“We believe our first responsibility is to the doctors, nurses and patients, to mothers and fathers and all others who use our products and services.”

Our Credo

Johnson & Johnson
Dear Colleague,

I am honored to serve as interim dean of UMDNJ-Robert Wood Johnson Medical School and look forward to the challenges of this position. I believe that we have an unprecedented opportunity to continue the medical school’s remarkable development under the leadership of Harold L. Paz, MD.

Robert Wood Johnson Medicine reflects the wide scope of our work at the medical school and allows us to share our pride with friends in the community. Our exceptional faculty, students, and alumni determine the character and direction of RWJMS. From their words, you will learn about our vision, spirit, and success.

In “Harold L. Paz, MD: Vision, Strength, Leadership,” Dr. Paz reflects on the evolution of the medical school during his ten-year tenure. Dr. Paz’s farewell highlights this extraordinary decade at RWJMS and reminds us of the growth we have achieved together.

Our cover story, “Researching Childhood Disease — for Life,” takes you behind the scenes at the Child Health Institute of New Jersey, the newly dedicated center for biomedical research and pediatric care. Here, world-class clinicians and scientists will probe the origins of developmental disorders.

You will join in the “Battle Against the Last Cancer Cell” with Leroy Liu, PhD, who chairs our Department of Pharmacology. Early in his career, Dr. Liu discovered topoisomerase 2, and he has pioneered in the study of this family of enzymes as a promising target for cancer drugs.

“Clinical Trials: Foundation for Cure” takes our readers into the many departments school-wide where faculty participate in clinical trials. These programs are vital complements to basic science research programs and translational research, and they provide new hope for patients of all ages.

“Road Building: Graduate Programs Link Research to Clinical Care” explores the allure of our diverse doctoral programs for young scientists with a passion for investigating life at the molecular level, who also want to link their work closely to clinically relevant patient outcomes.

As you read these articles, you will recognize an outstanding team whose individual achievements, taken together, create the high standard for which all of us continually strive.

Sincerely,

Peter S. Amenta, MD, PhD
Interim Dean
That you can make a difference in finding real cures, educating new healthcare professionals, and improving patient care.

That you can choose the specific area of medical research, education or healthcare you wish to support.

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For more information, call Joseph Stampe, vice president of development, toll-free at 866-44-UMDNJ or reach us online at www.umdnj.edu/foundation/imagine.

Imagine the difference you can make.
Harold L. Paz, MD: Vision, Strength, Leadership
After a decade of extraordinary achievement, Dr. Paz bids farewell to RWJMS.
By Kate O’Neill

Clinical Trials: Foundation for Cure
Clinical trials at RWJMS increase odds for today’s cancer patients and improve outcomes for cardiovascular patients and others undergoing treatment for serious illness.
By Rita M. Rooney

Researching Childhood Disease – for Life
The new Child Health Institute of New Jersey searches for cures to developmental disorders, including those manifested in early childhood as well as in later years.
By Rita M. Rooney

Battle Against the Last Cancer Cell
RWJMS researcher Leroy Liu, PhD, discovers enzymes with a key role as drug targets in cancer treatment.
By Rita M. Rooney

Road Building: Graduate Programs Link Research to Clinical Care
Doctoral candidates at RWJMS are following the NIH Roadmap, which calls for transforming “our new scientific knowledge into tangible benefits for people.”
By Kate O’Neill

Alumni Reunion Weekend Sparks Discoveries and Memories
While visiting with old friends and exchanging reminiscences, returning graduates explored RWJMS and were astounded by its growth.
By Kate O’Neill

Alumni Profile: Robert W. Amler, MD ’76: A Public Health Leader Reflects on His Medical Roots
Culminating a distinguished career in public health, Dr. Amler serves as dean of the School of Public Health, New York Medical College.
By Kate O’Neill
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Pharmacology Earns Major EPA Grant

UMDNJ-Robert Wood Johnson Medical School's Department of Pharmacology received an initial grant of $5 million over five years from the U.S. Environmental Protection Agency (EPA).

Leading universities from around the world competed for the award establishing the first and only National Center of Excellence for Environmental Bioinformatics and Predictive Toxicology. The landmark project is headed by William J. Welsh, PhD, Norman Edelman Professor in Bioinformatics, professor of pharmacology, and director, UMDNJ Informatics Institute, who will serve as primary investigator (PI) and the center’s director. Panos Georgopoulos, PhD, professor of environmental and occupational medicine, is co-PI and associate director of the program, which will change the way environmental toxicants are identified and tracked.

“We’ll be developing computer models to predict, study, and model how metal and chemical toxicants are transported through the environment to make contact with humans, wildlife, and the environment,” Dr. Welsh says. “In humans, we’ll investigate how exposed persons respond, how the pollutant is ingested, how it is metabolized, and with what toxicity pathways of the biological system it interacts.”

This revolutionary approach to environmental research will be conducted by a team of computational investigators with diverse backgrounds in bioinformatics, chemistry, and environmental science. Partnering with the center in the project are teams from Princeton University; Rutgers, The State University of New Jersey; and the U.S. Food and Drug Administration’s National Center for Toxicological Research.

The implications for this kind of futuristic computational ability are enormous. In practice, it amounts to being able to predict the toxic potential of a chemical before it is introduced by a manufacturer. It will reduce the uncertainty, and improve both accuracy and speed of environmental research, while minimizing the need for animal studies. In a related project, Dr. Welsh has submitted two proposals to the EPA for an additional $1.2 million for the new center to develop computer-based models to predict the toxicity of potential biowarfare.

Commenting on the highly competitive award, Dr. Welsh says he believes it is a combination of genomics, bioinformatics, and systems biology that resulted in RWJMS winning the grant — all three are thriving components of RWJMS research.

“I think the EPA was impressed by the existing infrastructure of science here,” he says. “The Informatics Institute, the Environmental and Occupational Health Sciences Institute, and the fact that we are a medical school that includes The Cancer Institute of New Jersey all played in our favor.”

— R.M.R.
Dr. Robert Eisenstein Appointed Vice Chair of Emergency Medicine

Robert M. Eisenstein, MD, associate professor of emergency medicine, was appointed to serve as vice chair, Department of Emergency Medicine. Dr. Eisenstein will direct the department on UMDNJ-Robert Wood Johnson Medical School’s New Brunswick campus, as well as the Emergency Department at Robert Wood Johnson University Hospital (RWJUH).

Dr. Eisenstein says patients should see tangible benefits from the strengthened ties between the medical school and the RWJUH Emergency Department. “As members of the teaching faculty, attending physicians must stay up-to-date on the latest literature and current trends in emergency medicine,” he explains. “In addition, the new department strengthens our connections to our academic colleagues and opens the door to new collaborations in teaching and research.”

As he builds the new faculty in emergency medicine, Dr. Eisenstein has met with board-certified specialists in ultrasound, toxicology, and critical care. “A full-time toxicologist,” he says, “would be available in the Emergency Department and would increase our coverage by providing bedside consultations for inpatients.”

Dr. Eisenstein, who served on the RWJUH Performance Improvement Committee, was on the team that developed a “Code MI” (myocardial infarction) policy, to provide primary angioplasty for patients with acute myocardial infarction. Hospitals such as RWJUH that provide state-of-the-art cardiac care have been shown to substantially improve the patient’s survival chances. Dr. Eisenstein also helped create the proposal to establish a chest pain center at the hospital, where patients with coronary symptoms could receive rapid, thorough assessment.

The expanded academic department in New Brunswick will prepare the medical

Research News

By Kate O’Neill

Grants Awarded by The National Institutes of Health: Paul R. Copeland, PhD, assistant professor of molecular genetics, microbiology, and immunology, received $1,066,726 from the National Institute of General Medical Sciences (NIGMS) for a four-year project titled “Functional Analysis of Sbp2 and Selenocysteine Incorporation.” • The NIGMS awarded Siobhan A. Corbett, MD ’87, associate professor of surgery, $1,342,711 for a four-year renewal of her project “The Regulation of Fibronectin Matrix Assembly in Wound Healing.” • The National Institutes of Health awarded $2,997,356 to Benjamin F. Crabtree, PhD, professor of family medicine and director, division of research, for a five-year project on “Enhancing Colorectal Cancer Screening through Learning Teams.” • The National Institute of Mental Health (NIMH) awarded a five-year, $2,331,950 grant to Javier I. Escobar, MD, professor and chair, Department of Psychiatry, for a project titled “Medically Unexplained Physical Symptoms in the Primary Care Research Center.” • David J. Foran, PhD, associate professor of pathology and laboratory medicine, received a four-year, $1,135,862 award from the National Institute of Biomedical Imaging and Bioengineering for a project titled “Collaborative Systems for Analyzing Tissue Microarrays.” • The National Cancer Institute (NCI) awarded $5,492,970 to William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology cancer programs, and director, The Cancer Institute of New Jersey, for
Dr. Eisenstein’s enthusiasm for emergency medicine stems from the field’s wide-open possibilities and its interaction with every department in the hospital as well as outside emergency medical service personnel.

school to accommodate a new three-week emergency medicine rotation, which will be mandatory for all RWJMS fourth-year students, beginning in 2007. In addition, Dr. Eisenstein hopes to develop a residency program on the New Brunswick campus.

Dr. Eisenstein’s enthusiasm for emergency medicine stems from the field’s wide-open possibilities and its interaction with every department in the hospital as well as outside emergency medical service personnel. He previously served for four years on the clinical faculty as a partner in Emergency Medical Associates, a private physician group that staffed the RWJUH Emergency Department. He earned his medical degree at the University of Health Sciences/Chicago Medical School and completed his residency at Thomas Jefferson University Hospital, Philadelphia, where he was chief resident.

Michael E. Chansky, MD, associate professor and chair, Department of Emergency Medicine, will continue to lead the academic department at RWJMS, Camden campus, and the Emergency Department at Cooper University Hospital. Cooper is the primary emergency medicine teaching site for RWJMS and hosts the medical school’s emergency medicine residency program, as well as fellowships in pediatric emergency medicine and shock research and a separate division of clinical research.

a five-year renewal of the Cancer Center Support Grant, now in its ninth year. Dr. Hait also received a five-year, $1.25 million supplement to his Cancer Center Support Grant from the NCI. • Michael J. Leibowitz, MD, PhD, professor of molecular genetics, microbiology, and immunology and associate dean, Graduate School of Biomedical Sciences, received $1,756,669 from the NIGMS for a four-year renewal of the UMDNJ-Rutgers University Pipeline Program, now in its ninth year. • The NCI awarded a five-year, $1,527,309 training grant titled “Training in Cancer Pharmacology” to Leroy F. Liu, PhD, professor and chair, Department of Pharmacology. • James H. Millonig, PhD, assistant professor of neuroscience and cell biology and resident member, Center for Advanced Biotechnology and Medicine (CABM), received a five-year, $2,261,512 grant from the NIMH for a project titled “Identification and Functional Assessment of Autism Susceptibility Genes.” • Smita S. Patel, PhD, professor of biochemistry, received $1,156,920 from the NIGMS for a four-year renewal of her research on “Mechanistic Studies of Hexameric Helicases.” • The NCI awarded a five-year, $1,515,684 grant to Michael M. Shen, PhD, professor of pediatrics, associate director, Child Health Institute of New Jersey, and member, CABM, for a project titled “Molecular Analysis of Metastatic Prostate Cancer in Mice.” • The NCI awarded Yuh-Hwa Wang, PhD, assistant professor of biochemistry, $1,057,400 for a project titled “Molecular Studies of Cancer-Specific Sites.” • Daniel E. Wartenberg, PhD, professor of environmental and occupational medicine, received a five-year, $2,249,992 grant from the NIEHS for a project titled “A Regional Multi-Institutional Academic Partnership for Excellence in EPHt.” • Gail K. Zeevak, PhD, associate professor of neurology, received $1,196,950 from the National Institute of Neurological Disorders and Stroke for a four-year renewal of her study of “Energy Metabolism, Dopamine Neurons and Neurotoxicity.”
Motolinsky Foundation Honors Dr. John Colaizzi; RWJMS Joins Foundation in Recalling Its “Heart and Soul”

At its annual reception at UMDNJ-Robert Wood Johnson Medical School, the Melvyn H. Motolinsky Research Foundation honored a good friend of the medical school, John L. Colaizzi, PhD, dean of the Ernest Mario School of Pharmacy at Rutgers, The State University of New Jersey. Dr. Colaizzi is a member and past chair, Board of Directors, Robert Wood Johnson University Hospital. “As an academic leader and as the longest-standing dean at Rutgers, Dr. Colaizzi leads by example through his teaching and research,” said Harold L. Paz, MD, dean, in his remarks.

Norman Reitman, MD, clinical professor of medicine, also spoke to guests, recalling Yetta B. Motolinsky, a founder, trustee, and member of the Motolinksy Foundation, who died on June 29, 2005. Mrs. Motolinsky was the mother of the late Melvyn H. Motolinsky, in whose name the foundation was established, and she was its honoree last year. “Yetta was the heart and soul of the foundation,” said Dr. Reitman.

He read a proclamation from the Motolinsky Foundation board, memorializing Mrs. Motolinsky, and presented it to her daughter, Nan, who thanked guests for their support both for the family and for the work of the foundation.

The Motolinsky Foundation’s $1 million endowment supports research into leukemia and other blood-related diseases. Most of its programs are at RWJMS and include the Melvyn H. Motolinsky Laboratory for Hematology Research, the Motolinsky Fellowship Program, and the Melvyn H. and Ab Motolinsky Professorship in Hematology, held by Parvin Saidi, MD, professor of medicine and chief, division of hematology.

In Memoriam: Ira B. Black, MD

The RWJMS community is greatly saddened by the death of Ira B. Black, MD, on January 10. Dr. Black joined the faculty of UMDNJ-Robert Wood Johnson Medical School in 1990. He served as professor and chair of the Department of Neuroscience and Cell Biology and was founding director of the Stem Cell Institute of New Jersey.

As a clinical neurologist and neuroscientist, Dr. Black studied the underlying molecular mechanisms of brain function and cognition. He received international recognition for his pioneering work in the development of the nervous system and the role of growth factors. Recently, his team succeeded in converting stem cells derived from bone marrow into neurons for potential transplantation in a variety of neurological diseases. Dr. Black’s work advances our understanding of treatments and cures of degenerative and acute neurological diseases, including Alzheimer’s disease, Parkinson’s disease, and spinal cord injury.

Dr. Black was a dedicated teacher and mentor, attributes that attracted some of the nation’s best and brightest graduate students and young faculty to RWJMS. He served on numerous international and national panels and advisory committees, and he was past president of the Society for Neuroscience of North America. Dr. Black published approximately 200 articles on neuroscience and four books.

Ira Black was an internationally respected scientist and physician. He was uncompromising in his quest for scientific excellence and all the good it could bring to humankind. He will forever be remembered as a renowned leader in the field of neuroscience and the visionary who launched the Stem Cell Institute of New Jersey.

Donations in memory of Yetta Motolinsky may be made to The Melvyn H. Motolinsky Research Foundation, 2875 Route 1, PO Box 7463, North Brunswick, NJ 08902.
Maral Mouradian, MD, William Dow Lovett Professor of Neurology, has made an important discovery in the study of Parkinson’s disease, and also has received a grant from the Michael J. Fox Foundation for Parkinson’s Research. Dr. Mouradian, who formerly served as chief of the Genetic Pharmacological Unit at the National Institute of Neurological Diseases and Stroke of the National Institutes of Health, is internationally regarded for her work on Parkinson’s. Her research has centered on determining what it is in the dopamine nerve cells that end up causing their demise, and resulting in the disease. In doing so, her laboratory hopes to identify specific targets that can be manipulated for therapeutic purposes.

Her studies follow the identification two years ago of the DJ-1 gene as one of those that causes Parkinson’s, a finding that has caused investigators worldwide to accelerate efforts to discover just how it causes the disease. “So far, we know of five genes that, if mutated, cause Parkinson’s. There are at least five others that are awaiting identification,” Dr. Mouradian explains. “It only takes one mutated gene to cause the disease in some patients. Since DJ-1 mutations are recessively inherited, both parents of an affected individual must carry one copy of the defective gene. Once a disease gene is identified, we have to find how it acts within the cell to cause the disease before we can develop treatments to stop progression of the neurodegenerative process.”

One of the properties of DJ-1 is that it clears highly reactive molecules called free radicals that damage essential cellular components. It was generally assumed that this is how DJ-1 protects brain cells — hence, if DJ-1 is mutated, the cells would die because of inadequate clearance of free radicals. Dr. Mouradian’s laboratory discovered that the impact of DJ-1 in clearing reactive oxygen species was minimal compared to its robust ability to protect brain cells. Therefore, DJ-1 must be doing something else. The team discovered that DJ-1 interacts with a protein called Daxx, which is a death sentence to cells.

“DJ-1 interacts with Daxx at the nucleus of the cell and prevents it from going from the nucleus to the cytoplasm, where Daxx would interact with another protein, ASK1, to cause cell death. But once DJ-1 prevents Daxx translocation, ASK1 cannot be activated and the cell lives,” Dr. Mouradian explains.

The consequence of this is that if DJ-1 is missing, Daxx is free to go to the cytoplasm and activate the cascade of events leading to cell death. This work was published in the Proceedings of the National Academy of Sciences. The next step will be to initiate studies using genetically modified mice to try to manipulate DJ-1 actions.

Dr. Mouradian received a biomarker grant from the Michael J. Fox Foundation for Parkinson’s Research. The award recognizes innovative approaches in accurately identifying individuals at risk for Parkinson’s disease. Her work with the alpha synuclein gene and her suggestion that the extent of its expression in brain cells as a risk factor for Parkinson’s led to the award.

— R.M.R.
**Match Day: Class of 2006 Celebrates Residency Match**

The Class of 2006 had a spectacular match," says David Seiden, PhD, professor of neuroscience and cell biology and associate dean for student affairs.

Achieving an exceptional 98 percent match rate, the class matched to many of the nation’s most competitive residency programs. The students will complete their residencies at institutions including Johns Hopkins Hospital, Brown University, Baylor College of Medicine, Brigham and Women’s Hospital, Massachusetts General Hospital, University of Michigan Hospitals, Yale—New Haven Hospital, New York—Presbyterian Hospital, Mount Sinai Hospital, and the Hospital of the University of Pennsylvania.

More than 25 percent of the class will enter residency programs in New Jersey, including 17 percent who matched with UMDNJ residency programs.

Reflecting a trend of at least 12 years, the RWJMS match rate exceeded the national average, which was 93.7 percent. The 2006 match rate is the third highest ever for RWJMS; the match rate last year was a record 99 percent.

In addition, the RWJMS Office of Graduate Medical Education announced its highest-ever match rate—97.9 percent—with students wishing to enter its residency programs in New Brunswick in July.

### THE CLASS OF 2006 CAREER CHOICES

**UMDNJ-ROBERT WOOD JOHNSON MEDICAL SCHOOL PISCATAWAY & CAMDEN CAMPUSES**

#### EMERGENCY MEDICINE

- Nisha Joseph: Christiana Care, DE
- Jeffrey Luk: Monmouth Medical Center, NJ
- Kalpana Narayan: St. Barnabas Medical Center, NJ
- Rachel Patterson: UMDNJ-Robert Wood Johnson-Camden, NJ

#### ANESTHESIOLOGY

- Mary Cisciano: NY Presbyterian Hospital-Cornell, NY
- Samuel DeMaria: St. Barnabas Medical Center, NJ; Mt. Sinai Hospital, NY
- Janna Hansen: UMDNJ-Robert Wood Johnson-Piscataway, NJ; Stanford University Programs, CA
- Maryam Jooza: Albert Einstein Medical Center, PA, Massachusetts General Hospital, MA
- Jasleen Lai: Hospital of St. Raphael, CT; UMDNJ-Robert Wood Johnson-Piscataway, NJ
- Tiffany Owens: Flushing Hospital Medical Center, NY; Johns Hopkins Hospital, MD

#### FAMILY PRACTICE

- Leyna Bautista: Maine Medical Center, ME
- Melissa Berreiro: Beth Israel Medical Center, NY
- Deborah Dreyfus: University of Wisconsin Medical School, Madison, WI
- Judith Garcia: UC Irvine Medical Center, CA

#### INTERNAL MEDICINE

- Peter Choi: Einstein/Montefiore Medical Center, NY
- Julie Ciemniolkoz: Oregon Health & Science University, OR
- Apurajit Das: Baylor College of Medicine-Houston, TX
- Fokou Fatokere: NY Presbyterian Hospital-Cornell, NY
- Prateek Gandige: Barnes-Jewish Hospital, MD
- Kunal Gupta: UMDNJ-Robert Wood Johnson-Piscataway, NJ
- Neeraj Gupta: University of Southern California, CA
- Henry Hs: University of Virginia, VA
- Joseph Jaworski: Temple University Hospital, PA
- Justin Karl: Einstein/Montefiore Medical Center, NY
- Atif Khowai: Brown University Internal Medicine Residency, RI
- Kizyatch Kopas: Brown University Internal Medicine Residency, RI
- Debvatiya Krishman: UMDNJ-Robert Wood Johnson-Piscataway, NJ
- Frederick Kuo: UMDNJ-Robert Wood Johnson, Camden, NJ
- Arunadha Lala: Mt. Sinai Hospital, NC
- Maria Lamoth: NY Presbyterian Hospital-Columbia, NY
- David Landeere: Lenox Hill Hospital, NY
- Regina Lee: Thomas Jefferson University, PA
- Spencer Liu: UC San Diego Medical Center, CA
- Josephine Lontok: University of Pittsburgh Medical Center-Medical Education Program, PA
- James Park: University of Michigan Hospitals-Ann Arbor, MI

#### DERMATOLOGY

- Jennifer Tan: Lehigh Valley Hospital, PA, Massachusetts General Hospital, MA

#### CHILD NEUROLOGY

- Shannon Dodge: Mt. Sinai Hospital, NY; NY Presbyterian Hospital-Columbia, NY

#### EMERGENCY MEDICINE

- Douglas Beach: UMDNJ-Robert Wood Johnson-Camden, NJ
- Courtney Bellomo: UMDNJ-Robert Wood Johnson-Piscataway, NJ
- Rishi Bhattcharyya: UMDNJ-Robert Wood Johnson-Piscataway, NJ
- Colin Cha Fong: Mt. Sinai Hospital, NY
- Harshit Chawla: Thomas Jefferson University, PA

#### INTERNAL MEDICINE

- James Park: University of Michigan Hospitals-Ann Arbor, MI

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**BY KATE O’NEILL**
Convocation Honors Class of 2006

At Convocation, the Class of 2006, 146 strong, gathered at the State Theatre in New Brunswick to reflect on past and future challenges and thank RWJMS for preparing them to be clinicians.

Peter S. Amenta, MD, PhD, interim dean, congratulated the class on their great success: 15 graduates were inducted into the Gold Humanism Honor Society, 25 were inducted into the Alpha Omega Alpha National Medical Honor Society, six had completed the MD/MPH degree, four had completed the dual MD/MBA program, and nine would receive their degree with Distinction in Research.

Dr. Amenta recognized Vincent Yang, PhD, MD ’84, who would receive the 2006 UMDNJ Distinguished Alumnus Award the following day at Commencement. James Golubieski, president,

White Coat Ceremony Emphasizes Humanism in Medicine

Family members and friends annually attend the White Coat Ceremony. At the event, which welcomes first-year students and spotlights humanistic medicine, faculty members help the students into their new white coats. Antonia Coello Novello, MD, MPH, DrPH, New York State commissioner of health, delivered the 2005 keynote address; she was the first woman and first Hispanic to serve as U.S. surgeon general.

In closing, the Gold Humanism Honor Society inducted 19 new members and named Harold L. Paz, MD, dean, an honorary faculty member, recognizing his support for humanistic student programs.
Class of 2009 Profiles

- After graduating from Harvard University in 2000, **Brian Howard** worked at a Boston pharmaceutical/biotech consulting firm. Three years later, he joined the Business Development Group of Johnson & Johnson’s pharmaceutical sector. He plans an internal medicine residency, a cardiology fellowship, and then involvement in large-scale Phase III clinical trials for cardiology compounds. He chose RWJMS, in part, for the faculty’s commitment to student success and the collegial atmosphere among his peers-to-be.

- **Rachel Harrison** majored in philosophy at Johns Hopkins University. She subsequently worked at the university’s Phoebe R. Berman Bioethics Institute, coordinating on-site bioethics programs for African professionals. She plans to practice medicine, while pursuing bioethics as a medical policy-maker. "RWJMS embraced my outside interests and allowed me a one-year deferment to earn a master’s in bioethics at the University of Virginia," she says.

- "I’m here because RWJMS emphasizes community service," says Duke University graduate **Nathan Samras**. In Malawi as a Peace Corps teacher, he initiated or collaborated on community-based and regional projects that addressed sexual health concerns. Later, he worked for the United Nations World Food Program and collaborated with the Malawi National AIDS Commission to create a non-profit organization to distribute computers to AIDS support organizations throughout Malawi.

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**Pilot Project Illustrates Physiology through Technology links**

By integrating the medical school’s VTEL videoconferencing system with the Department of Anesthesiology Human Patient Simulation Laboratory, two faculty members developed a lively approach to the learning of physiology. Nancy R. Stevenson, PhD, professor of physiology and biophysics, contacted Mordechai Bermann, MD ’87, associate professor of anesthesiology, who directs the Simulation Laboratory. They discussed a collaborative, multimedia pilot project for the first-year medical physiology course. It would vertically integrate three teaching methodologies: the human simulator, the VTEL system, and team-based learning.

Their conversation led to a successful pilot project, which earned a $15,000 UMDNJ Education Technology Grant. Students awarded high marks to the project, as did the faculty and Information Technology personnel.

Dr. Stevenson and Dr. Bermann piloted the project in two stages: first, after the cardiovascular section, and then at the end of the respiratory unit. In the first case, Dr. Bermann simulated a patient with ischemia proceeding through acute myocardial infarction, temporary heart block, ventricular fibrillation, and heart failure. The VTEL provided two-way oral and visual communication between the Simulator Suite on the New Brunswick campus and the Piscataway lecture hall. Students could interact with Dr. Bermann, see the simulator and hear it speaking and breathing. In addition, they watched the simulator’s hemodynamic monitors and observed its responses to interventions they proposed.

Subsequently, in small groups, the students addressed questions about the case and the treatments they had proposed, debated their justification, and then presented their group’s findings to the rest of the class.

The prototype will be adapted for use in the 2006–2007 academic year.

— K.O’N.
Physicians Volunteer for Katrina Duty

When the University of Medicine and Dentistry of New Jersey (UMDNJ) issued a call to its doctors and health care personnel to care for Hurricane Katrina survivors in Louisiana, approximately 300 volunteers responded. Then word came that a sufficient number of health care workers were on the scene, and the emergency call was rescinded. A few days after Katrina struck, however, New Jersey’s search-and-rescue team, consisting of state and local police, was on its way to New Orleans, heading toward unknown personal risk and considerable health hazards. With them were UMDNJ-Robert Wood Johnson Medical School physicians Beatrix Roemheld-Hamm, MD, PhD, associate professor of family medicine, and Amisha Malhotra, MD, assistant professor of pediatrics, division of infectious disease. The two were among 300 volunteers who originally responded to a UMDNJ call for help.

“Our job was to keep the team healthy, to avoid any outbreak of diarrhea or illness, and keep police rescue workers from experiencing excessive heat exhaustion, which was a big problem,” Dr. Roemheld-Hamm reports. “The whole purpose of our being there was that the New Jersey contingent not burden New Orleans by imposing medical needs of our rescue team on the city.”

The doctors had 36 hours on the bus from New Jersey — part of a convoy of 50 buses that made stops only for scheduled restroom breaks — to prepare their public health ini-

New Web Site Brings RWJMS One Click Closer to Community

Thanks to the medical school’s completely revamped Web site, information of interest to everyone in the RWJMS community is just a few clicks away. Faculty, students, staff, and alumni can plan their calendars, stay current on the news, read press releases, or see photographs of recent events. All are available on the redesigned, user-friendly site: http://rwjms.umdnj.edu/.

“Our new Web site is an interactive electronic resource,” says Peter S. Amenta, MD, PhD, interim dean. “We hope everyone will bookmark it and visit often to see where we are and where we’re going.”

Designed for easy navigation, the Web site reflects the breadth and depth of the RWJMS mission. Academic information can be quickly accessed, from the admissions process to the course catalog and a comprehensive list of programs, departments, centers, and institutes. The Web site also provides department listings and contact information, faculty development programs, and committee membership.

The “Patient Care” link provides numerous options. It connects Web users to the Robert Wood Johnson University Medical Group for detailed information on the clinical faculty. The Web site also describes community health programs and outreach opportunities. Web site visitors can quickly find current listings of RWJMS faculty research awards. Further, they may find information posted on the site about major sources of funding, campus events and lectures, guidelines for grant writers, and links to several outstanding articles. Alumni can update their information, meet the officers of the Alumni Association, or enjoy photographs from Reunion Weekend and Career Night. Contributions to the Annual Fund may be made quickly and simply, using the online form. In addition, current and archived RWJMS publications, including Robert Wood Johnson Medicine and From the Dean’s Desk, are available on the Web site.

— K.O’N.
When they reached their destination in Kenner, a suburb about ten miles north of New Orleans, they had to issue a no-shower rule until fresh water tankards and decontamination units could be set up in the gym where they were housed.

Dr. Malhotra says she spent the first 24 hours locating the organizational structure of who was in charge of specific services, making necessary contacts with the local Department of Health, the Federal Emergency Management Agency, and the Centers for Disease Control, and making often-difficult telephone connections.

“Some of it we learned on the job,” she says. “We knew of the danger from water moccasins, so we located a hospital that had the antivenin if it was needed. Fortunately, though one policeman saw one, there were no snakebites.”

Both doctors claim their worst images were of driving through downtown New Orleans and seeing the ghost of the city it was. Dr. Roehm-Hamm remembers there were virtually no people, just abandoned dogs and pigeons by the hundreds. “It was as if a terrible war had hit the city — and we lost,” she says.

If asked to volunteer in a similar situation, however, she and Dr. Malhotra would do so without question. Dr. Malhotra says, “The team spirit that existed among a group of people who had been strangers a week earlier was wonderful. We were there to care for police who, every day, faced looters, and a dangerous search-and-rescue mission. They all came home to their families, safe and healthy. That’s a good feeling.”

— R.M.R.

**Alumni Volunteer in Post-Katrina New Orleans**

Thomas A. Rebbecchi, MD ’92, associate professor of emergency medicine, says that once he heard about the catastrophic developments in New Orleans after Hurricane Katrina struck last August, he knew he had to help. Another alumnus also “got the fever”: Anthony Mazzarelli, MD ’02, JD, chief resident in the Department of Emergency Medicine at Cooper Health System, shared Dr. Rebbecchi’s zeal. They were joined by Kathryn M. McCann, MD, assistant professor of emergency medicine at Cooper Health System, and Karena Rosa, MD, a third-year resident in that department.

“The whole department supported us,” says Dr. Rebbecchi. “Dr. Rebbecchi at Cameroon Medical College in Cameroon, and Dr. Mazzarelli at Cooper Health System, were able to volunteer. They saw the need and were able to help.”

Four days after the levees broke, the volunteers were on their way to their base in Baton Rouge. Reporting to the temporary hospital in the Pete Maravich Center at Louisiana State University, they triaged and stabilized patients, evacuating the sickest by helicopter. Each morning for a week, Dr. Rebbecchi and Dr. Mazzarelli would pick up handwritten requests for help at the base. Then, traveling by rental car — or by ambulance, to get through military checkpoints — they found their way from one makeshift shelter to another to coordinate doctors and emergency workers at the center.

“Police precincts were not operational and communications were terrible,” says Dr. Rebbecchi. Often there was no phone, not even 911 service, he says. “But ask the police to find a prescription or a bed for a patient, and they’d be right back with what you needed. No questions asked.”

In addition to caring for Katrina survivors, Dr. Rebbecchi and Dr. Mazzarelli treated search-and-rescue volunteers, police, and emergency personnel. With no diagnostic tests available, they combined observational skills with the luxury of time to diagnose patients and advise follow-up treatment.

“It was amazing,” says Dr. Mazzarelli. “People who’d had nothing [before the storm] now had less than nothing. Still, they thanked us for everything we did. It reminded me why I had gone to medical school.”

— K.O’N.
New Appointments:

Dr. Terri Goss Kinzy Named to New Research Post

Terri Goss Kinzy, PhD, professor of molecular genetics, microbiology, and immunology, has been appointed assistant dean for medical scientist training. In this new UMDNJ-Robert Wood Johnson Medical School position, Dr. Kinzy is in charge of research training for medical students and graduate students. Her responsibilities include directing the school’s MD/PhD program, the Foundation of UMDNJ Summer Fellowships, and the Distinction in Research program. Dr. Kinzy joined the faculty in 1995.

She will coordinate the school’s continuum of research-oriented programs, from first-year electives that expose students to biomedical research, to the Student Scholars and Distinction in Research programs, to the newly expanded MD/PhD program. “Opportunities in medical science abound here,” says Dr. Kinzy. “Whether you are a medical student curious about research or an MD/PhD student committed to a career as a physician-scientist, you can pursue your interest, working alongside world-class scientists.”

Dr. Kinzy plans to heighten each program’s visibility while building new opportunities in medical science training. She co-teaches a graduate course on fungal systems and has mentored more than 25 undergraduates in her laboratory, along with six PhD candidates and five postdoctoral fellows.

Dr. Kinzy is the executive director of the RWJMS DNA Synthesis and Sequencing Laboratory and has been a strong force in growing the medical school’s network of core and shared facilities. Supported by grants from the National Institutes of Health and the National Science Foundation, her lab studies use yeast as a model for reg-

Dr. Denise Rodgers Appointed Executive Vice President at UMDNJ

Bruce C. Vladeck, PhD, interim president, UMDNJ, appointed Denise V. Rodgers, MD, professor of family medicine at RWJMS, to serve as executive vice president for academic and clinical affairs at the university. Dr. Rodgers served as associate dean for community health at RWJMS from 1997 until 2004, when she was appointed to the newly established position of senior associate dean for community health. She will maintain her RWJMS faculty appointment and will continue to see patients at the Eric B. Chandler Health Center in New Brunswick.

Prior to joining the RWJMS faculty, Dr. Rodgers was vice chair of the Department of Family and Community Medicine at the University of California, San Francisco. She also served as residency director and chief of the Family Medicine and Community Medicine Service at San Francisco General Hospital, where she was chief of staff from 1994 to 1996.

Dr. Rodgers is a member of the New Jersey Department of Health and Senior Services’ Office of Minority and Multicultural Health Advisory Committee. She also serves on the Governor’s Council on HIV/AIDS and Related Blood-Borne Pathogens and chairs its epidemiology subcommittee.
**Dr. Cheryl Dickson Appointed to Student Affairs Post**

Cheryl A. Dickson, MD, MPH, associate professor of pediatrics, is serving in a new post as assistant dean for student affairs. In this position, Dr. Dickson will support the activities of the Office of Student Affairs, counseling students on their careers along with writing deans' letters and letters of recommendation. She continues to serve as director of undergraduate education for the Department of Pediatrics.

Dr. Dickson, who chaired the Curriculum Committee until July 1, is widely involved in the educational and clinical missions of the medical school. She is working to include a greater emphasis on pediatrics in the first two years of the curriculum. She is director of pediatric clerkships at Jersey Shore University Medical Center and Robert Wood Johnson University Hospital, directs fourth-year pediatric electives, and teaches physical diagnosis to second-year students. Widely recognized for teaching excellence, Dr. Dickson has received several Golden Apple awards. The students also selected her for an Arnold P. Gold Humanism in Teaching Award, and she was the first faculty member chosen for the Gold Humanism Honor Society.

Dr. Dickson says that whether she is teaching and caring for children in the continuity clinic or helping medical students write their personal statements, “Young people are my passion, and they’re our future.” Each dean in Student Affairs undertakes a special project to support one of the medical school’s four mission areas, says Dr. Dickson. She hopes her project will link three mission areas of the medical school — teaching, patient care, and community health — by generating new programs and expanding health care services to the underserved community.

A graduate of UMDNJ-New Jersey Medical School, Dr. Dickson completed her residency and a fellowship in pediatric emergency medicine at Children’s Hospital in Newark.

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**Dr. Scotto Appointed to UMDNJ Research Position**

Kathleen W. Scotto, PhD, professor of pharmacology and senior associate dean for research, is serving as interim vice president for research at UMDNJ.

During her tenure as vice president, Dr. Scotto will maintain her RWJMS faculty appointment and administrative responsibilities on the New Brunswick/Piscataway campus. In addition, she will pursue her research targeting the regulation of expression of drug resistance genes in human tumors.

“I hope to better define the position of vice president for research at our university,” says Dr. Scotto. “This office is accountable for the success of the research effort at all UMDNJ schools, and we must provide the services and resources our scientists need.” To this end, Dr. Scotto says, “We will bring together visionaries in biomedical research from across the university, to help identify and facilitate productive collaborations among our schools, and across the state and the nation.”

Before joining the RWJMS faculty in 2004, Dr. Scotto was a tenured member and acting chair of the Department of Pharmacology at the Fox Chase Cancer Center in Philadelphia, where she directed the Translational Research Center and led the Program in Drug and Radiation Response.
New Appointments:

Dr. Hunter Appointed Chair of Anesthesiology

After an intensive search, Harold L. Paz, MD, then dean, appointed Christine W. Hunter, MD, associate professor and acting chair, Department of Anesthesiology, as chair of her department. “As acting chair, Dr. Hunter has shown outstanding leadership. I am pleased that she will serve as chair, continuing her excellent work in education, research, and humanistic care,” says Dr. Paz.

Dr. Hunter, who will continue to provide patient care while fulfilling her administrative responsibilities, says, “Patients are my first love, and caring for them is of primary importance to me.” Changing times have redefined the relationship between the anesthesiologist and the patient, she explains. “Today, many more patients have same-day procedures,” she says. “The anesthesiologist is with them during the pre-op, intra-op, and post-op periods to explain things, present their choices, calm and comfort them.”

As acting chair, Dr. Hunter recruited pediatric anesthesiologists to support the rapid growth of the Bristol-Myers Squibb Children’s Hospital and the new Pediatric and Neonatal Intensive Care Units. She supported ongoing development of sub-specialty anesthesia teams in areas such as vascular and thoracic surgery and oversaw new and expanded programs, on- and off-site. These include the New Jersey Pain Institute, which serves patients at Robert Wood Johnson University Hospital, at Robert Wood Johnson Medical School’s Cancer Institute of New Jersey, and at the Robert Wood Johnson University Medical Group. Throughout her tenure, she has encouraged collaborative research in anesthesiology and hopes to appoint a research director to oversee this area.

A recipient of the Department of Anesthesiology’s Teacher of the Year Award, Dr. Hunter hopes to supplement and diversify the educational content of the residency program. She has encouraged the development of the Human Patient Simulation Laboratory and is pleased that a “SimBaby,” a portable infant patient simulator, has joined the lab.

A graduate of Howard University College of Medicine, Dr. Hunter completed her anesthesiology residency at Beth Israel Medical Center. From 1989, when she joined the UMDNJ-Robert Wood Johnson Medical School faculty, until her recent appointment as department chair, she served as chief of the division of neuroanesthesia. Dr. Hunter also serves as chief, division of anesthesia, Robert Wood Johnson University Hospital.

New Appointments:

Rhonda Allen, PhD, associate professor of family medicine, was appointed to the newly established post of assistant dean for faculty development.

A specialist in organizational development and change, Dr. Allen earned her doctorate in public administration at the University of Southern California. At California State University, Fullerton, she helped establish, and later directed, the Faculty Development Center, serving as an associate professor with tenure.

Working closely with UMDNJ’s Stuart D. Cook, MD, Master Educators’ Guild, Dr. Allen will help develop and implement plans to improve the ability...
**Patricia Hansen Leads Communications and Public Affairs**

Patricia M. Hansen, MA, joined RWJMS as director of communications and public affairs. Ms. Hansen brings to this post 11 years of public relations and marketing experience in health care. She is in charge of the medical school’s internal and external communications, including print publications, Internet content, media relations, advertising, and alumni affairs.

Through an overarching branding initiative that supports the core RWJMS missions, Ms. Hansen hopes to help take the medical school to the next level of excellence. “Every encounter the consumer has with our school should support the message of excellence in education, research, patient care, and community outreach,” she explains. “My goal is to help RWJMS speak with one concerted voice through our magazine, newsletter, print ads, and the Web site.”

Through every interaction with the community — including the Mini Medical School, community health programs, lectures, events, and media coverage — Ms. Hansen hopes to build “top of mind” awareness of the top-tier research and clinical care at RWJMS. “In addition to educating the next generation of medical leaders, we are also promoting health awareness and our services to the community,” she says. “I am in the privileged position of helping to spread the good news.”

Ms. Hansen enjoyed being part of the team that coordinated the September 30 dedication of the Child Health Institute of New Jersey. “Dedicating the Child Health Institute was inspirational,” she says. “This is an exciting time to be at RWJMS, especially with the Stem Cell Institute of New Jersey on the horizon.” Ms. Hansen most recently served as director of corporate public relations and marketing at Bayshore Community Health Services, which includes an acute-care hospital and multiple affiliates. She holds a master’s degree in corporate and public communications from Monmouth University and a BA in communications from Douglass College at Rutgers, The State University of New Jersey.  

**Dr. Allen will create a school-wide faculty development program to support and promote professional growth and to encourage participation in internal and external programs that enhance and build leadership skills.**

One of Dr. Allen’s first achievements upon arrival at RWJMS was an electronic survey of faculty wants and needs in the area of professional development. She found widespread interest in developing a revamped faculty biostatistics course, which she hopes to make a priority.

“I hope that every new RWJMS faculty member will be part of a mentoring program,” says Dr. Allen. “For tenured faculty, this would lean more toward a yearlong orientation, but overall, everyone will benefit from a restructured program with well-defined goals for both the new faculty member and the mentor.”  

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In the Limelight

Gloria A. Bachmann, MMS ’72, MD, professor of obstetrics, gynecology, and reproductive sciences, associate dean for women’s health, and director, Women’s Health Institute, was appointed to serve on the New Jersey Women’s Advisory Health Commission. ▪ Thomas Bojko, MD, associate professor of pediatrics, was appointed to serve on the Council on Education of the National Association of Children’s Hospitals and Related Institutions. ▪ Gregory L. Borah, MD, professor of surgery and chief, division of plastic surgery, was elected chair, specialty section, plastic, reconstructive, and maxillofacial surgery, at the annual meeting of the House of Delegates of the American Medical Association, held in Chicago. ▪ Susan S. Brooks, MMS ’73, MD, associate professor of pediatrics and associate professor of obstetrics, gynecology, and reproductive sciences; chief, pediatric medical genetics; and chief, section of perinatal genetics, received the Marie J. Goepel Memorial Award from the Greater New York March of Dimes. ▪ Emanuel M. DiCicco-Bloom, MD, professor of neuroscience and cell biology, received the first Science Service Award for Outstanding Dedication to the National Association for Autism Research. ▪ William C. Gaventa, MDiv, associate professor of pediatrics and director, Community and Congregational Supports, received the American Association on Mental Retardation Presidential Award, in Washington, D.C. ▪ Bruce G. Haffty, MD, professor and chair, Department of Radiation Oncology, and associate director, The Cancer Institute of New Jersey, was recently inducted as a designated radiation oncology trustee of the American Board of Radiology.

Nancy L. Hayes, PhD, associate professor of neuroscience and cell biology, was quoted in a New York Times article about scientists’ opposition to a talk by the Dalai Lama, scheduled to take place at the annual meeting of the Society for Neuroscience. The following day, Dr. Hayes did an on-air interview about the topic on CBS News Radio. ▪ An article in the November 2 issue of the New York Times, “What Happened to That Cloud of Dust? Four Years After Towers Fell, Testing Is an Issue of Contention,” featured the comments of Paul J. Lioy, PhD, professor of environmental and community medicine and deputy director of government relations, Environmental and Occupational Health Sciences Institute. Dr. Lioy co-chaired a 2005 World Trade Center Expert Panel in New York City and serves on a technical panel appointed by the U.S. Environmental Protection Agency to analyze the dust remaining from the World Trade Center’s collapse. ▪ William E. Reichman, MD, professor of psychiatry and neurology and senior associate dean for clinical affairs, narrated a documentary on Alzheimer’s disease that was honored with the 2005 Bronze Telly Award. The program was part of a series, Reflections of Memories Lost: Understanding Alzheimer’s Disease, on ABC’s Family Channel. ▪ Patricia N. Whitley-Williams, MD, professor of pediatrics and chief, division of allergy, immunology, allergy and infectious diseases, was interviewed for an ABC Primetime program on pediatric AIDS that aired on December 22.
Dr. Arnold Levine Receives Freedom to Discover Research Award

The Bristol-Myers Squibb Company has named Arnold J. Levine, PhD, professor of pediatrics and biochemistry and member, The Cancer Institute of New Jersey, as the 2006 recipient of the Freedom to Discover Unrestricted Biomedical Research Grant Award.

Bristol-Myers Squibb created the three-year, $500,000 award to support research based on new ideas, using less conventional research methods in six specific areas, including oncological research. The award, established in 1977, is the largest single industry-supported award of its kind.

Professionally Speaking

Brigitte M. Baumann, MD, assistant professor of emergency medicine, gave two presentations at the Third Mediterranean Emergency Medicine Congress, in Nice, France. ■ Siobhan A. Corbett, MD ‘87, associate professor of surgery, co-chaired the “Career Development” course at the Association for Academic Surgery Career Development Course in San Francisco. ■ Michael Gochfeld, MD, PhD, professor of environmental and occupational medicine, and Charles W. Powers, PhD, MPH, professor of environmental and occupational medicine, met with the Aleutian-Pribilof Island Association and the U.S. Fish and Wildlife Service in Alaska to report on a study of possible radiological contamination of the Amchitka marine environment. ■ Lawrence I. Golbe, MD, professor of neurology, gave two presentations at the international Workshop on Progressive Supranuclear Palsy, in London. ■ Thomas Hegyi, MD, professor of pediatrics, Barbara M. Ostfeld, PhD, professor of pediatrics, and Barry L. Weinberger, MD, associate professor of pediatrics and chief, division of neonatology, conducted a neonatology conference in Debrecen, Hungary.

Steven M. Hollenberg, MD, professor of medicine and director, Coronary Care Unit, Camden campus, presented “Microcirculation and Guidelines for Treating Sepsis” at the Second International Symposium on Microcirculation and Mitochondrial Dysfunction in Intensive Care Medicine, in Amsterdam. ■ Michael Lewis, PhD, Distinguished Professor of Pediatrics and Psychiatry and director, Institute for the Study of Child Development, was an invited presenter before the New York Academy of Sciences, psychology section, in New York City. ■ Joseph E. Parrillo, MD, professor of medicine and director, division of cardiovascular disease and critical care medicine, Camden campus, made two presentations at the American Society of Nephrology Renal Week 2005, in Philadelphia. ■ Smita S. Patel, PhD, professor of biochemistry, was an invited speaker at “Helicases and NTP-Driven Nucleic Acid Machines: Structure, Function and Roles in Human Diseases,” a meeting held in Switzerland. ■ Danny F. Reinberg, PhD, Distinguished University Professor of Biochemistry and Investigator, Howard Hughes Medical Institute, spoke on “Epigenetic Dysfunction by Histone Methylation” at the Federation of American Societies for Experimental Biology conference “Chromatin and Transcription,” held in Snowmass Village, Colorado. ■ Lorna Rodriguez-Rodriguez, MD, PhD, associate professor of obstetrics, gynecology, and reproductive sciences and chief, gynecologic oncology, The Cancer Institute of New Jersey, was a faculty presenter at the 2005 American Society of Clinical Oncology/American Association for Cancer Research Workshop, “Methods in Clinical Cancer Research,” in Vail, Colorado. ■ Susan Rosenthal, MMS ‘75, MD, clinical associate professor of pediatrics and assistant dean for student affairs, has been invited to become a member of the Skipjack Project, a group of senior medical educators convened to identify the most pressing issues in medical education.
Harold L. Paz, MD:
Vision, STRENGTH, Leadership

After more than a decade of leadership at UMDNJ-Robert Wood Johnson Medical School, Harold L. Paz, MD, dean, is taking on new challenges in a new location.

Dr. Paz was recently appointed to a three-fold position at Pennsylvania State University, as senior vice president of health affairs, dean of the College of Medicine, and chief executive officer of the Milton S. Hershey Medical Center.

“Hal Paz is widely recognized for his many impressive accomplishments as dean of Robert Wood Johnson Medical School,” says Jordan J. Cohen, MD, president, Association of American Medical Colleges. “His record of success led to his selection as a member of the administrative board of the Council of Deans of the Association of American Medical Colleges. In this capacity, he represents all of the nation’s 125 medical school deans in formulating policies and programs in support of academic medicine’s critical missions of education, research, and patient care.”

Under Dr. Paz’s leadership, RWJMS evolved quickly. A strong strategic plan was developed that helped realize the dean’s vision: to earn RWJMS a place in the top tier of the nation’s publicly funded medical schools.

“Ten years ago, as the newly arrived associate dean for clinical affairs at RWJMS, I was offered the position of dean of the medical school,” recalls Dr. Paz. “I saw a tremendous opportunity to move the medical school ahead and have a positive influence on the community and on New Jersey. Providing only stewardship would have meant a missed opportunity. Instead, we chose to take a relatively young school and major teaching hospital and develop them into a full-fledged academic health center. We have been very successful, and that is extremely gratifying to me.”

BY KATE O’NEILL
During Dr. Paz’s tenure, RWJMS increasingly focused its growth and development to achieve its goals: admitting gifted and diverse students, modernizing critical teaching laboratories for education, creating new departments and institutes, expanding community health initiatives, and opening world-class facilities to promote innovative research and advanced patient care. Through the leadership and dedication of the faculty, students, and staff, RWJMS continues to make great strides in fulfilling its four missions, in education, research, clinical care, and community service.

In total, eight buildings have been either completed or initiated during Dr. Paz’s tenure, adding more than one million additional square feet for teaching, research, and patient care.

“Hal Paz has completely dedicated himself to the school,” says Harold T. Shapiro, PhD, president emeritus, Princeton University, and member, Board of Overseers, RWJMS. “He never lost sight of his initial objective: to provide a first-rate academic health care center in New Jersey.”

Education: The Core Mission

“I am fond of saying that every morning when I come to work, I walk under a sign that says School,” says Dr. Paz. “No matter what else is on my mind, that sign reminds me that education is our core mission, the glue that holds us together. If we forget that, we are left with a large research institution and a medical group practice.”

Today, RWJMS has over 2,500 full-time, part-time, and volunteer faculty, 650 medical students, and about 220 graduate students. An important indicator of the school’s excellence is its appeal to a cross section of outstanding medical students. RWJMS has been ranked as one of the most diverse medical schools in the United States, and over 18 percent of the students are members of minority groups under-represented in medicine. The school’s perpetual goal of attracting the best and brightest students means it has maintained exceptionally high standards for admission, with a consistent rise in the number and academic caliber of applicants each year.

RWJMS residency and graduate programs have grown under Dr. Paz’s leadership as well. The school provides graduate medical education for approximate-
ly 450 residents and fellows in 32 different programs, as well as seven dual-degree programs. These include a cooperative MD/PhD program with Rutgers, The State University of New Jersey, and Princeton University.

Building the Faculty

“When I think of the aspects of this school that I cannot pack up and take with me, the faculty comes to mind first,” says Dr. Paz. “I will deeply miss them, especially those I personally recruited.”

From the medical school’s original faculty to Dr. Paz’s most recent recruits, RWJMS faculty have been nationally and internationally recognized for their teaching, research, patient care, and community service. They have made major contributions in diverse clinical fields. Physician-scientists and basic scientists at RWJMS have added significantly to understanding basic mechanisms in areas including human development, cancer, physiology, and cell and molecular biology.

Since 1995, five new academic departments have been established: orthopaedics, radiation oncology, ophthalmology, emergency medicine, and dermatology, which is pending approval by the Board of Trustees. These departments broaden medical services to the larger community and enhance educational, clinical, and translational research opportunities for medical students, residents and fellows, and post-doctoral students.

“It’s easy to measure the improvements in quality in Dr. Paz’s ten-year tenure. If you look at the transformation of the campus, you’ll see much more than physical buildings. These buildings represent the changes he brought in the faculty, student body, and curriculum.”

The Research Arc

“Hal has made an enormous contribution to the medical school,” says Dr. Shapiro. “It’s easy to measure the improvements in quality in his ten-year tenure. If you look at the transformation of the campus, you’ll see much more than physical buildings. These buildings represent the changes he brought in the faculty, student body, and curriculum.”

On track with the trend toward collaborative research projects, Dr. Paz led the expansion of the school’s centers and institutes. In less than ten years, their number grew from three to six, attracting outstanding new faculty. During that period, The Cancer Institute of New Jersey (CINJ) advanced to be named one of only 39 National Cancer Institute-designated Comprehensive Cancer Centers in the nation. Combining the school’s missions in patient care and research, CINJ now provides over 70,000 patient visits per year and more than $80 million in combined research funding.

Dedicated last fall, the six-story Child Health Institute of New Jersey is the medical school’s newest facility. It will be a locus for biomedical research and pediatric care and will provide a collaborative environment for scientists to discover treatments and cures for devastating childhood diseases.

The Stem Cell Institute of New Jersey and the Cardiovascular Institute also took form under Dr. Paz’s
leadership; the groundbreaking for each is expected later this year.

External grant awards increased dramatically over the past decade. Funding from the National Institutes of Health (NIH) grew by 88 percent between 1998 and 2004, and in 2005, external funding for RWJMS scientists totaled $113.9 million. These researchers have raised the national and international stature of the medical school by attaining major grants and earning honors including NIH MERIT awards and appointments at the Howard Hughes Medical Institute. U.S. News and World Report ranks RWJMS among the top medical schools nationwide for research and primary care.

Dr. Paz was resolute in his belief that the school should take another route. He led the clinical growth of the school by forming new hospital affiliations, creating new sites where the faculty might be deployed and where students and residents would have greater opportunities to learn.

in this post for only a year before accepting the appointment as dean, he took the lead in evolving the Robert Wood Johnson University Medical Group (RWJUMG) into a multi-specialty faculty practice group.

Instead of following the trend toward acquiring primary care practices, Dr. Paz was resolute in his belief that the school should take another route. He led the clinical growth of the school by forming new hospital affiliations, creating new sites where the faculty might be deployed and where students and residents would have greater opportunities to learn. “The number and diversity of our affiliated hospitals allow us to provide cutting-edge health care to patients here and from outside our region,” says Dr. Paz.

RWJUMG now includes over 600 physicians and 210 specialty and sub-specialty programs, with 34 hospital affiliates at sites throughout the state.

Community Health

Many medical schools have core mission areas in education, research, and patient care, but we have distinguished ourselves in a fourth mission area, community health,” says Dr. Paz.

The Eric B. Chandler Health Center is a primary example of the school’s commitment to this mission. RWJMS is one of the few medical schools that own and operate a federally qualified health center. “In 1995, we found ourselves at a crossroads,” recalls Dr. Paz. “Some questioned our ability to continue supporting Chandler, because of the economic realities of caring for the indigent and underserved. But we realized that Chandler is a separate investment — as important as our investments in our other core missions. And we made the critical decision to continue our core mission in community health.”
During Dr. Paz’s tenure as dean, the commitment deepened. Chandler now provides more than 40,000 patient visits per year, most of them by those who fall through the social safety net. It has become a major medical resource for central New Jersey and a crucial community resource.

Healthier New Brunswick 2010 evolved from ongoing collaborations with the community. A joint project with the City of New Brunswick, it actively involves faculty and students in community health assessments, community capacity-building activities, and core projects aimed at addressing critical health issues.

The community has given back generously in response to the medical school’s demonstrated commitment to community health. When Dr. Paz became dean, RWJMS had an endowment of $6 million and four endowed chairs and professorships. By 2005, the endowment had increased by approximately 600 percent. The medical school now has 20 endowed professorships.

In 2006, RWJMS became the first medical school ever to receive two “Caring for the Community” awards from the Association of American Medical Colleges and the Pfizer Medical Humanities Initiative: one for The Promise Clinic, a student-run clinic for New Brunswick’s homeless and uninsured, and the other for the Urban Health Initiative in Camden. In 1999, the Homeless and Indigent Population Health Outreach Project (HIPHOP) received the Outstanding Program of the Year Award from the Association of Teachers of Preventive Medicine.

Dr. Paz’s role in building the school’s fourth mission area goes beyond administrative leadership to hands-on commitment. “Dean Paz was the first specialist to volunteer his services to The Promise Clinic,” says Manny Jimenez ’06, one of the clinic’s founders. “Despite all of his accomplishments and busy schedule, Dean Paz always made it clear he cared about community service on the RWJMS campus.”

Saying Farewell

“I will miss the people in this community enormously — the faculty, the staff, the students, our Board of Overseers members, our colleagues at the Robert Wood Johnson University Hospital and the Robert Wood Johnson Foundation, along with all the civic leaders and corporate leaders who have made this job a pleasure,” says Dr. Paz.

In moving from central New Jersey to central Pennsylvania, Dr. Paz looks forward to applying lessons learned in his decade at RWJMS to his new, triple-leadership role on the vast Penn State campus. “They are looking at building a cancer center and a free-standing children’s hospital as we did here,” he says. “I am eager to begin.”

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By the age of 25, cyclist Lance Armstrong had won the world championship and several Tour de France competitions. Then he was diagnosed with aggressive testicular cancer that had metastasized to the abdomen, lungs, and brain. His prognosis wasn’t good, but a few years earlier, he would have had almost no hope at all for survival. Fortunately, a series of clinical trials over the last decade immeasurably increased that hope. Almost ten years later, he won last year’s Tour de France.

His medical outcome is not an isolated case. Thanks to the proliferation and success of clinical trials, the same can be said for patients with various cardiovascular disorders, those facing complex surgical procedures, and others surviving life-threatening conditions.

Not all trials target survival. Some, like those aimed at depression, seek better ways to alleviate a disorder and enhance the quality of life. Essentially, however, trials are the end points of research — the ways in which new drugs, diagnostic tools, and prevention strategies improve and sustain life. The stature of a medical school is measured in part by the range and importance of the clinical trials it conducts. In that sense, UMDNJ-Robert Wood Johnson Medical School’s reputation as a young, highly regarded institution reaching the top tier among academic medical campuses is well earned.

Eric H. Rubin, MD, professor of medicine and pharmacology and director of investigational therapeutics at The Cancer Institute of New Jersey, says, “Research has made the route to cure more demonstrable than ever before, and RWJMS has ongoing cancer trials that underline the promise of research.”
of New Jersey (CINJ), says, “Several years ago, Lance Armstrong’s cancer would surely have been fatal. The same can be said for people surviving breast, prostate, colon, lung, and many other cancers today. Research has made the route to cure more demonstrable than ever before, and RWJMS has ongoing cancer trials that underline the promise of research.”

The uncompromising commitment to research and the successful conclusion of many trials at the medical school are understandable in light of the renowned roster of RWJMS scientists who lead important research initiatives. In the area of cardiovascular trials, for example, RWJMS has become an undisputed leader. John B. Kostis, MD, John G. Detwiler Professor of Cardiology, professor of medicine and pharmacology, and chair, Department of Medicine, has led numerous important
trials including a national hypertension study, the Systolic Hypertension in the Elderly Program (SHEP), that resulted in a 36 percent reduction in stroke, 27 percent reduction in coronary heart disease, and 49 percent reduction in heart failure among those patients taking the diuretic-based therapy. Currently, Dr. Kostis’s group is conducting two cholesterol studies, using two different medications, both aimed at increasing HDL, commonly known as good cholesterol.

“There have been many trials to decrease LDL,” he reports, referring to the kind that is called bad cholesterol. “But few have attempted to look at the benefits of increasing good cholesterol, which we believe may be considerable.”

Another study, presented at the American Heart Association meeting in November 2005 and soon to be published, shows that for people who have had a heart attack, maintaining total cholesterol at lower levels than previously recommended improves their chances for survival. The RWJMS site for this international trial studied more than 200 people, more than any other site in the United States, and Dr. Kostis is among the five authors of the presentation indicating that lowering cholesterol below 70 or 60 milligrams per deciliter is most advantageous.

Still another trial involves the impact of exercise on people suffering from heart failure. “Until recently, exercise was considered dangerous for anyone with heart failure,” Dr. Kostis says. “This trial is changing that perception.”

Half the people in this National Institutes of Health (NIH) study are given home treadmills. They receive instruction in their use and guidelines for exercise. Their results are contrasted with those who do not perform regular exercise.

Several important trials are under the direction of Stephen F. Lowry, MD, professor and chair, Department of Surgery, whose research has been fully funded by the NIH since 1982, and who has a ten-year, $5 million MERIT award for his work — a grant awarded to relatively few surgical investigators. Dr. Lowry’s clinical research program focuses on trauma and infection-induced inflammation. His expertise led to his seminal participation in a nationwide grant consortium that includes more than 40 leading scientists in the field. The initial success of his studies resulted in a recent publication in the preeminent journal Nature. In recent years, Dr. Lowry and his colleagues have extended their investigations to clarifying the compact interactions of genetic and disease co-morbidity influences on the responses to severe injury and infection.

Peter M. Scholz, MD, James W. MacKenzie Professor of Surgery and chief, division of cardiothoracic surgery, conducts several concurrent trials, many of them nationally NIH-funded studies, among patients undergoing cardiac surgery. One uses an inhibitor drug aimed at minimizing damage to the heart during open-heart surgery, and another uses an inhibitor in the hope of minimizing the inflammatory response generated by the heart-lung machine. In a different trial, cardiac surgeons recently investigated a hormone called BNP that is produced by the body in response to heart failure in patients undergoing surgery.

“It seems that the more severe the heart failure is, the more pronounced the hormone is,” Dr. Scholz says. “So it turns out that BNP is a marker for the degree of heart failure, and can be engineered as a drug to assist in treating acute heart failure.
“Most investigators were looking at the effect of the hormone on peripheral circulation,” he adds. “We’re now proposing to look at what this does to the actual function of the heart.”

In addition, Dr. Scholz is conducting trials of a new porcine valve for patients with aortic valve dysfunction. “We are hoping this will lead to a new generation of tissue valves that will last longer,” he says. “We are the lead center in the study and were the first to implant the valve. We’ve done 35 so far, and initial results, although not conclusive, are promising.”

Kathleen W. Scotto, PhD, professor of pharmacology, senior associate dean for research, interim vice president for research, UMDNJ, and member, CINJ, reports that 130 ongoing clinical trials at RWJMS are directed toward cancer cures and prevention. Her own basic research focuses on a multi-drug-resistant gene, MDR-1, which produces a protein that is overexpressed in many cancer cells, thereby impairing the action of cancer drugs.

“Most people who die of cancer die because their tumors are resistant to cancer drugs,” Dr. Scotto says. “We’ve come a long way in fighting this disease, but we have a long way yet to go. The importance of a strong clinical research program in collaboration with our basic science and translational science initiatives cannot be overstated.”

Not many years ago, children stricken with leukemia faced almost certain death. Now, most are successfully treated and go on to lead normal lives. Again, however, the battle continues, both to cure the disease and to do so with the least intrusive treatment possible. Barton A. Kamen, MD, PhD, professor of pediatrics and pharmacology; chief, division of pediatric hematology/oncology; an American Cancer Society Clinical Research Professor; and member, CINJ, is studying an old drug in new ways, and it appears to have some advantages over the currently used medicine, in terms of better oral absorption, and perhaps resulting in a better toxicity profile. While it is highly unusual for an academic to develop a drug, Dr. Kamen, who holds the Investigational New Drug License, performed the basic work.

He has negotiated with a chemical company to produce it, and it is hoped that approval by the U.S. Food and Drug Administration will be forthcoming.

Dr. Scotto says it is critical that junior clinical scientists be given opportunities to collaborate with senior researchers, and adds that the medical school is totally supportive of the involvement of junior faculty in clinical trials. Antoinette R. Tan, MD, MHS '96, assistant professor of medicine and member, CINJ, is developing trials for the CINJ population, and collaborates with basic scientists at RWJMS. Pursuing her own research interest, Dr. Tan recently received funding from the Breast Cancer Research Foundation to conduct a study in patients with early stage breast cancer.

“Angiogenesis, the process of new tumor blood formation, is an important target in breast cancer therapy,” Dr. Tan says. “Our study will evaluate the effects of short-term treatment with an angiogenesis inhibitor. The goal is to try to determine which tumors are most likely to respond to anti-angiogenic agents. We then hope to design future trials that combine this class of compounds with chemotherapy or other standard treatment.”

**Promising Results:**

Stephen F. Lowry, MD, professor and chair, Department of Surgery (left), and Peter M. Scholz, MD, James W. MacKenzie Professor of Surgery and chief, division of cardiothoracic surgery, conduct clinical trials among patients undergoing cardiac surgery, many of which are funded by the National Institutes of Health.
Meanwhile, breast cancer is being vigilantly attacked on several fronts at RWJMS. Deborah L. Toppmeyer, MD, associate professor of medicine; director, LIFE Center for Breast Cancer Awareness; and director, New Jersey Comprehensive Breast Cancer Program at CINJ, is conducting trials in association with Arnold J. Levine, PhD, professor of pediatrics and biochemistry and member, CINJ, to determine patient predisposition to breast cancer. DNA is being collected from 900 patients, some of whom are cancer-free, to get information on genetic variations of a gene, MDM-2. The trial is aimed at uncovering not only cancer risk, but a patient’s likely response to treatment.

Beyond cardiovascular, surgical, and cancer studies, RWJMS clinical trials extend to almost every area of specialization and sub-specialization. Hilary M. Hotchkiss, MD, assistant professor of pediatrics, says she has been interested in pediatric nephrology, particularly chronic kidney disease, since the beginning of her medical training.

“This is an area in medicine that has a great deal to offer,” she says. “Once the disease progresses, the only two options are dialysis or transplantation. There is a significant population of children who have early signs of kidney disease, so the challenge becomes finding interventions that keep it from becoming severe.”

Adding that the disease in children has not benefited from much serious study, Dr. Hotchkiss reports she has become the principal investigator for RWJMS in a national study.

“This is an observational study,” she says. “There is no treatment component. Most of the 10 to 15 youngsters we are enrolling are on medication, and there will be frequent coordination with their physicians.”

Researchers will be studying progression of the disease, neuro-cognitive and neuro-behavioral development, cardiovascular complications, and growth and nutrition. Each one of those areas contains risk factors that need to be identified, followed, and studied in assessing the overall implications for providing the best care for chronic kidney disease in children ages one to 16.

“In studying the risk factors associated with the progression of the disease, we’ll be looking at everything from anemia to hypertension,” Dr. Hotchkiss says. “We’ll be examining measurements for kidney function to determine if there is a better way to do this. There are factors we believe to be related to pediatric chronic kidney disease, but they have never been confirmed through intense study. We’ll be doing that — looking at the impact of race, history, diet, physical activity, socioeconomic status, and medical management.”

Equally exhaustive study is being applied to other facets of the four-year project. Investigators will look for specific neuro-cognitive and neuro-behavioral deficits. They will check hypertension using ambulatory blood pressure monitoring, and will keep watch on cholesterol, lipid profiles, and various markers for cardiovascular problems. Growth deficiencies, such as failure to grow and bone disease, will be closely followed.

“Very few studies of this caliber have been done in children with kidney disease, and that’s what makes this so exciting,” says Hilary M. Hotchkiss, MD, assistant professor of pediatrics.
funded by the National Institute of Mental Health at 12 academic centers nationally, employs a Chinese herb, huperzine, to treat AD. The study is a randomized, double-blinded, placebo trial, so it is too early to draw absolute conclusions.

Explaining the parameters of the study, Dr. Aupperle says, “Some subjects receive huperzine in addition to their standard medication. Others receive the standard drug plus a placebo. Neither patients, their families, nor investigators know whether a patient is receiving the huperzine or placebo.”

He adds that while it is too early to make assertions about the efficacy of huperzine, many patients seem to be making gains in cognition and are remaining stable for longer periods of time. At this point, it is too soon to know if they are the patients receiving huperzine, but the outlook is extremely positive that the herb will increase cognitive and behavioral ability, and decrease depression and anxiety. If results from the double-blind phase of the trial are promising, patients will have the opportunity to enter an open-label phase, in which they will definitely receive huperzine, along with the standard drug.

“The study is an important one in the search for effective new therapies for AD,” Dr. Aupperle says. “Currently, there are only four approved medications available for the disease. Three of them are similar, in that they act on a deficient brain chemical. The most popular of these is Aricept, which provides symptomatic relief for no more than several months. We need a much more virulent attack on Alzheimer’s.”

Gloria A. Bachmann, MMS ’72, MD, professor of obstetrics, gynecology, and reproductive sciences, associate dean for women’s health, and director of the Women’s Health Institute, has been committed to women’s medical issues her entire professional life.

“She is an important one in the search for effective new therapies for AD,” Dr. Aupperle says. “Currently, there are only four approved medications available for the disease. Three of them are similar, in that they act on a deficient brain chemical. The most popular of these is Aricept, which provides symptomatic relief for no more than several months. We need a much more virulent attack on Alzheimer’s.”

“Here at the Women’s Health Institute, we address women’s health concerns that often are ignored,” Dr. Bachmann says. “And we don’t do it by ourselves. We have a great deal of assistance from other departments.”

She cites, as an example, a partnership with the Department of Radiology in examining options for women who have symptomatic fibroids or benign tumors on the uterus that cause bleeding and pain. The center offers women a choice of fibroid embolization instead of the sole option of a traditional surgical procedure, such as hysterectomy or myomectomy.

“Our embolization research followed a two-step approach,” she says. “We first conducted trials to determine the safety, efficacy, and best way to perform the embolization. Then we established a program to offer the procedure to women who are appropriate candidates. In the last few years, the center has performed more than 50 embolizations a year.”

In the beginning, Dr. Bachmann and her colleagues were not certain whether they could effectively treat these women without a surgical procedure. The bottom line, however, is that they found that many women who had the embolization procedure were completely free of bothersome symptoms.

An offshoot of this clinical-trial-turned-clinical-practice study is that some of the women who registered had significant bleeding that turned out to be attributable to a more serious cause, such as a bleeding disorder.

Making Gains:

Peter M. Aupperle, MD, MPH, professor of psychiatry and chief, division of geriatric psychiatry, heads the State of New Jersey’s designated center for the treatment of Alzheimer’s disease (AD). At any given time, his group conducts about a dozen clinical trials in AD and other forms of dementia.
Dr. Bachmann, in consultation with hemotologists Claire S. Philipp, MD, associate professor of medicine, and Parvin Saidi, MD, Melvyn and Ab Motolinsky Professor of Hematology, professor of medicine, and chief, division of hematology (left), Claire S. Philipp, MD, associate professor of medicine (center), and Gloria A. Bachmann, MMS ’72, MD, professor of obstetrics, gynecology, and reproductive sciences, associate dean for women’s health, and director of the Women’s Health Institute, have been instrumental in convening a Governor’s Task Force on bleeding problems in women.

Jersey women with a bleeding disorder are properly diagnosed and treated.

“We started with a program to study fibroid tumors, and, in conjunction with other RWJMS faculty, have gone on to other neglected areas,” Dr. Bachmann says. “For too long, it has been assumed that if a woman is bleeding, it is because of fibroid or hormonal problems, and very often, that isn’t true, as we found through this study.”

The Women’s Health Institute also is one of seven U.S. university programs studying vulvodynia, a condition involving chronic pain in the female outer reproductive organs. This, too, appears to be a problem women have suffered for generations, one that hasn’t been thoroughly recognized or studied. Dr. Bachmann’s group is investigating dietary and pharmacologic interventions through the institute’s NIH-funded study. The team is doing epidemiological studies as well. In still other trials, they are investigating treatments for overactive bladder and osteoporosis.

“Clinical trials are the backbone of cure,” Dr. Bachmann says. “The only reason I went into research is that often clinical medicine has no effective way to treat some of these conditions in women. Without strong clinical studies, that simply would not change.”
The laboratories say it all. They tell a story of discovery in progress and triumphs to come. The long, open-designed facilities and modular units seem to vibrate with the word “collaboration.” Here is a place where scientists from diverse disciplines can work side by side to unravel the mysteries of developmental growth gone awry. There’s an elasticity in this open environment that accommodates various approaches to the same scientific questions — questions addressing the pathophysiology of human disease.

The place is UMDNJ-Robert Wood Johnson Medical School’s Child Health Institute of New Jersey (CHINJ), where researchers probe the origins of developmental disorders, those that affect young children and those exhibited later in life.
t all began with a vision held by Harold L. Paz, MD, dean, who wanted to create an RWJMS institute that was not replicated throughout the country, one that would be far-reaching in terms of potential scientific discovery. Developmental medicine, aimed at child health, was a logical choice.

“We found only a few academic centers with freestanding medical institutes directed to developmental biology,” Dr. Paz says. “Yet the list of diseases for which there is halfway treatment, but no cure, is almost endless. Juvenile-onset diabetes, pediatric asthma, autism, retardation, pediatric cancer, and heart disease — we recognized a real need to focus on these kinds of illnesses through a translational approach to research and cure.”

Nine years later, the vision was realized with the September 2005 opening of a center that would draw from an international pool of top scientists focused on research benefiting families throughout New Jersey and beyond.

Francesco Ramirez, PhD, Laura Gallagher Endowed Professor of Pediatrics and director, CHINJ, points out that developmental disorders may not be manifested until many years later. “In the broadest definition, all diseases of children, adolescents, and adults are the result of early developmental mistakes,” he says.

Dr. Ramirez believes that to understand the processes that orchestrate normal development is to understand the generations in life that follow. Therein lies the mission of the medical school’s newest institute. The CHINJ commitment is to develop basic and clinical partnerships with RWJMS departments and other institutes, while establishing a strong contingent of basic CHINJ scientists who work together toward the cure or prevention of developmental illness.

“I am extremely fortunate in having convinced two senior scientists of the caliber of Michael Shen and Cory Abate-Shen to join me as the founding team of the CHINJ,” Dr. Ramirez says. “They are great colleagues who share the same vision for our institute and the same excitement for our medical school.”

The Home Team

Emphasizing the importance of internal collaboration, Dr. Ramirez points to an extensive roster of institutes and departments where interaction is likely to occur, including the Department of Pediatrics, with which the institute shares much more than the building.

“One of our major priorities is to serve as a catalyst for basic and clinical activities in partnership with the Department of Pediatrics,” he says. “In just a few years, Dan Notterman has built a strong department of outstanding basic scientists and productive clinical specialists and sub-specialists. This is a mix that is likely to yield results both in terms of clinical research and translational studies, and we are looking for-
ward to being a partner in Dan’s success story.”

There is an obvious parallel between developmental disorders and cancer, in which cell regulation is distorted, and so a collaborative endeavor with William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology programs, and director, The Cancer Institute of New Jersey (CINJ), is under way. That collaboration is further strengthened by the groundbreaking cancer research of Cory Abate-Shen, PhD, professor of medicine, director of translational research, CHINJ, member, CINJ, and resident member, CABM; and Michael M. Shen, PhD, professor of pediatrics, associate director, Child Health Institute of New Jersey (CHINJ), member, CINJ, and resident member, CABM.

The Department of Pathology and Laboratory Medicine is another partner that will support the research of basic and clinical investigators who are using mouse models to study human diseases. Pharmacology will play a role in CHINJ research, as may the Departments of Neurology, Surgery, and Physiology and Biophysics, to name a few. Collaborative programs and shared facilities with Rutgers, The State University of New Jersey, also will be an important aspect of the institute’s activities.

Leadership

With words suggesting a management style bent on success through mentorship and institutional support, Francesco Ramirez, PhD, Laura Gallagher Endowed Professor of Pediatrics and director, Child Health Institute of New Jersey (CHINJ), sets the pace for leadership.

“This medical school gave me my first academic job some 25 years ago and with that the chance to establish my own laboratory,” Dr. Ramirez says. “Now it is giving me this incredible job to enable other young investigators to succeed. It’s a challenge I love, in addition to its being a unique opportunity to leave behind a long-lasting legacy.”

The developmental biology enterprise that seeks to change the future of children’s health has, in Dr. Ramirez, an administrator with a world-class track record in researching connective tissue disorders. In 1979, following research at the Department of Human Genetics and Development, Columbia University, Dr. Ramirez became an assistant professor, then an associate professor of obstetrics and gynecology, and adjunct professor of biochemistry at the then Rutgers Medical School.

He has served as interim chair, Department of Biochemistry and Molecular Biology, and dean of research, The Mount Sinai School of Medicine. Most recently, he was the St. Giles Chair in Pediatric Genetic Research and chief scientific officer, Hospital for Special Surgery at the Weill Medical College of Cornell University, in addition to joint appointments as professor of physiology and biophysics, cell and developmental biology, and pediatrics.

Dr. Ramirez is the recipient of numerous honors and awards, among them the UMDNJ Exceptional Merit Award; Faculty Achievement Award, Mount Sinai School

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of Medicine; and the MERIT Award for Scientific Excellence, National Institute of Arthritis and Musculoskeletal and Skin Diseases. He has served on many editorial boards and was the 2004 president of the American Society of Matrix Biology.

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“Now it is giving me this incredible job to enable other young investigators to succeed. It’s a challenge I love, in addition to its being a unique opportunity to leave behind a long-lasting legacy.”

Currently, Dr. Ramirez is principal investigator for the Consortium in Translational Research in Marfan syndrome, a project that includes participation from scientists at the Johns Hopkins University School of Medicine; New York University School of Medicine; and the Shriners Hospital for Children, Oregon Health & Science University. Marfan syndrome is a killer disease that affects one in 5,000 individuals worldwide and which leads to sudden death from dissection and rupture of the aorta. The goal of this $6 million grant is to translate basic knowledge of the defective gene product, fibrillin, into novel therapies to counteract progression of vascular disease in Marfan patients.

“We have made extraordinary progress in the last three years, thanks to the discovery of unexpected new functions of fibrillin,” Dr. Ramirez says. “We now have biological targets for treating dissecting aneurysm in Marfan syndrome, and they are being tested in our mouse models at Hopkins.”

He adds that if these animal experiments are successful, as it appears they will be, a human trial soon will begin. “When the Marfan gene was discovered, I wouldn’t have predicted there would be a cure in sight this soon,” he says. “It’s just extraordinary and a great example of the power of collaboration over competition.”

Dr. Ramirez’s research on Marfan syndrome will be added to his considerable body of knowledge on developmental disorders, as the wide-ranging program of basic studies gets under way at CHINJ. Meanwhile, addressing his own vision for the future of the institute, Dr. Ramirez cites the success of Aaron J. Shatkin, PhD, professor of molecular genetics, microbiology, and immunology and director of the Center for Advanced Biotechnology and Medicine (CABM), a research institute of RWJMS and Rutgers, The State University of New Jersey. Since its inception in 1985, CABM has become recognized as one of the leading institutions of its kind.

“I would like our institute to share the kind of success Aaron has had — by recruiting only the highest-caliber faculty,” Dr. Ramirez says. “In my mind, Aaron is the role model we all should strive to imitate — as a prominent scientist, visionary leader, and generous colleague with a strong sense of institutional priorities.”

— R.M.R.

“Stem cell biology is an integral part of developmental biology,” Dr. Ramirez says. “So we are planning to recruit stem cell biologists, and we anticipate a relationship with the Stem Cell Institute of New Jersey, once it opens.” He adds that the same kind of collaboration will occur with the planned Cardiovascular Institute of New Jersey, and that it already exists with members of CABM.

More Than a Pretty Face

The building itself, while dwarfed by the promise of discovery it represents, is impressive. There is laboratory space for 14 principal investigators, an 80-person seminar room, a transgenic and gene-targeting core facility, and vivarium, plus research support services and space for various health advocacy groups to hold meetings and learn about research targeted to specific diseases.

The Department of Pediatrics occupies 11,000 square feet of clinical space in the 111,000-square-foot edifice, where more than 20,000 patients can be treated annually. The clinical floors include physicians’ offices and examination rooms, as well as treatment, consultation, and nutrition counseling rooms, a general laboratory, and a pulmonary function laboratory. Under the direction of Daniel A. Notterman, MD, university professor and chair, Department of Pediatrics,

Patient reception area in the Department of Pediatrics at UMDNJ-Robert Wood Johnson Medical School.
and member, CINJ, the department has become a tertiary and quaternary center of care for children with cancer, cardiac disease, or other life-threatening illnesses. An expanded faculty of subspecialists provide treatment that did not exist in New Jersey only a relatively few years ago.

Dr. Notterman reports that, with a few exceptions, the multi-specialty pediatric practice has improved access for patient visits, as well as proximity to research laboratories. Department pediatricians continue to conduct private practices in which no family is turned away because of inability to pay.

A clinical research center is located on the floor directly below the pediatric practice area. Headed by George H. Lambert, MD, associate professor of pediatrics, and Marc G. Sturgill, PharmD, adjunct assistant professor of pediatrics, the center will conduct pharmacological trials plus basic research in illnesses affecting children.

Dr. Notterman says, “In addition to the work being done in the clinical research center, it’s our hope that the developmental research taking place on the top two floors of the building soon will be translated into trials in the pediatric area.”

He adds that he is excited about the transition, and the opportunity to be closely aligned with the activities of the Child Health Institute.

“I laud the appointment of Dr. Ramirez to head CHINJ,” Dr. Notterman says. “His credentials are impeccable, and he is an exceptional partner to share the medical school’s commitment to children in New Jersey.”

Meanwhile, the department has been funded with a $5 million grant...
from Bristol-Myers Squibb for the development of three new clinical centers of excellence. They are directed toward pediatric obesity and metabolic disorders, children’s diseases of the bones and joints, and infectious diseases in children. Barbara K. Snyder, MD, associate professor of pediatrics, will direct the first center, on obesity and metabolic disorders, slated for an early 2006 opening.

Preparing for Translation

The translational element at CHINJ is critical to the influence the institute is expected to wield in unraveling the developmental enigmas that plague biomedical science. Basic and clinical investigators will be paired in formal relationships that aim to speed scientific progress, while sharpening the medical school’s competitive edge. Dr. Ramirez speaks of the traditional translational investigator as someone who speaks two languages. CHINJ interprets that role somewhat differently. Because of the vigorous biomedical component on the New Brunswick campus, CHINJ will focus on basic science, and then function as a vehicle to interface with clinical activities. It will be physician-scientists who engineer the actual translation and then go on to other areas of research.

Building the benchmark for the physician-scientist program is Dr. Abate-Shen, who is charged with enhancing interaction between the RWJMS basic and clinical communities by creating a center of excellence for the training of physician-scientists.

“We’re going to be reaching out to promising clinicians in an environment that is nurtured,” she says. “They will be mentored and have research support. We will encourage medical students to work in the laboratory. In fact, we now have a medical scholars program that allows students to take a year off to do research. We also will be working from the top down to initiate programs in which seasoned investigators can collaborate with each other.”

If the training she speaks of were part of the medical school curriculum, it might be called “The New World of Science 101,” as its purpose is to prepare investigators to compete in today’s research environment, a wholly different setting in which once-segregated teams of basic and clinical investigators are immersing themselves in each other’s work. The National Institutes of Health is moving toward a time in the near future when all investigator-initiated grants must have some translational components. The implications for funding are enormous, and Dr. Abate-Shen says the consequences of the CHINJ training initiative eventually will be seen throughout the medical school. It’s anticipated that the program will become a springboard to others, a pragmatic response to the need for physician-scientists throughout the university and the country.

The Bottom Line

Allowing himself a reflective moment to think of all that has combined to make his early vision of the Child Health Institute of New Jersey a reality, Dr. Paz observed, “It reminds me of the advantage we
have in being a relatively young medical school, with the flexibility to redesign and evolve.

“What we have here is a dramatic opportunity to make an impact, not only on education and research, but on the health of the community as well. The institute will become intersected, beyond the medical school, to the Bristol-Myers Squibb Children’s Hospital at Robert Wood Johnson University Hospital, and with the PSE&G Children’s Specialized Hospital, soon to be located on the New Brunswick campus. Ultimately, those three institutions together will constitute one of the largest academic child centers in the country.”

— R.M.R.

Joining Dr. Ramirez (front center) at the Scientific Symposium are several panel members. From the left, clockwise, are James H. Millonig, PhD, assistant professor of neuroscience and cell biology and resident member, Center for Advanced Biotechnology and Medicine (CABM); symposium chair Aaron J. Shatkin, PhD, professor of molecular genetics, microbiology, and immunology and director, CABM; Michael M. Shen, PhD, professor of pediatrics, associate director, CHINJ, Member, CINJ, and resident member, CABM; and Gerard Karsenty, MD, PhD, professor of molecular and human genetics and developmental biology, Baylor College of Medicine.

Roger Fine Assumes Chair

Looking back to early discussions on the project that ultimately became the Child Health Institute of New Jersey (CHINJ), Roger S. Fine, the institute’s chair of the board, recalls, “We had a cosmic idea, a noble vision. We wanted to discover the causes of childhood developmental diseases, and then find out how to cure or prevent them.”

Mr. Fine, a retired corporate vice president and general counsel of Johnson & Johnson, and longtime chair and member of the company’s corporate contributions committee, reports that even before the direction of the institute was determined, Johnson & Johnson wanted to spearhead a major undertaking for RWJMS.

“The university is one of the company’s foremost charities,” he says. “We were intimately involved in its creation, as well as the Foundation of UMDNJ.”

He adds that, about ten years ago, Curt Weeden, who was then Johnson & Johnson’s vice president of corporate contributions, and he got together with Harold L. Paz, MD, dean, and Steve Schroeder, MD, then president of the Robert Wood Johnson Foundation, and started discussing ideas. Johnson & Johnson provided seed money for a study, and eventually plans for a developmental biology institute were under way. Mr. Fine remembers that a key part of the plan was to create an institute that would attract leading scientists from around the world to RWJMS.

“The Child Health Institute of New Jersey has the potential to do that while bringing together basic and clinical research in close partnership with the Department of Pediatrics of the medical school,” he says. “This will be a unique kind of collaboration. Most important, it represents new hope to children throughout New Jersey and beyond with developmental illnesses.”

However, this is no time to sit back and point to past achievements, Mr. Fine warns. “We’ve already raised almost $30 million for CHINJ, and have funded our first chair,” he reports. “Now we need to raise another $15–20 million in a very short time. Once we have done that, we have to start in and do it all over again. We have been extremely fortunate in drawing the talents of Dr. Ramirez and Dr. Notterman. They have an enormous task before them. And it is our job, as members of the board, to help them by raising the money they need to make this tremendous difference in the lives of children.”

— R.M.R.
Occasionally, headlines boldly announce that some new drug may finally cure cancer. Upon reading such reports, scientists who are engaged in cancer therapeutics must shake their heads, utter expletives, or groan slightly but audibly. Better yet, they probably toss newspapers aside and go back to their laboratories, where the multi-dimensional combat against the last cancer cell is waged. Too well do they know that no matter how powerful, no single agent can kill all tumor cells with any guarantee others won’t appear, the next time with resistance to an originally effective drug.

For many years now, ever since researchers and clinicians first recognized that the strongest weapon against cancer is combination therapy, scientists have been engaged in a race to discover more molecular targets for anti-cancer agents, so that the drugs can be developed to target the specific enzymes that will destroy cancer cells. Their objective is to put together all the combinations needed to make therapeutic intervention more successful long term. In a word, they seek the drug that will kill that last cancer cell.

Few efforts, however, have reached that pinnacle at which a drug becomes a well-established clinical agent. Among a minority changing that unfortunate dynamic is Leroy F. Liu, PhD, professor and chair, Department of Pharmacology, and program leader of the cancer pharmacology program at The Cancer Institute of New Jersey (CINJ). Dr. Liu’s entire career has centered on DNA topoisomerases, enzymes that can change the topological structure of DNA and which are essential for many vital functions of DNA. His research in first discovering the enzymes, and understanding their role in cancer treatment, has led to their identity as important new drug targets.

“Topoisomerases are so named because of their magical action in changing the topological structures of DNA,” Dr. Liu explains. “Most often, DNA, like spaghetti, are entangled, which requires topoisomerases for disentangling during cell division. The enzymes disentangle the chromosomal DNA by a cut-and-paste mechanism, like untying a knot or separating two interlocked circles.”

Because cancer cells undergo rapid division, they require high levels of topoisomerases. Dr. Liu has demonstrated, however, that many anti-cancer drugs can thwart
the action of topoisomerases in cancer cells by specifically blocking the pasting step of the enzymes without affecting the cutting step. Consequently, the genetic material, DNA, in cancer cells stays broken, and the cancer cells die.

There are two major topoisomerases in human cells, topoisomerase 1 and topoisomerase 2, and they function differently. Topoisomerase 1 cuts and pastes DNA by making a transient single-strand break, while topoisomerase 2 does so by making a transient double-strand break. Dr. Liu’s research has led to the discovery that both topoisomerase 1 and topoisomerase 2 are very important molecular targets for anti-cancer drugs. In 1984, he demonstrated that DNA topoisomerase 2 is the major molecular target for a number of effective anti-cancer drugs, such as adriamycin and VP-16, already in clinical use.

His most indispensable contribution to cancer therapy, discovering human DNA topoisomerase 1 as a new molecular target for anti-cancer drugs, came soon after that when he established that the enzyme is affected by the plant alkaloid camptothecin. It was this discovery that enabled the development of a new range of pharmaceuticals targeting that enzyme. Since then, two of the many topoisomerase 1–targeting drugs under active development, topotecan and irinotecan, have already been approved for clinical use.

Harold L. Paz, MD, then dean, recently spoke of the basic research in Dr. Liu’s laboratory as an illustration of translational research at its finest. “Dr. Liu’s identification of topoisomerase 1 as a target for cancer drugs is in itself an enormous step forward in the search for effective cancer therapies,” Dr. Paz said.

Dr. Liu’s arrival on the scene at UMDNJ-Robert Wood Johnson Medical School is an interesting one. Following his PhD studies in biophysical chemistry at the University of California, Berkeley, he did post-doctoral research at Harvard University and at the University of California, San Francisco (UCSF). He joined the faculty of the Department of Physiological Chemistry at Johns Hopkins University in 1980, and considered himself a biochemist and molecular biologist.

“Hopkins recruited me because I discovered topoisomerase 2 at UCSF, with Bruce Alberts, PhD, who was president of the National Academy of Sciences,” he says. “I purified and characterized human DNA topoisomerases 1 and 2 at Hopkins. After I figured out that both enzymes were molecular targets for anti-cancer drugs, everyone thought I was a pharmacologist. For this reason, they recruited me here at the medical school as chair of pharmacology.”
He admits that an inherent interest in developing new anti-cancer agents made the offer irresistible. “The opportunity to collaborate with medicinal and physical chemists, and to organize a drug discovery team to develop topoisomerase inhibitors, was something I couldn’t pass up,” he says. “Drug development is a long and difficult process. But coming up with fourth-generation protoberberines that show great promise is unbelievably exciting. It took our RWJMS-Rutgers team 12 years to get to this stage.”

Eric H. Rubin, MD, professor of medicine and pharmacology and CINJ director of investigational therapeutics, says Dr. Liu set the stage for science’s understanding of the relationship between natural product drugs and cancer therapy.

“It was known several years ago that extracts from plants were potent anti-cancer drugs, but it was unclear just how they were working,” Dr. Rubin says. “What Dr. Liu has discovered is that they work specifically through the topoisomerase enzymes — very much what we today refer to as targeted therapy. This discovery has led many in both academia and industry to look for topoisomerase compounds.”

Dr. Liu adds that physical chemists have been interested in these enzymes for some years because they are so peculiar.

“Most enzymes are catalysts of a chemical reaction that leads to changes in the properties of the original material,” he says. “But the topoisomerases are catalysts of a reaction that changes only the topological structure of DNA. At the time we discovered human type 2, we didn’t really know the enzyme had any significant medical importance.”

He says that, out of curiosity, his lab designed the topologically knotted “pretzel” DNA that was like tying a knot on the top of the DNA. He then showed that the human cell has an enzyme that can unknot the knotted DNA.

“It is this kind of curiosity that leads to many of science’s most significant discoveries,” Dr. Liu points out. “And it is how we purified and characterized topoisomerase 2. Later, when we were able to show that the human type 2 is affected by many clinically used anti-cancer agents to produce double-strand breaks on DNA, it was a major discovery.”

In fact, his discovery of topoisomerase 1 as a drug target was an accident. At the time, it was thought that most anti-cancer drugs would target topoisomerase 2. Then Dr. Liu attended a meeting at Smith Kline in Philadelphia. The company was developing a compound called topotecan — a camptothecin derivative — and the properties of this compound were very similar to those of the drugs that his laboratory had identified to be topoisomerase 2 inhibitors.

Since camptothecin can induce protein-concealed breaks in cultures of tumor cells, and because they are reversible, Dr. Liu’s team members tested camptothecin as a topoisomerase 2 inhibitor. Surprisingly, there was absolutely no activity against the human DNA topoisomerase 2. In the course of their experiments, they used DNA topoisomerase 1 as a reagent.

“Quite accidentally, we found that camptothecin actually can inhibit topoisomerase 1 through a very unusual reaction, which we characterized,” Dr. Liu says. “Later, we figured out its inhibitory mechanism on topoisomerase 1, as well as how it kills cancer cells.”

While camptothecins are potent topoisomerase 1–targeting drugs, they have intrinsic problems due in part to their chemical instability. To overcome these problems, Dr. Liu knew it would be necessary to develop new topoisomerase 1–targeting drugs with totally different chemical structures.

He put together a drug discovery group within CINJ’s cancer pharmacology program. Members are from both RWJMS and the medical school’s partners at Rutgers, The State University of New Jersey. Among them are Dr. Rubin; William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology programs, and director, CINJ; Daniel Pilch, PhD, associate professor of pharmacology; William J. Welsh, PhD, Norman Edelman Chair of Pharmacology and director, UMDNJ Informatics Institute; and Edmund LaVoie, MD, professor and chair, Department of Pharmaceutical Chemistry at Rutgers.

The drug discovery group — representing oncology, medicinal chemistry, biochemistry, physical chemistry, and computational chemistry — is one that benefits from some of the finest research talents on the East Coast, and is focused on exploring groundbreaking directions in basic research and clinical trials.

Dr. Rubin reports that for years now, the group has been working on developing new compounds targeting topoisomerase 1, and that RWJMS and Rutgers have jointly secured patents for some, at least one of which, topovale, is very close to clinical use.

“Our hope is that these drugs will be more effective than topotecan and irinotecan,” Dr. Rubin says. “We understand much more than we did when those compounds were developed, and know ways in which to make the drugs more powerful, less toxic, and less susceptible to resistance.”

Explaining that these new compounds are developed initially from berberines, which are the main ingredients in a commonly used Chinese herb, the yellow lotus seed, Dr. Liu says the current lead compounds are fourth-generation protoberberines.

Dr. Paz reports, “Under Dr. Liu’s direction, the drug discovery group is enhancing the importance of his earlier research
by coming up with a number of lead compounds that are even more active than their clinically used predecessors.”

Commenting on the progression of scientific discovery in recent years, Dr. Liu notes that the emphasis on translational, or bench-to-bedside, research is enormously productive, especially in approaching short-term goals.

“Translational research is what leads to patient outcomes,” he says. “But it is basic work that drives the process in terms of the advancement of knowledge, and ultimately results in the kind of breakthroughs these studies reflect. I think both are necessary in the future of science.”

The significance of Dr. Liu’s extraordinary research has not escaped the cancer community worldwide. In 2003, he received the C. Chester Stock Award from the Sloan-Kettering Institute for Cancer Research, a prestigious recognition given to one person each year who has made the foremost contributions to the advancement of knowledge about cancer. Among his other awards are the Bruce F. Cain Memorial Award for Outstanding Preclinical Research in Cancer Chemotherapy, from the Association for Cancer Research; the George H. Hitchings Award for Innovative Drug Design, from the Burroughs Wellcome Fund; and the Searle Scholar Award.

Commenting that Dr. Liu’s influence on cancer therapeutics is an important one, Dr. Rubin reports that irinotecan became the first new drug approved for use against colon cancer in decades, and remains one of only a few active against the disease.

“In addition, the topoisomerase 1 drugs have a broad range of activity,” Dr. Rubin says. “They have been effective in treating many cancers, including breast, leukemia, lymphoma, and lung. Identifying the target, as Dr. Liu did, has had a major impact in successfully fighting cancer, particularly colon cancer.”

Dr. Liu, who holds in excess of $500,000 in National Institutes of Health grants, says he decided as a young child that he wanted to be a scientist, and from the start, he never wavered in his decision. The way he puts it, one never knows where research may lead, and working with the unknown is the constant challenge that drives him.

“I have always liked to play games,” he says. “Research is the greatest game, one in which you can use your analytical ability to win. I like that.”

When it comes to the game called drug discovery, players like Leroy Liu wage an unrelenting contest against their opponent: the very last cancer cell.  

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To transform our new scientific knowledge into tangible benefits for people, the National Institutes of Health (NIH) published the Roadmap in 2003. It called for scientists to develop an “integrated vision to deepen our understanding of biology, stimulate interdisciplinary research teams, and reshape clinical research to accelerate medical discovery and improve people’s health.”

“Road Building: Graduate programs link research to clinical care”

BY KATE O’NEILL • PORTRAITS BY STEVE HOCKSTEIN
Two of our primary missions — to pursue excellence in research and in education — intersect in our graduate programs,” says Terri Goss Kinzy, PhD, professor of molecular genetics, microbiology, and immunology and assistant dean for medical scientist training. In the medical school setting, a third mission, advancing excellence in patient care, interconnects at the graduate level as well. A laboratory may be investigating life at the molecular level, but its work is closely linked to clinically relevant patient outcomes.

By shifting its funding priorities to reinforce the new emphasis on clinical outcomes, the NIH hopes to engage more basic scientists in multi-disciplinary research that focuses on improving human health. In addition, the Roadmap may have heightened the appeal of a medical school setting for scientists — from graduate students to seasoned researchers — who seek gene-based therapies.

“A strong research enterprise is one of the overarching missions that separate an academic medical center from other hospitals,” says Kathleen W. Scotto, PhD, professor of pharmacology, senior associate dean for research, and interim vice president for research at UMDNJ. “It is what gives the clinicians the opportunity to offer the best care to their patients.”

In a variety of settings, basic research faculty members meet and work with a wide spectrum of clinical specialists, creating a two-way flow of information between scientists and clinicians. Ties to the patient are reinforced by basic science faculty members who team-teach medical school courses, such as physiology, in collaboration with the clinical faculty. Moreover, in a medical school, opportunities for translational research abound.

“Basic scientists who feel the lure of clinical research are often drawn to the medical school environment,” says Sunita G. Kramer, PhD, assistant professor of pathology and laboratory medicine. “It’s a place where you come into contact with the people who will benefit from your work and a place where you feel you’re making a difference.”

Collaboration, Excellence, and Scientific Diversity Characterize Graduate Program

More than 200 doctoral researchers work in laboratories at UMDNJ-Robert Wood Johnson Medical School. Most are enrolled at the UMDNJ-Graduate School of Biomedical Sciences (GSBS) at RWJMS. The GSBS program, in partnership with Rutgers, The State University of New Jersey, offers graduate students an exceptional array of research environments. In addition to wide choices within the academic departments on adjoining campuses, the partnership provides research opportunities in medical and non-medical settings.

Graduate students have access to the multi-disciplinary expertise of more than 500 faculty researchers at RWJMS and Rutgers. Among them are five Investigators, Howard Hughes Medical Institute, all of whom open their labs to PhD candidates in the program. Many faculty hold joint appointments at RWJMS and Rutgers, and several of the 15 major institutes and multi-disciplinary centers on the two campuses are affiliations between the schools.

“To retain faculty, a university must have a vigorous graduate program,” says Thomas E. Shenk, PhD, James A. Elkins, Jr., Professor in the Life Sciences and past chair, Department of Molecular Biology, Princeton University, Dr. Shenk, a virologist, was one of the earliest graduate students at RWJMS (then Rutgers Medical School). He completed his doctoral work in 1973, mentored by Victor Stollar, MD, professor of molecular genetics, microbiology, and immunology, who was then an associate professor of microbiology. “Graduate students not only fuel the research program,” says Dr. Shenk, “they keep your scientific life exciting.” Last year, the...
Department of Molecular Biology at Princeton became the newest partner in the RWJMS MD/PhD program. In the summer of 2005, Dr. Shenk inaugurated the program at Princeton by hosting MD/PhD candidate Sean Liu during a pre-doctoral lab rotation. “Sean was terrific, tremendously enthusiastic,” Dr. Shenk says. “He interacted well in the lab and had an excellent background in science.”

Along with faculty and post-doctoral fellows, graduate students have access to staff expertise and state-of-the-art technology in the schools’ state-of-the-art centers and institutes, says Michael J. Leibowitz, MD, PhD, professor of molecular genetics, microbiology, and immunology and associate dean, GSBS. In September, RWJMS dedicated the Child Health Institute of New Jersey (CHINJ), reinforcing the school’s strong developmental biology program. Like the new labs in the RWJMS Research Building and The Cancer Institute of New Jersey (CINJ), the juxtaposed, virtually wall-free labs at CHINJ encourage people to interconnect freely, sharing information, techniques, and discoveries.

The Center for Advanced Biotechnology and Medicine (CABM), located on the Piscataway campus, offers extraordinary opportunities for researchers at all levels. CABM, a collaboration between UMDNJ and Rutgers, works with researchers in industry as well, seeking fundamental knowledge that will improve human health. Geneticist James H. Miltonig, PhD, assistant professor of neuroscience and cell biology and resident member, CABM, is mentoring five PhD candidates and one post-doctoral fellow in projects related to autism. “The scientific diversity at CABM makes it a good environment for research,” says Dr. Miltonig. “People in our lab make friends in neighboring labs. In this year’s CABM retreat, they learned about topics ranging from crystallography to cancer to developmental biology. They see how hard we work and what it takes to succeed.”

The Route to a PhD: Hypothesis, Thesis, Conclusion

Graduate school faculty members seek candidates in a variety of professional venues — among participants at professional meetings and during visits to undergraduate campuses. The graduate program has excellent exposure at Rutgers, where undergraduates may first develop familiarity with the schools’ research labs. In addition, GSBS and RWJMS recently received three renewals of NIH awards to support ongoing training of talented doctoral students from groups under-represented in medicine and science.

Summer programs at RWJMS and Rutgers introduce undergraduates to the exceptional research opportunities in the GSBS program. Research in Science and Engineering (RISE), a highly competitive summer program jointly sponsored by Rutgers and GSBS, has the primary aim of providing students from groups under-represented in the sciences with an introduction to the excitement of research. Some outstanding RISE participants have returned to continue their work with GSBS faculty.

As an undergraduate at the Pontifical Catholic University of Puerto Rico, Rebecca Baerga was selected for RISE. She worked with Federico Sesti, PhD, assistant professor of physiology and biophysics, studying the function of ion channels in regulating cardiac activity. Now a doctoral candidate in the GSBS Program in Cellular and Molecular Biology, Ms. Baerga is mentored by Shengkan (Victor) Jin, PhD, assistant professor of pharmacology.

The Department of Neuroscience and Cell Biology offers a separate summer program for outstanding college students from New Jersey, introducing them to the department’s resources — human and technological — “and teaching them how much fun science can be,” says the program’s director, Cheryl F. Dreyfus, PhD, professor of neuroscience and cell biology. “We have helped recruit medical students with a strong interest in research and some MD/PhD candidates as well.”

Michael J. Leibowitz, MD, PhD, professor of molecular genetics, microbiology, and immunology and associate dean, GSBS (left), and Karl E. Miletis-González, PhD, instructor of obstetrics, gynecology, and reproductive sciences
As a college student, Denise Livingston ’08 participated in the neuroscience summer program. She subsequently was accepted by the MD/PhD program at RWJMS, where Dr. Dreyfus has served as her mentor. In 2006, after defending her thesis on the effects of the estrogenic hormone estradiol on astrocytes, Ms. Livingston will begin clinical rotations as she resumes her medical school studies. She will continue to use her research skills by applying translational research to tackling problems encountered in a clinical setting.

“A background in research provides a deeper way of helping patients,” she says.

Most graduate students at GSBS do their research under the umbrella of the graduate programs in molecular biosciences, working with a multi-disciplinary faculty from RWJMS and Rutgers. Others are mentored by RWJMS faculty in the graduate programs of biomedical engineering and environmental science. In addition, the RWJMS Department of Neuroscience and Cell Biology runs a highly successful graduate program in collaboration with GSBS. Recent graduates of the neuroscience graduate program include Carmine Guirland, PhD, whose adviser was James Q. Zheng, PhD, associate professor of neuroscience and cell biology and member, CABM. Dr. Guirland was first author on two papers published with Dr. Zheng, one in the Journal of Neuroscience and one in Neuron.

Graduate students regularly present their work not only within their departments, but at major scientific meetings. “Our graduate students tend to be highly motivated to develop scientific insights into their own projects,” says Dr. Leibowitz. “This approach is particularly apt today, when doctoral students learn not by watching but by doing and are no longer expected to ‘learn at the foot of the master.’”

From start to finish, the goal of the doctoral process is to learn to think and work like a scientist, says Dr. Dreyfus. Typically, graduate students are mentored to sharpen their research skills, while gaining knowledge, experience, leadership, and, ultimately, independence. And since most of their financial support comes from their mentors’ awards, they also learn how to apply for their own grants.

After graduation, most PhDs continue their research in academia or industry. Others become writers, or serve in science-related government posts. Beth-Anne Sieber, PhD, chief, Developmental Neurobiology Program, National Institute for Mental Health, spent five post-doctoral years at the Karolinska Institute, in Stockholm, Sweden. At RWJMS, her co-mentors were Dr. Dreyfus and the late Ira B. Black, MD, professor and chair, Department of Neuroscience and Cell Biology, and founding director, Stem Cell Institute of New Jersey. “My scientific training was integral to my obtaining my current position and has provided excellent preparation for counseling NIH grant applicants,” Dr. Sieber says. “Above all, it allowed me to relate my findings to clinical disorders, including Parkinson’s disease and schizophrenia, and trained me to think about basic research as it relates to human lives.”

Mentor! Mentor!

The pre-eminent role of the mentor distinguishes the graduate student’s odyssey from other academic processes. Connecting and collaborating with a skilled, compatible mentor, who has a suitable lab opening, is a leading concern for doctoral candidates. The matching process begins with visits to the campus, as applicants tour the facilities, dine with current graduate students, talk with faculty members, and, ideally, meet each member of the admissions committee. In the first year of the graduate program, students
complete a core curriculum and a minimum of three lab rotations. The lab rotation process provides the opportunity for graduate students and faculty researchers to meet and work together. By the end of the year, the graduate students will have gone from initial immersion into a pool of more than 200 labs to the most important step of their doctoral career: selecting — and being accepted by — a mentor.

“Graduate students are the lifeblood of a lab,” says Dr. Scotto. “When a new PhD candidate joins the team, you can feel the lab dynamics change. They bring brightness, inquisitiveness, and tremendous enthusiasm that makes us all relive the promise of research that got us started down this road.”

“You have to measure the decision carefully,” says Karl E. Miletti-González, PhD, instructor of obstetrics, gynecology, and reproductive sciences. “The choice of a mentor can be more important than the scientific focus of the lab. You have to have a good relationship with your mentor, and you have to like the dynamics of the lab.” Dr. Miletti-González originally planned to do doctoral research on HIV/AIDS. But he willingly changed his plans so that he could work with Dr. Leibowitz, using yeast models to study group I intron ribozymes as potential chemotherapeutic targets. Two years after post-doctoral research training with Lorna Rodriguez-Rodriguez, MD, PhD, associate professor of obstetrics, gynecology, and reproductive sciences and chief, gynecologic oncology, CINJ, Dr. Miletti-González was offered a faculty position on Dr. Rodriguez-Rodriguez's multi-disciplinary research team, doing research on CD44 in ovarian cancer.

Among faculty members, the competition is lively too, as they seek to attract graduate students who are not just the cream of the intellectual crop, but also able to work well with research colleagues. Dr. Kramer says she looks for enthusiasm and independence in her advisees. “How they deal with failure, not success, is very important to me. As scientists, a high failure rate is a normal part of bench work. With experience, though, our advisees learn that it’s the unexpected that takes us forward.”

During his first year in the GSBS program, Edgardo Santiago-Martinez met Dr. Kramer at a poster presentation on her use of Drosophila to study vascular tissue formation. Their conversation led to a lab rotation and then to Dr. Kramer's decision to become his mentor. In 1998, as a graduate student, Dr. Kramer won the Best Poster Award at the Northeastern Developmental Biology Conference in Woods Hole, Massachusetts. She was proud to see her advisee awarded the same honor at Woods Hole last summer.

Before first-year graduate students start a rotation in his lab, Kiran E. Madura, PhD, associate professor of biochemistry, meets with them for an hour. “The preliminary session has value on both sides. “It’s important for them to see how we interact, because dynamics determine the productivity of the lab,” says Dr. Madura. His advisees can expect to work closely with him during the “exploratory” first year. Then he will assign them to ongoing projects with other members of the lab team.

By the time they earn their PhD, most GSBS students have spearheaded projects, presented their work, and published papers, often in major journals as co-authors with their mentor, frequently as first author. During 2004, says Dr. Leibowitz, GSBS students on the Piscataway campus published 85 peer-reviewed articles on their research, including many in the most highly visible scientific journals.

**Building on Tradition**

The RWJMS tradition of excellence in research began with the original faculty. The core of outstanding scientists who taught and conducted research in the school’s first labs included many physician-scientists who brought their focus on the patient-centered research to the school. When Dr. Stollar mentored the young Tom Shenk, he became a pioneer, helping to train future leaders in their fields of study. In turn, Dr. Shenk and his peers made important discoveries and educated a new generation of inquisitive young scientists and teachers. Today, with similar drive, imagination, and care, Edgardo Santiago-Martinez and his fellow graduate students are working to develop new solutions that may change the world, whether by eradicating a disease, healing a population, or improving life for a single patient.
Dear Alumni and Friends:

Our Alumni Reunion Weekend was a great success! Alumni were delighted to return to RWJMS to witness the dedication of the Child Health Institute of New Jersey and personally observe the phenomenal growth of the campus, reminisce with fellow alumni, and interact with faculty members and students. We hope you enjoy the Alumni Reunion Weekend article and great photos on page 54.

The next Alumni Reunion will take place in fall 2007. It is never too early to talk to your classmates about the celebration. We will honor the following anniversary classes: 1971, 1972, 1976, 1977, 1981, 1982, 1986, 1987, 1991, 1992, 1996, 1997, 2001, and 2002. If you would like to join the Reunion Committee or would like to contact your classmates, please contact Roberta Ribner, coordinator, alumni affairs, at ribnerrs@umdnj.edu or 732-235-6310.

The Alumni Association has a long tradition of awarding scholarships and loans to deserving medical students. Thank you for your generous contributions to the Alumni Association Annual Fund. These donations enabled our Board of Trustees to allocate $150,000 in scholarships and loans for the 2005–2006 academic year.

We are extremely proud of our students and delighted to report that the members of the Class of 2006 were matched to many of the nation’s most competitive residency programs. We know you understand the financial needs of RWJMS students, and we invite you to support us again this year. Annual Fund contributions can be made online. Please visit our updated Web site at http://rwjms.umdnj.edu/alumni.

We invite you to become involved with the activities of our Alumni Association. We look forward to your participation in Career Night, alumni/student happy hours, and alumni receptions. Our sincere thanks to Dr. and Mrs. Thomas Nordstrom for hosting a spectacular spring brunch at their home. If you are interested in hosting or planning a reception in your area, please let us know.

Please keep in touch by sending professional and personal news for Class Notes, as well as updated addresses and email addresses, to ribnerrs@umdnj.edu.

I look forward to seeing you at alumni events throughout the year.

Sincerely,

Steven H. Krawet, MD ’89
President, RWJMS Alumni Association
In 2000, George Patounakis ’09, PhD, saw the light that focused him on a career in medicine. It came from hundreds of luminarias at a walk-athon for cancer research, each lit candle set out in memory of someone who had died from the disease.

At the time, Dr. Patounakis, a recent graduate of Rutgers, The State University of New Jersey, already was committed to pursuing a PhD in electrical engineering at Columbia University. “I wanted to help people,” he says, “to improve their quality of life. But I realized that as a medical doctor, I would help many more people than I would as an electrical engineer.” Still, by combining engineering with medicine, he realized he could introduce solutions that would make top medical technology available to everyone.

At Columbia, Dr. Patounakis’s thesis dealt with the development of a biochip that would not depend on expensive microarray technology. That technology, he demonstrated, could be adapted to fluorescence-based DNA microarray technology, making biochips affordable for all.

As he applied to medical schools, Dr. Patounakis strongly preferred those in New Jersey, with UMDNJ-Robert Wood Johnson Medical School his first choice. Last spring, he learned that he had been awarded the Alumni Association’s Hippocrates Scholarship, which is reserved for a top student in the incoming class. The prospect of receiving $20,000 each year for four years brought him joy, relief, and a renewed sense of stewardship. “This is a debt I will repay,” says Dr. Patounakis. “I want future students to have this same opportunity.”

Dr. Patounakis will stay close to research, using his knowledge of electrical engineering to solve problems he encounters as a clinician. He is keeping his plans open. “The blinders are off,” he says. “RWJMS has a great cardiology division, and that would be a natural choice for me. But I might be able to introduce microelectronics technology in another area and improve the quality of life for many people. It’s exciting, and I’ll just have to see.”

— K.O’N.
Alumni Enjoy Spring Brunch

It was a perfect spring day at the beginning of April. Thomas Nordstrom, MD ’78, and his wife, Sue, hosted a spectacular alumni brunch at their beautiful home in Bridgewater. The brunch was a lovely setting for alumni to get together, reminisce about good times they shared at RWJMS, and develop new friendships. The Nordstroms’ gracious hospitality made everyone feel at home.

Several members of Dr. Nordstrom’s class of 1978 participated in a mini reunion as they looked at photos in the 1978 yearbook and discussed their student days.

Alumni were pleased to meet Peter S. Amenta, MD, PhD, interim dean of RWJMS, and his wife, Edna.

Alumni Association President Steven Krawet, MD ’89, thanks Thomas Nordstrom, MD ’78, for hosting the Spring Brunch.

Class of 1983 alumni Neal Collins, MD (left), and Paul Bergh, MD, toast their classmates.

Alumni enjoy an informal gathering at the Nordstroms’ beautiful home.

Left to right, Michael Spedick, MD ’78, David Barad, MD ’78, Saladin Abdu Nafi, MD ’78, and Ramah Alexander, RN, enjoy looking at photos in the Class of 1978 yearbook.

Calendar:

August 11, 2006
Alumni Association
Breakfast at Orientation

August 11, 2006
White Coat Ceremony

September 11, 2006
Eighth Annual Children’s Health Golf Outing
Jasna Polana

October 30, 2006
RWJMS Reception for Alumni & Friends
AAMC Annual Meeting
Seattle, Washington

For additional information, contact Roberta Ribner, Coordinator, Alumni Affairs, 732-235-6310 or Email: ribnerrs@umdnj.edu

Continuing Medical Education

October 13–15, 2006
Fifth Annual Update in Internal Medicine

November 9–11, 2006
21st Annual Issues & Controversies in Ob/Gyn

For additional information on these or future conferences, visit www.umdnj.edu/rwjmcme or contact the Center for Continuing Education at 732-235-7430,
As alumni from UMDNJ-Robert Wood Johnson Medical School returned in autumn 2005, they visited with friends, reviving memories, and even the most recent graduates found new places to explore on the rapidly evolving RWJMS campus. “The expansion of the RWJMS community and its research endeavors are amazing,” says Kari E. Emsbo, MD ‘94, who attended her tenth reunion along with her husband, Juan Perez, MD ‘94. “We had a wonderful time remembering the days of our medical education with friends,” she recalls.

Bryan Watabe, MD ’00, of Orem, Utah, traveled the farthest to come to Reunion Weekend. He was among the first to see the newly dedicated Child Health Institute of New Jersey (CHINJ), site of an evening reception for alumni and friends. “I was thoroughly impressed with the growth in facilities and clinical care,” says Dr. Watabe. “When I graduated, the [Bristol-Myers Squibb] Children’s Hospital at Robert Wood Johnson University Hospital was just getting started. Now there’s the Child Health Institute too. They just keep on going!”

1. Francine Sinofsky, MD ’81, and Geza Kiss, MD ’95 (left), co-chairs, Alumni Reunion Committee, greet Steven Krawet, MD ’89, president, Alumni Association, at the Friday evening Reception for Alumni & Friends at the Child Health Institute of New Jersey (CHINJ).

At the CHINJ dedication, Robert D. Huang, MD ’84, was given a lapel pin replicating a newly issued first-class stamp that features child health — a gift to all dedication guests from the New Brunswick branch of the U.S. Postal Service. Sporting the pin at the Gala Dinner Dance, Dr. Huang evoked compliments along with conversations about the institute and the dedication.

This was the third Reunion Weekend for pediatrician Robert Burke, MD ’75, who was delighted to see the rapid growth of the pediatric campus in New Brunswick. Around the corner from CHINJ, Dr. Burke and his wife, Pat, rediscovered — and savored dinner at — Chardas Hungarian Restaurant, a favorite destination during his medical student years. During the weekend, Dr. Burke showed his family “all the nooks and crannies” on the
Alumni Association Recognizes Dr. Paz and Dr. Howley

Harold L. Paz, MD, dean, received the Honorary Alumni Award, presented by reunion co-chair Geza Kiss, MD ’95, assistant professor of anesthesiology and vice president/president-elect, Alumni Association. Acknowledging all alumni, Dr. Paz expressed his appreciation for the association’s generosity to the medical school, particularly in the area of scholarship support. Concluding his remarks, he was surprised and honored to receive an engraved captain’s chair, a gift from the Alumni Association. “It was great to see and share experiences with Dr. Paz, and to see him receive this award,” says Dr. Watabe. “Among medical school deans, I think his approachability may be unique.”

The Alumni Association presented its 2005 Distinguished Alumni Award to Peter M. Howley, MMS ’70, MD, Shattuck Professor of Pathological Anatomy and chair, Department of Pathology, Harvard Medical School. The award was presented by Dr. Howley’s long-time colleague and friend Robert L. Trelstad, MD, Harold L. Paz Professor of Developmental Biology and professor of pathology and laboratory medicine, and Barbara Trelstad. “Among medical school deans, I think his approachability may be unique.”

The Alumni Association presented its 2005 Distinguished Alumni Award to Peter M. Howley, MMS ’70, MD, Shattuck Professor of Pathological Anatomy and chair, Department of Pathology, Harvard Medical School. The award was presented by Dr. Howley’s long-time colleague and friend Robert L. Trelstad, MD, Harold L. Paz Professor of Developmental Biology and professor of pathology and laboratory medicine, and Barbara Trelstad. “Among medical school deans, I think his approachability may be unique.”

Memories

On Saturday morning, alumni attended a special Continuing Medical Education program, “Breakthroughs in Science and Medicine: New Discoveries and Applications.” The CME speakers were Ronny I. Drapkin, MD, PhD ’98, instructor of pathology, Harvard Medical School, and associate pathologist, Brigham and Women’s Hospital; Charles J. Gatt, Jr., MD ’89, associate professor and chair, Department of Orthopaedic Surgery; and Jeffrey C. Brenner, MD ’95, instructor of family medicine, Camden campus. Dr. Brenner co-presented with Francesco Ramirez, PhD, Laura Gallagher Endowed Professor and director, Child Health Institute of New Jersey (left), describes his plans for the institute to Peter S. Amenta, MD, PhD, then chair, Department of Pathology and Laboratory Medicine, and Dr. Amenta’s wife, Edna. Left to right: Alice Lustig, chief operating officer, RWJMS; Donald A. Winkelmann, PhD, professor of pathology and laboratory medicine; Robert L. Trelstad, MD, Harold L. Paz Professor of Developmental Biology and professor of pathology and laboratory medicine; and Barbara Trelstad. Left to right: Charles J. Gatt, Jr., MD ’89, chair, Department of Orthopaedic Surgery; Geza Kiss ’95, MD, co-chair, Alumni Reunion Committee; Brian Pollack, MD, PhD ’00; Ronny Drapkin, MD, PhD ’98; and Michael Leibovitz, MD, PhD, associate dean, UMDNJ-Graduate School of Biomedical Sciences at Robert Wood Johnson Medical School, discuss lectures at CME Conference.

Piscataway campus. Among all that has changed, he was pleased to come upon a 1973 photo of his class, displayed in the Great Hall.

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Manuel Jimenez ’06, director, The Promise Clinic.

Among those who attended the CME program were Loria Heilmeier Pollack, MD ’99, and her husband, Brian Pollack, MD, PhD ’00. “A medical school should provide a balance between cutting-edge research and leadership in caring for the community,” says Dr. Loria Pollack. “The speakers presented a balanced picture of the latest scientific advances, the latest research applications in clinical care, and the challenges of caring for the indigent.”

Following a noon luncheon, the Pollacks joined student-led tours of the newest facilities on the New Brunswick campus of RWJMS: the expanded Cancer Institute of New Jersey (CINJ), the Bristol-Myers Squibb Children’s Hospital at Robert Wood Johnson University Hospital, and the Child Health Institute of New Jersey. Dr. Loria Pollack was intrigued by the interactive art, which is designed to capture children’s attention during visits to pediatric offices at CHINJ. In addition, as the group moved along, she enjoyed getting to know RWJMS graduates from other classes. “The opportunity to learn what fellow alumni are doing helps make the medical school more cohesive as an institution,” she says.

That evening, alumni and their guests gathered at the Hilton East Brunswick for the Gala Dinner Dance. Warm welcomes from Harold L. Paz, MD, dean, and Steven H. Krawet, MD ’89, president, Alumni Association, set the tone for the evening’s celebration. Then Francine E. Sinofsky, MD ’81, reunion co-chair, introduced reunion classes. Mary Holowinsky, MD ’84, had worked enthusiastically to gather her class for Reunion Weekend, and she enjoyed catching up even with those who were unable to attend. Dr. Holowinsky was pleased by her class’s turnout and by the presence of alumni from other classes as well. They included Suzanne Kabis, MD ’79, whom Dr. Holowinsky first knew as an attending physician, when she was completing a fellowship in infectious dis-

1. 9. Speakers at Continuing Medical Education Conference, “Breakthroughs in Science and Medicine: New Discoveries and Applications,” left to right: Jeffrey C. Brenner, MD ’95; Charles J. Gatt, Jr., MD ’89, chair, Department of Orthopaedic Surgery; David S. Kountz, MD, interim senior associate dean for community health and associate dean for postgraduate education; Steven H. Krawet, MD ’89, president, Alumni Association; Ronny I. Drapkin, MD, PhD ’88, and Manuel Jimenez ’06, HIPHOP student director. • 10. Alumni listen to lectures at CME Conference on Saturday morning in the Child Health Institute Conference Room. • 11. Alumni are impressed by the new child-friendly facilities at the Department of Pediatrics. • 12. Francine Sinofsky, MD ’81, co-chair, Alumni Reunion Committee, is delighted to discover that student tour guide Rehan Shamim ’08 is the son of Tasneem Shamim, MD ’81, Dr. Sinofsky’s classmate. • 13. Student tour guides point out The Cancer Institute of New Jersey building to Lois DeRitter, MD ’92. • 14. Student tour guides lead alumni on a tour of the Bristol-Myers Squibb Children’s Hospital at Robert Wood Johnson University Hospital (RWJUH). • 15. Alumni examine interactive sculptures in the lobby of the Bristol-Myers Squibb Children’s Hospital at RWJUH.
“We may be older, but we’re better. . . . I hope more alumni will come next time to rekindle fond memories and enjoy each other’s company.”

Closing the weekend, a Sunday morning brunch gave alumni one more chance to get together. Dr. Holowinsky attended, as did her husband, William Chen, MD, and their two children. Dr. Krawet was on hand as well, to urge alumni to return soon. As Dr. Burke put it, “It was a really nice way to wrap things up and say good-bye.”

As the DJ took over for the dinnertime jazz trio, the Class of ‘89 headed for the dance floor, where they remained for the rest of the evening.

By special invitation, some future alumni joined the party as well. “It was nice to see and talk to current students,” says Dr. Watabe. “Remembering how far away the end of medical school seemed to us when we were students, we can be a valuable source of information for students and reassure them that by the time they graduate, they really will be ready to help people.”

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Robert W. Amler, MD ’76:

A Public Health Leader Reflects on His Medical Roots

Looking Back
Through the Telescope

Robert W. Amler, MD ’76, received the UMDNJ Distinguished Alumnus Award in 2005. The award recognized his distinguished 25-year career in the U.S. Public Health Service and his appointment in January 2005 as dean of the School of Public Health at New York Medical College (NYMC).

“My recent visits to RWJMS have reminded me of professional roots I didn’t realize I had, and themes that started in medical school, before I knew where they would take me,” says Dr. Amler. “Visiting the campus recently, I also saw something wonderful: this young school, positioned for growth in the 1970s, has come to fruition with a vast increase in the scope and quality of its research and educational offerings. “Seeing the medical school today is like looking backward through the telescope of 30 years. In 1972, a course in environmental medicine — really community medicine — was required for first-year students,” he recalls. “It ran the gamut of public health, which is very important when you consider that 95 percent of human disease is never treated in a hospital.”

BY KATE O’NEILL
Dr. Amler recalls meeting Harold L. Paz, MD, dean, during a 2004 visit to RWJMS, and thinking how wonderful it would be to be a medical school dean. Shortly thereafter, he was offered the position as dean at NYMC. “Seeing the results of Dr. Paz’s ten years of leadership made me better appreciate this new opportunity,” he says.

Founded in New York City in 1860, NYMC now is located in Westchester County, New York. “Our School of Public Health serves a student body with tremendous diversity of thought, background, and experience,” says Dr. Amler. “Most of our MPH candidates already work in health care or pharmaceutical jobs. Here they find their professional niche in areas such as biostatistics, health policy management, and environmental health.” The school hosts a Center on Disability and Health and a Center for Disaster Medicine; it also awards doctorates in epidemiology and in physical therapy.

Putting Children First

Throughout his career, Dr. Amler has forcefully and effectively advocated for children’s health. “Environmental threats typically affect children first,” says Dr. Amler, “because kids most closely interact with the environment. They play in the dirt, swim in the water, and love eating with their fingers. And they are often most profoundly affected, because their developing organs are more sensitive to toxicants and their emotional development is at risk.”

Dr. Amler completed a pediatric residency at Bellevue Hospital and St. Luke’s–Roosevelt Hospital Center, and a second residency, in preventive medicine, at the Centers for Disease Control. This launched a 25-year career in the U.S. Department of Health and Human Services (HHS). “The CDC was a wonderful training place — hard work, but you were working with brilliant colleagues and gaining expertise,” he says.

His first CDC assignment was to assess a preventive strategy to eliminate measles in the United States. He subsequently served as a primary care physician for medically underserved communities and as an epidemiologist responsible for infectious disease surveillance and prevention of diseases caused by tobacco, alcohol misuse, and obesity. He also researched the health effects of hazardous waste sites and nuclear facilities.

Dr. Amler was commissioned in the U.S. Public Health Service in 1979, and he served as chief medical officer within the Agency for Toxic Substances and Disease Registry and director of its Office of Children’s Health. While leading the agency, he created a network of Pediatric Environmental Health Specialty Units throughout North America, in collaboration with the U.S. Environmental Protection Agency. He also initiated a national program to protect the 72 million children whose health is threatened by fallout from emergency events and environmental risks.

An adviser to the U.S. surgeon general, Dr. Amler served from 2003 to 2005 as regional health administrator for HHS, with responsibility for New Jersey, New York, and the Caribbean. He led the response task force that integrated public health departments with hospital systems as well as health and medical emergency forces during heightened terror alerts.

In addition to the Distinguished Alumnus Award, Dr. Amler has received the U.S. Public Health Service’s Meritorious Service Award and a Leadership in Government Citation from the American Academy of Pediatrics, in which he served as chapter president for the Uniformed Services. A graduate of Dartmouth College, he has held faculty appointments at Columbia University, Emory University, and the Uniformed Services University of Health Sciences.

Dr. Amler recently collaborated with fellow alumnus Richard J. Jackson, MMS ’71, MD, MPH, to combat the effects of environmental toxins on children. Dr. Jackson, who received the UMDNJ Distinguished Alumnus Award in 1999, says, “I have known Rob for a long time as a gentle, hardworking, and decent man who cares deeply about children, and about the environment. The honor is well deserved, and all his colleagues are very proud of him and his accomplishments.”
Miriam Labbok writes: “I have been invited to accept the post of professor of practice of public health and a generously endowed chair at the University of North Carolina School of Public Health. The endowment will allow rapid growth into a center of excellence in MCH/infant and young child feeding to support international, as well as national and state, activities, training, research, and service.”

Robert Fleigelman has been named medical director for the American Maritime Officers Health Plan.

Manuel Porto reports: “I was recently appointed professor and chair and the E.J. Quilligan Endowed Chair in Obstetrics and Gynecology at the University of California, Irvine School of Medicine. I joined UCI in 1984 as an assistant professor and through the years have advanced within the department. I was chief of the division of maternal-fetal medicine until 2003.”

Kenneth Horowitz, husband of Carolyn Horowitz, passed away in January 2006.

Clifford Salinger is a cornea specialist who practices in Palm Beach Gardens, Fla. Last November he flew to Chittagong, Bangladesh, where he performed corneal transplants and other intraocular procedures for two weeks. He also showed local doctors how to perform the sight-saving procedures themselves.

Jamie Bouwers writes: “In January 2004, I joined Lifeline Medical Associates, an Ob/Gyn practice involving 60 physicians statewide, devoted to keeping obstetrical and gynecological care alive in N.J.”

Joseph Costabile writes: “The rumors you may have heard are true. We are home. Our unit has completed its turnover to Camp Pendleton, packed our bags, and returned to the States. . . . Thanks again to all of you for your support, care packages, and prayers.”

William Polvino has been promoted to executive vice president of Sapphire Therapeutics Inc., a private biopharmaceuticals company in Bridgewater that focuses on cancer and metabolic disorders.

Patricia Spiegel-Vitale writes: “Living in Salt Lake City, Utah, with husband, Al, and four kids: triplets Alexandra, Sophia, and Ryan (9), and Jazz (11).”

Eliza Hernandez-Cusati reports: “I am presently an ER attending at Huntington Hospital. Jim, Lucas (now 4), and I are doing fine. Please say ‘hello’ to all my classmates and wish them well.”

Jamie Ullman married Mark Nearenberg, an attorney, in New York City on October 10, 2004. She is an associate professor of neurology at Mt. Sinai School of Medicine.

Euton Laing received the Leonard Tow Humanism in Medicine Award, presented by the Arnold P. Gold Foundation, at the 2005 RWJMS Convocation. Dr. Laing hosts a radio program called “Changing Your Health with Dr. Laing,” which is broadcast on Harvest Radio, WKNB, 1070 AM, on Wednesdays from 1:30 to 2:30 P.M.

Howard Lederman is a physiatrist with Berkshire Medical Center in Pittsfield, Mass.

Yvette McCrea Ryan writes: “Currently medical director for Heartland Pain Management and Rehabilitation Center in Sebring, Fla. Also licensed as a security agent providing services for physicians and the general public.”

Christopher Derivaux and his wife had their second child, Lillian. They reside in Gibbssboro.

Farzana Haque writes: “Now board certified in nutritional medicine in addition to internal medicine.”

Bryon Quick is on staff at Kaiser Oakland.

Alicia Carroll is an ophthalmic plastic and reconstructive surgeon associated with Graystone Ophthalmology Associates of Hickory, N.C.

— Continued on Page 62
Michael Frankenthaler writes: “I am working as an intensivist at NYU Hospital and teach at NYU School of Medicine.”

Donald Keir and his wife, Melissa Roesly ’94, have two children, Adam and Anelise.

Peter Stier writes: “Currently working as a board-certified OB/GYN with McGrinder and Mondragon Medical Associates in Schenectady and Clifton Park, N.Y.”

Samuel Ejadi is a staff oncologist at the Memorial Sloan-Kettering Cancer Center. He specializes in treatment of patients with melanoma.

Tara Frenkl joined RWJMS as an assistant professor in the Department of Surgery, division of urology. She is the director of female urology and reconstructive surgery.

John Lee joined the Department of Neurosurgery at the University of Pennsylvania School of Medicine as an assistant professor. He completed his residency in neurological surgery at the University of Pittsburgh, where he served as chief resident. He also completed a fellowship in functional neurosurgery at the Cleveland Clinic.

Jeffrey Lubin is director of EMS and critical care transport for University Hospitals of Cleveland, one of the major teaching hospitals of Case Western Reserve University. He is active in EMS and critical care transport research and education, regularly providing classes for nurses and paramedics. He completed an emergency medicine residency at Rhode Island Hospital / Brown University in 2002 and completed an emergency medical services fellowship at the University of Pittsburgh in 2004. He also earned a master’s degree in public health from the University of Pittsburgh in 2002.

Sonia Laumbach started as an assistant professor in the CentraState Family Medicine Residency Program in September.

Amit Patel reports: “I am a major, U.S. Air Force Medical Corps, currently stationed at Luke AFB, Phoenix, Ariz., home of the 56th Fighter Wing. I served on a humanitarian mission to El Salvador as a chief resident during my Ob/Gyn residency at Lackland AFB, Texas, and graduated in June 2003. I married my wonderful wife, Amisha, in April 2001. After I complete my Air Force commitment next year, we plan on settling here in Phoenix. We look forward to seeing those of you moving out this way soon.”

Ross Segan is a staff general surgeon at the Tripler Army Medical Center in Honolulu. He and Michelle Nemeth, DO, were married in August 2005.


Joseph Markowitz is completing a psychiatry residency program and will begin a fellowship in addiction psychiatry in the summer of 2006.

Janice Mehnert is a hematology/oncology fellow at Yale School of Medicine. Her husband, Peter Vaclavik ’02, is, in the last year of his anesthesia residency at Yale.

Deepa Verma writes: “I married Adarsh Verma ’01 in 2001. I completed my family medicine residency at Somerset Family Practice in June 2005. I was chief resident in my third year. Adarsh is in the last year of her radiology residency at RWJMS and will begin an interventional radiology fellowship in Miami in 2006. We had our first baby, a boy, Saahil, on April 19, 2003.”

Mark Reiter and Christina Miller Reiter write: “We recently celebrated our third wedding anniversary. Mark is in his emergency medicine residency at the University of North Carolina and Christina is in her anesthesia residency at Duke. Mark is president of the American Academy of Emergency Medicine Resident and Student Association and serves on the American Medical Association Council on Legislation.”

We love hearing from you! Please send your professional and personal news for Class Notes to:

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The forces acting on graduate medical education are as powerful and unforgiving as gravity; the changes they cause can trigger secondary, sometimes unintended, reactions that stress residency programs and academic medical centers. For example, the impact of recently enacted work hour limitations is not yet fully realized. Their purpose was to improve educational experiences and outcomes and to diminish medical errors. Who could criticize limiting resident duty to a maximum of 80 hours per week, with at least ten hours off between shifts, overnight call no more frequent than every third night, and one day in seven free of in-hospital duty? Most non-physicians, when told that residents’ hours of work have been cut down to no more than 80 per week, imagine themselves on a similar schedule and conclude that the demands on residents are still unreasonable. But change doesn’t happen in a vacuum, and like actions in physics, each change has an equal and opposite reaction. Every time residents reach their work hour limit and have to stop their clinical duty, they need to “sign out” their patients to someone else. The more complex the patient’s situation, the more difficult the transfer of responsibility, and the greater the potential for errors and omissions. The net effect might not be a decrease in medical errors.

Limits on what an individual resident can do also create a need for more residents or “resident substitutes.” The “pie” of clinical duties can’t be cut into smaller pieces without creating more pieces. The financial burden on teaching hospitals of funding either more residents or other patient care providers (house physicians, nurse practitioners, physician assistants) is significant. Medicare reimbursement to hospitals can offset the cost of support for the number of residents at which the hospital is “capped,” but the cap is frequently too low and the Medicare audit process is becoming increasing stringent. For some procedural skill-oriented fields such as surgery, residents must meet quantitative experiential requirements to complete residency training. The new work hour limits may restrict a resident’s opportunity to perform the required number of cases in the time span of the residency. The possibility that an additional year may be required for some training programs is very real, very costly, and likely to be a disincentive for trainees to enter those fields.

The national awareness of medical errors is increasing, as are publicly available quantitative reports of “quality measures.” We must deal with the dilemma that, despite the reality of the bell-shaped curve, no one wants to accept anything less than excellence.

Speaking of curves and graphs, it’s interesting to think about how we would visualize medical education graphically. We can think of graduate medical education as the middle segment of a rapidly rising curve that shows a physician’s expertise on the y axis and time on the x axis. The first segment on that horizontal axis would represent the four years of medical school. It’s clear that the curve would rise steadily and steeply over that four-year period. The next segment would be residency training, and its slope would also be a steep uphill one. The final segment would represent the continued gain of knowledge of physicians in practice, research, and administration: an ongoing uphill trajectory.

I sincerely doubt that these segments constitute one smooth curve; it’s more likely that a learner, at the transition points between medical school and residency and between residency and independence, must somehow acquire a significant dosage of new knowledge and skills. Instead of one smooth curve, the graph is more likely to look like a staircase. The challenge to medical educators and self-directed learners is to work backward from the knowledge and skills that physicians will need so that medical schools and residency programs can help learners acquire them, rather than leaving the individuals, or the program, practice, or laboratory into which they go, to make up the difference. This is one of the key themes of Educating Doctors to Provide High-Quality Medical Care: A Vision for Medical Education in the United States, a report by the Association of American Medical Colleges Ad Hoc Committee of Deans, published in July 2004, which described shortcomings and concerns across the continuum of medical education.

Graduate medical education is living in the realm of Newton’s second law of motion, where forces are not balanced. That law says that the acceleration of an object is dependent on two variables: the net force acting on it and the mass of the object. If we accept that GME is “mass-like” and is being acted upon by external forces, then change is inevitable. It’s an exciting time!

— Marie Trontell, MD ’76
Professor of Medicine and Associate Dean for Graduate Medical Education

Robert Wood Johnson • MEDICINE 63
The Physics of Graduate Medical Education

Sometimes graduate medical education (GME) reminds me of high school physics, with its interacting matter and energy. The complex system of residents in training programs would be the “matter.” It certainly is massive and interconvertible with energy. There is great “energy,” i.e., the capacity for doing work. There are multiple unbalanced forces. We have to deal with resistance, inertia, and entropy. And the whole process seems to be accelerating.

The sheer “mass” of the graduate medical education system is increasing as more energy is funneled into it. We all appreciate that the amount of information to teach and/or master is increasing at a dizzying pace. It’s all important: the human genome project, proteomics, new drugs, new technologies — to name only a few. Data management skills are now almost as crucial as physical examination skills. At another level, the “mass” of the GME system is also increasing steadily. The accrediting body, the Accreditation Council for Graduate Medical Education (ACGME), requires numerous formal, written policies for each program, regular formal evaluations conducted and acted upon, periodic institutional reviews of each program, and an official process by which the institution’s Graduate Medical Education Committee reviews and approves correspondence between the programs and the ACGME.

Each program and each sponsoring institution receives periodic site-visits to ensure full compliance with the ACGME requirements, a process that requires still more energy to be converted into matter, in this case paper. The requirements evolve in a fashion that requires constant vigilance. The ACGME now requires all programs to demonstrate that their trainees attain competence in the six core competencies of patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism, and systems-based practice. Requirements to be able to measure and guarantee quality outcomes are positive, but they demand time, energy, and new measurement systems that need ongoing attention and constant maintenance. When attention shifts or decreases, the system devolves and entropy reigns.

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BY MARIE TRONTELL, MD ’76
WE’RE MAKING A SERIOUS INVESTMENT IN THE HEALTH OF SOUTH JERSEY.

COOPER UNIVERSITY HOSPITAL'S BOARD OF TRUSTEES has approved a plan to expand its Camden campus by developing a new 10-story, $169 million patient care Pavilion. Construction of this state-of-the-art facility will begin this spring and will include 60 private medical-surgical rooms, 30 critical care rooms, a 12,000 square foot addition to the Emergency Department, 10 state-of-the-art operating room suites and a large open lobby. This is just the first phase of a long-term commitment to expand the quality of healthcare and economic growth of the region. For more information call 1-800-8Cooper or visit cooperhealth.org. Now more than ever, serious care starts here.
When New York Magazine and New Jersey Monthly reported on today's best doctors, Robert Wood Johnson University Hospital in New Brunswick had more top-ranked physicians than any hospital in New Jersey.

Nominated by their peers across the tri-state area, this exclusive list represents the top doctors that other doctors trust most. Choosing your doctors and your hospital are among the most important decisions you can make. Wouldn't you want to be treated by the top doctors other doctors recommend?

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