Medical School’s commitment to humanism in medicine is apparent in not just how clinicians care for their patients, but also in how medical students learn the practice of care that is both competent and compassionate. From their first year, students have the opportunity to gain valuable clinical experience through weekly sessions spent in a community physician’s office learning history and physical exam skills — part of the first year Doctoring course — and through a variety of student interest groups. Faculty enjoy adding the roles of mentor and teacher to their clinical responsibilities, actualizing the true nature of an academic medical setting.

**Discovering Emergency Medicine**

Most medical students don’t set foot in an emergency room until they begin their third-year clinical rotations. But a shadowing program at New Jersey Medical School brings students into the ER as early as their first year.

Offered through the school’s Emergency Medicine Interest Group (EMIG), the program allows first- and second-year students to follow and observe attending ER physicians at University Hospital. As students grow more confident, they are...
encouraged to help with such patient-focused tasks as taking medical histories and providing preventative care advice.

“Spending time in the ER really stretches your limits as a medical student,” says Suzanne Bentley, a fourth-year student and EMIG mentor. “It helps you develop a bedside manner early on and get very comfortable with all types of people and all types of illnesses.”

EMIG faculty advisor William Gluckman, DO, assistant professor, Department of Surgery, says the program reflects the school’s ideal of compassionate professionalism.

“We’re teaching our students how to assess people in a compassionate way — to recognize their needs, to be understanding, empathetic and sympathetic and to try to do the right thing for our patients. It’s about developing cultural sensitivity early in a student’s medical training.”

Approximately 150 students join EMIG each year, and Bentley suspects the program has attracted many students into the field of emergency medicine who might not have otherwise considered that option.

“When you go into the ER, it’s completely overwhelming and totally exhilarating, especially in the trauma bay where the most critically injured patients are treated,” she says.

But to the novice, the experience can also be intimidating. “Then, little by little, you realize you’re starting to get more comfortable,” says Bentley. “You know where things are and how much you can help, because when someone comes in with an acute illness, all hands available can pitch in — whether you’re grabbing gauze or starting to write down the history from the paramedics.”

The experience can also be humbling. “Sometimes you’re talking to a patient about what they’re experiencing and you
realize they may not have anyone else to listen to them because their support systems are just completely lacking.

“It’s what medical professionals sometimes take for granted,” Bentley adds. “When we have a cough, we can go to the doctor. But patients who are homeless or don’t have insurance — they come in three weeks later and they’re critically ill.”

Such wisdom gained is what makes this program so valuable, says Dr. Gluckman: “Even if a student doesn’t have all the basic science behind them yet, we know that they certainly will get something meaningful out of every patient encounter.”

The Emerging Role of Hospitalists

Vincent Barba, MD, assistant professor of Medicine, is preparing students at New Jersey Medical School for one of the fastest growing medical specialties in the United States today.

Dr. Barba is an academic hospitalist, a job title coined about 10 years ago to describe an emerging cadre of doctors whose sole responsibility is the care of hospitalized patients.
“We’re the doctors who are concerned only with the inpatient care of sick, hospitalized patients,” says Dr. Barba, who is also associate division director for Academic Medicine. “We don’t have private practices. We’re not providing outpatient medicine. We are here all day taking care of patients who are admitted to the hospital.”

Most hospitalists are internal medicine specialists certified by the American Board of Internal Medicine. The Society of Hospital Medicine, which is tracking this fast-growing field, is working to develop a national certificate of added qualifications that would distinguish hospitalists.

At NJMS there are now eight academic hospitalists on the faculty who share patient care and teaching responsibilities. These academic hospitalists teach at all levels of the residency program in internal medicine. They also lead teaching teams composed of third- and fourth-year medical students and residents.

“Our medical students are an integral part of the team,” says Dr. Barba. “When a patient comes into the ER or requires admission to the hospital, it’s often the medical students who are the first ones to interact with the patient after our team has assessed that the patient needs to be admitted. The students help take the patient history and do the physical examination. Our teaching program is hands-on — it’s real patients in real time."

The hospitalist movement emerged in response to the demands of managed care, which resulted in primary care physicians treating a greater number of patients in the office and fewer in the hospital. By referring their hospitalized patients to the care of hospitalists, time-pressed primary physicians are able to focus exclusively on their office patients.

Although their time with a patient is brief, truly successful hospitalists are gifted at quickly building relationships with their patients.

“If you’re going to be a good hospitalist, you’re going to be able to walk in the room and develop an atmosphere of trust,” says Dr. Barba. “When you leave that initial interview, the patient has to come away with the idea that this doctor is compassionate, empathetic, knowledgeable and very concerned with his or her case.”

While the hospitalist’s role ends when a patient is discharged from the hospital, their concern for the patient’s future well-being doesn’t stop there. During the transition from hospital to ambulatory care, hospitalists are in close communication with the primary physician.

“You have to close the loop,” says Dr. Barba. “That means making sure a thorough discharge summary is prepared and that it finds its way to the doctor who will be caring for the patient once he or she leaves the hospital. It means making appointments for all of the patient’s follow-ups — not just for primary care but for whichever specialists need to see the patient.”

There are about 15,000 hospitalists in practice today and the field is growing by leaps and bounds. The Society of Hospital Medicine projects the number of hospitalists in practice by 2015 could reach more than 30,000 — roughly the size of the field of cardiology.

Dr. Barba finds this to be an encouraging trend.

Hospitalists, he believes, epitomize the medical school’s humanistic ideal. “We deliver care in a patient-centered approach. We’re not just treating a disease or a body part. We’re treating the whole patient.”

Emergency Medicine
On The Rise

The study of emergency medicine is on the rise at New Jersey Medical School.

According to William Gluckman, DO, assistant professor of Surgery, approximately 10 to 15 percent of the school’s students are now entering the field of emergency medicine. The Emergency Medicine Interest Group program itself has proven so popular that the school now offers a non-credit elective in emergency medicine to accommodate all first- and second-year interested students, and a for-credit elective in the third year.

Both programs reflect the growth of emergency medicine at the medical school and at University Hospital, where a new emergency medicine residency program is in its infancy.

“I’ve been an attending physician here for just over seven years,” says Dr. Gluckman. “Before that, the Emergency Department (ED) was much smaller and it was staffed by internal medicine doctors and surgeons. So now, in a mere seven years, we converted the ED to a trained emergency medicine staff, launched our residency program and focused on recognizing our students and involving them in emergency medicine.”
When third-year student Hiral Patel’s father fell ill, her family quickly learned the difference that a caring physician can make.

Suffering from puzzling complications of pancreatitis, Mr. Patel spent several months at University Hospital last year. “They didn’t know where it came from, but he had every complication imaginable,” said Ms. Patel. “From September to March, he was more in the hospital than not.”

Ms. Patel had just started her third-year rotations, which were mostly offsite and took her away from University Hospital. “I couldn’t always be there, so my family really counted on people in the hospital to explain the setbacks and the small victories that happened throughout the day.”

One former resident who took an interest in Ms. Patel’s father was Pedro Veira, MD, who made a point of stopping by every day to check on Mr. Patel. “He explained what was happening in ways my parents could understand. Even when the news was bad, he made my parents feel that he was as sad as they were,” said Ms. Patel. “My parents felt comfortable that everything that needed to be done was being done, and that my father was in good hands.”

Last year, Ms. Patel nominated Dr. Veira for a Humanism in Medicine Award, which is given by the Arnold P. Gold Foundation. The recognition program is one of many humanistic activities at New Jersey Medical School that reflect a commitment to the delivery of competent and compassionate care. Winning the award, admitted Dr. Veira, “was one of the more poignant, touching moments of my residency.”

Now completing a one-year fellowship at the Christine M. Kleinert Institute for Hand and Microsurgery in Louisville, Ky., Dr. Veira graduated from NJMS and completed his residency in surgery at University Hospital last June. He says he encountered many positive role models during his years of medical training. “It was inspiring for me to see how some of the attending physicians and residents that I looked up to and respected interacted with their patients,” he said. “I could see that their patients really appreciated the care and attention they received.”

“I think the most important message I learned is that you have to be yourself,” he added. “You have to let your guard down.”
down and really show your patients that you care about their well-being. That means more than anything else you can do for them, and it makes them want to allow you to help them.”

**Highlights from Neurological Surgery**

The year 2006 saw many important new developments within the Department of Neurological Surgery, according to Peter W. Carmel, MD, DMedSci, professor and chair of Neurological Surgery.

Expanding its capability to provide the highest level of neurosurgical care, the department recently opened two new spinal research laboratories devoted to exploring the biomechanical properties of the bony spine and to finding a treatment for spinal cord injuries. Both laboratories are supported by a $1 million grant from a former patient, Tim Reynolds, who has also pledged $1 million in continued support.

“In our biomechanics research, we are trying to identify the most vulnerable areas of the spine so that we can give advice on designing products to protect people in their homes, in their cars and on airplanes,” said Dr. Carmel. This initiative is directed by Robert E. Heary, MD, professor of Neurological Surgery. Dr. Heary, whose book on spinal deformities has just been published, is focusing on the preservation of function and the regeneration of function following an injury.

Other major 2006 highlights for the department include:

- The installation of innovative intraoperative MRI equipment in the operating room to facilitate safer and more effective computer-guided neurosurgery, an initiative led by Michael Schulder, MD, professor and vice chair;
- The publication of a digital photographic atlas of operations of the peripheral nervous system by Allen H. Maniker, MD, professor, which has quickly become the standard text for teaching about the peripheral nervous system;
- A new research project of Charles Prestigiacomo, MD, assistant professor, which will investigate and model the fluid dynamics involved in the development of aneurysms in the arterial supply of the brain (a joint project with New Jersey Institute of Technology);
- The innovative application of a laser-scanning ophthalmoscope by Jeffrey E. Catrambone, MD, assistant professor, to examine the retinas of patients suspected or at risk of developing hydrocephalus, an abnormal accumulation of cerebrospinal fluid (CSF) within cavities inside the brain; and
- The expansion of the number of residents enrolled in the department’s residency program from five to 14 residents last year.

In addition to these achievements, members of the neurological surgery faculty rose to prominence in several major professional associations. These appointments include:

- Dr. Carmel’s continuing membership on the American Medical Association’s Board of Trustees, where he heads a Task Force on Quality and Patient Safety, and on the Board of Directors of the National Patient Safety Foundation;
- Dr. Schulder’s appointment as president-elect of the International Stereotactic Radiosurgery Society; and
- Dr. Heary’s completion of his term as president of the joint spine section of two major neurosurgical organizations — the American Association of Neurological Surgeons and the Congress of Neurological Surgeons. ■
New Jersey Medical School’s commitment to the community is evident in the many outreach programs and activities that run on campus and beyond. From one-on-one mentoring for single moms to health fairs attracting hundreds of people, faculty, staff and students are united by a common passion for public health. This year saw the development of a number of new and innovative approaches to enhancing the health of the community, reflecting both a quick response to a constantly evolving realm of health care as well as the personal passions of those involved.

**Dancing for Health**

Third-year student Marie Rinaldi is turning up the heat, literally. A lifelong dancer, Rinaldi founded NMS HEAT (Hip-Hop Education and Training) at New Jersey Medical School in 2005 to promote health awareness and exercise in a fun and challenging format. Other HEAT founders include Vickie Verea, Natalie Uy, Angela Gomez-Simmonds and Carolina Cabral.

The 20-member dance troupe is composed entirely of medical school students. Wearing colorful red and black...
costumes, the troupe performs for and teaches culture-infused hip-hop dance to Newark-area children and performs to support various charities throughout the year.

When not performing, Rinaldi and other HEAT members teach an exercise and dance program for diabetic teens. In addition, they teach dance to teenagers participating in the medical school’s SMART initiative (Science, Math and Related Topics), a pre-college health-related educational enrichment program funded by the National Institutes of Health (NIH).

“The rise in childhood obesity and incidence of Type 2 Diabetes, especially among children, is alarming,” says Rinaldi. “Through this program, we’re showing that exercise can be fun — an important message for teenagers to hear.”

A dedicated volunteer, Rinaldi also participates in coffeehouses for Newark-area teens with AIDS and volunteers at the medical school’s Student Family Health Care Center, which provides healthcare to uninsured individuals. Last year, she found time to launch the school’s first Fall Ball, a basketball charity tournament that pitted NJMS against Seton Hall Law School. Although the Seton Hall team won, the event raised more than $1,000 for Hurricane Katrina victims.

The first person in her family to attend medical school, Rinaldi says she is considering a career in a surgical subspecialty. “I just finished an OB-GYN rotation. I loved it, but I’m trying to keep my options open,” she says. Wherever her career may lead, Rinaldi is certain that dance will always be a part of her life.
Students have found innovative ways to put New Jersey Medical School’s rich cultural diversity to practical use serving the broader community. One recently launched student-led program is providing training to students fluent in languages other than English so they can volunteer as medical interpreters at University Hospital. Students are also applying their combined medical knowledge and language skills to volunteer at multicultural health fairs around New Jersey.

Both initiatives are sponsored by the Center for Multicultural Healthcare Communication Programs (CMHC), a collaborative liaison body for several student cultural groups on campus, including the Asian Pacific American Medical Student Association, the Muslim Student Association, the American Association of Physicians of Indian Origin, the Boricua/Latino Health Organization and the Student National Medical Association.

**Training Students as Medical Interpreters**

The medical interpreter program has already attracted close to 50 students who are fluent in 23 different languages — from Polish, French and Chinese to Arabic, Tamil and Urdu. Many trainees are fluent in Spanish, Portuguese and French Creole, the three most popularly spoken languages after English among patients at University Hospital.

“Part of the program’s appeal is that students enjoy seeing patients on the floors and also like that they get to use their cultural backgrounds to help other patients,” said second-year student Ali Chaudhry, who, along with David Jung Seto, co-president of the Asian Pacific American Medical Student Association (APAMSA), was instrumental in launching the student training to augment an already existing medical interpreter’s program for University Hospital staff members.

The initial group of trainees was taught by Debbie Salas-Lopez, MD, MPH, division chief, Academic Medicine, Geriatrics and Community Programs in the Department of Medicine, and founder of the CMHC. The initial group, in turn, will provide training to future program participants.

Medical interpreters often play an important role in fostering a positive doctor-patient relationship, Dr. Salas-Lopez noted: “They are skilled at combining their knowledge of a specific language, their cultural sensitivity, as well as their mastery of medical terminology in a healthcare setting.”

“Participating in the program is a good use of medical students’ time, because they gain insight from the perspective of the interpreter’s point of view and also from the provider’s point of view,” explained Lisette Céspedes, program assistant, division of Academic Medicine, Geriatrics and Community Programs. “In the future, when the students are providers themselves, they’ll have a better sense of knowing how to work with interpreters should they need to do so.”
The initiative is supported by a $5,000 American Medical Association Ethics in Action grant, which is also funding a student-sponsored multicultural community health-fair initiative.

“It’s not ethical on the part of the physician to simply talk to a patient who doesn’t understand English and assume it’s the patient’s responsibility to get an interpreter,” said Chaudhry. “This program is training students to be more culturally sensitive to their patients and to be ethical at the same time.”

**Humanism Scholar David Jung Seto**

Second-year medical student David Jung Seto became involved in recent initiatives to promote multiculturalism as part of a larger project that he is working on as one of 16 Humanism Scholars at New Jersey Medical School.

Part of The Healthcare Foundation Center for Humanism and Medicine, the scholarship program provides select students with a full scholarship to medical school. In return, they undertake a four-year project that in some way promotes the ideals of humanism.

Seto has chosen to make his mark by concentrating on culturally sensitive community outreach initiatives. In addition to helping to launch the school’s new medical interpreter training program and health fair initiative, Seto is also working to engender a broader awareness of alternative medicine within the NJMS community.

As president of the Cross-Cultural and Integrative Medicine student interest group, Seto helps organize monthly alternative medicine classes for students on such topics as massage therapy, herbal medicine, yoga and nutrition.

“Our goal is to expose Western medicine students — who may have a very rigorous traditional science background — to other healing practices that are frequently used in other cultures and may be familiar to many of their future patients,” he said.

**Outreach at Multicultural Health Fairs**

The Center for Multicultural Healthcare Communication Programs (CMHC), with support from an American Medical Association grant, is also the sponsor of an initiative that is bringing language-diverse students into several New Jersey communities to volunteer their services at multicultural health fairs.

For the past several months, Korean-speaking medical students have been volunteering their services at monthly culturally focused health fairs in Englewood, NJ, home to the state’s largest native Korean population. Organized by the Friends of Grace Seniors Korean Community Center, with support from Englewood Hospital, the health fairs are offered twice a month and provide a variety of health-screening exams to a largely Korean-speaking clientele.

The CMHC, in conjunction with the Asian Pacific American Medical Student Association (APAMS), also reached out to APAMS’s sister chapter at Robert Wood Johnson Medical School to organize the first of what will be a series of future health fairs offered to a largely Chinese population in Somerset, NJ. More than 25 students from both schools — fluent in several Chinese dialects — participated in the September event, which focused on hypertension and diabetes screening. The students also handed out bilingual educational brochures.

“Promoting cultural awareness has, of course, always been a major focus for the school’s multicultural student organizations,” said Seto. “We wanted to take that a step further and started looking at ways we could get out there, face-to-face in a healthcare setting, to give back to the community.”

**Making Waves — Radio Waves That Is**

Everyone knows that word of mouth is the best way to convey information, particularly if the source is highly regarded.

Through a new initiative at New Jersey Medical School, thousands of people are benefiting from health information sent right from the horse’s mouth over the airwaves of RadioVision Cristiana, a Spanish-language radio station based in Paterson, NJ.

Debbie Salas Lopez, MD, assistant professor of Medicine and division chief of Academic Medicine, Geriatrics and Community Health, serves as host for the
new 30-minute show “Hablemos de su Salud: Let’s Talk About Your Health” that airs on Tuesdays at 2:30 p.m., reaching listeners in NJ, NY, CT and PA and even in Latin America.

Dr. Salas-Lopez is joined by Carmen McLaughlin, division manager for the department, who serves as guest host. Together, the pair interview NJMS faculty on health topics of interest to the Latino community such as colorectal cancer, symptoms and treatments of heart attacks, teen pregnancy, mental health services and HIV.

Dr. Salas-Lopez is no stranger to the radio world; her father was a long-time radio talk show host.

“I enjoy the immediacy of radio,” she said. “It’s like seeing a thousand patients at one time — exhilarating!”

This Student Likes to SHARE

Experiences past and present have helped second-year student Mafudia Bangura shape her future. A strong desire to address health education and lack of access issues affecting disadvantaged populations drew her to the student organization SHARE (Student Health Advocates for Resources and Education), the umbrella organization for the many service-learning opportunities available to New Jersey Medical School students.

A native of Sierra Leone, a poor West African country ravaged by a prolonged civil war, Bangura chose to attend NJMS because she felt her experiences here would translate well when she ultimately returned home to practice medicine.

“I’ll see things here in Newark that I won’t see in other places and things that are very similar to Africa’s socio-economic situation, including poverty, limited access to health care and HIV/AIDS.”

As an MD/MPH student, Bangura's interest in public health resonated with the mission of SHARE. During her first year, she worked in the Student Family Health Care Center, a free student-run clinic offered on Tuesday and Thursday nights for uninsured or underinsured people. She also worked with a new student organization called PINACLE (Partnership in Newark Advocating Community Leaders' Empowerment), which partners with community leaders to transmit health information to community groups.

All of the organizations that comprise SHARE use an interview process to elect new directors each year. Current student leaders conduct the interviews and select the following year’s directors. Bangura applied for a leadership position with PINACLE, but was asked if she would consider a position as co-director for SHARE, overseeing the leadership of all the groups.

“Although this was not what I had envisioned, I was excited by the opportunity and accepted immediately,” admitted Bangura. She and fellow co-director Jennifer Koch are joined by four assistant directors: Steve Morrow, Dina Gordon, David Jung Seto and Sarah Redding.

Together, the SHARE leadership team is focused on helping each of the organizations run more smoothly.

A new succession plan aims to maintain momentum for each of the
groups so that outreach activities are not compromised during leadership transitions, and a new advisory board will engage community leaders and faculty to provide input on how to shape appropriate outreach programs and keep the group “on mission.”

“I enjoy the fact that I can get involved in many aspects of SHARE and in many different projects,” said Bangura. “I can see changes and help with the process of making a good idea even better.”

Bangura’s involvement with SHARE and her interest in public health are complemented by a four-year stint as a nurse.

“I completed my first clinical year of a combined BS/MD program in Africa,” said Bangura, who wanted to practice medicine for as long as she can remember. “When my family moved to America in 1997, I needed a job so I completed a two-year nursing degree. After I matriculated to George Mason University to complete my BS in Nursing/Pre-Medicine, I worked on the cardiac floor of a large community hospital while I went to school.”

Even though the clinical emphasis in nursing is different from a physician’s focus — “a nurse is not required to make a diagnosis,” explained Bangura, “but taught to recognize problems and understand complications” — her experience at the hospital has helped her reach a comfort level with patients that most students take a while to develop.

Bangura’s many experiences at NMS have all served to reinforce her dream of returning to Africa. Even though the civil war in Sierra Leone is over, the after effects — poverty, disease and destruction — present a new challenge just as dangerous to the health of the nation.

She sees herself working in a public health capacity, perhaps in a primary care clinic where she can combine direct patient care with public health education — the type of role that can, as she views it, “keep a person from needing a heart transplant.”

SHARE Organizations

Community 2000 facilitates positive interactions and mentoring relationships between the medical school and the community that will ultimately improve health-care outcomes for the people of Newark.

Early Start Mentoring Program sends trained mentors into Newark elementary schools to promote positive social behavior and non-aggressive conflict resolution.

New Moms pairs medical students with pregnant women in the Newark community to provide support and mentoring, facilitate access to care and ensure compliance with prenatal and postpartum care.

PINACLE (Partnership in Newark Advocating Community Leaders’ Empowerment) aims to educate and empower members of the Newark community by providing useful information about pressing medical issues and by training community leaders in disease prevention and treatment so that they may teach their members.

The Student Family Health Care Center (SFHCC) is one of the oldest institutions at UMDNJ. Established in 1967 to meet the needs of the medically underserved, this student-run clinic offers free, quality health care to the Newark community.

STATS (Students Teaching AIDS to Students) works with children and adolescents affected by HIV and AIDS through mentoring and tutoring at the Academy Street Firehouse and the Francis Xavier Bagnoud Center (FXB) in University Hospital.

Unite for Sight at NJMS is a chapter of the national Unite for Sight organization which aims to help eliminate preventable eye disease through vision screening and education.
Financial Overview

The New Jersey Medical School administration has worked diligently over the last several years to develop structure, organization and processes that have served to create the fiscal awareness and stability necessary to support the school’s educational, research and clinical missions.

With the steady erosion of purchasing power of the State funding and the multitude of operational and mission related initiatives that put a strain on fiscal resources, New Jersey Medical School has been aggressive in formulating and implementing its strategy for sustaining fiscal readiness. The school’s improved fiscal position is due in large part to the creation of its production and incentive driven Mission Based Funding Model (MBF).

Fiscal Year 2007 marks the school’s fourth year under MBF and the process has become the foundation for the allocation of fiscal resources. MBF encourages and provides the incentives for the school’s academic departments to utilize resources in an effective and efficient manner by giving department chairs enhanced responsibility and authority over the allocated funding.

Among the many fiscal successes enjoyed by the school over the last few years, the growth in the research program is of important note. Total research awards have grown $35 million or an average of 11% per year between FY 2002 and FY 2006. New Jersey Medical School also improved upon its NIH ranking from FY 2004 to FY 2005 by moving up 3 positions from 67th to 64th (out of 123 Schools). FY 2005 NIH awards to New Jersey Medical School totaled $55.9 million.

Although there remain many fiscal challenges, as well as systems, structures and incentives upon which the school can improve, New Jersey Medical School has entered a period of financial stability which should serve to effectively support the efforts its Dean, faculty and staff put forth in realizing school goals and objectives.
New Jersey Medical School
2006 Gifts of Note

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