Humanism in Medicine
People Are the Heart of Our Craft
The Fall/Winter 2002 issue of Robert Wood Johnson Medicine highlights the most important role we have: educating our students to be caring, humanistic health professionals. Our school has been in the forefront of humanism in medicine for many years. Thanks to the support of The Arnold P. Gold Foundation, RWJMS was one of the first schools to hold a White Coat Ceremony for entering students, setting the tone for their education. Over the years, we instituted the Student Clinician Ceremony for students entering the third year, and the Transition Ceremony for second-year students. Finally, the Gold Humanism Honor Society was introduced this year to recognize graduating students for their commitment to humanistic ideals. Our faculty members have led this movement and have encouraged students to adopt this important philosophy. The piece about our Master Educators illustrates their dedication to the education of students.

This issue also highlights many of the research scientists at the school. Dr. Danny Reinberg, professor of biochemistry and Investigator, Howard Hughes Medical Institute, has established one of the world’s leading laboratories to study gene expression. At The Cancer Institute of New Jersey, Dr. Lorna Rodriguez-Rodriguez has assembled a first-rate team to study and treat women’s gynecological cancers.

Two of our departments with new leadership are growing impressive research and clinical programs. The Department of Pathology and Laboratory Medicine has developed an impressive team of pediatric researchers and clinicians are teaming up to establish a first-rate center for children in New Jersey.

As always, we thank our alumni, colleagues, and faculty for their support of our programs. Their collaboration is essential as we strive to meet our goals in education, research, patient care, and community service. I look forward to another outstanding year.

Sincerely,

Harold L. Paz, MD
Dean
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FALL/WINTER 2002

Right now, they’re not thinking about their retirement portfolios.
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Dr. Pestka Gets Top Honors

T he question is an old one — what do you give the man who has everything? When the man is Sidney Pestka, MD, professor and chair, Department of Molecular Genetics, Microbiology, and Immunology, and the recipient of countless tributes by the medical community, one has to wonder if recognition by the highest office in the nation isn’t a fitting acknowledgment of his work. Apparently President George W. Bush believes it is.

On June 12, during a White House ceremony, Dr. Pestka was one of four individuals and one company awarded the 2001 National Medal of Technology, the highest honor awarded by the president of the United States for technological innovation. In presenting the medals, President Bush remarked, “The world of our children will be shaped by the people we honor today. On behalf of all Americans, I want to thank you for your lifelong commitment to making our world a better place.”

Dr. Pestka is credited with taking interferon more than two decades ago and initiating other investigations that led to Dr. Nirenberg’s being honored with the 1968 Nobel Prize in physiology or medicine. He later joined the National Cancer Institute, where he conducted research on protein synthesis andinitiated other investigations as well.

Dr. Pestka is credited with revolutionary work in the field of interferon. His discoveries, performed at a company he formed to harness the immune system of patients with malignancies in order to eliminate cancers and their recurrence.

Inducted into the New Jersey Inventors Hall of Fame in 1993, Dr. Pestka has received several awards for his research, including the Selman Waksman Award in Microbiology, the Milstein Award from the International Society for Interferon and Cytokine Research, and the Flotow Small Business Award for Advancement and Technology.

He is secretary and former president of the International Society for Interferon and Cytokine Research. He has served on committees of several organizations, including the National Cancer Institute’s Breast Cancer Task Force, the National Academy of Sciences Committee on Scholarly Communication with the People of Republic of China, and the Basic Pharmacology Advisory Committee of the Pharmaceutical Manufacturers’ Association Foundation.

Established in 1981 by Congress and administered by the Department of Commerce, the National Medal of Technology recognizes men and women who embody the spirit of American innovation and have advanced the nation’s global competitiveness. Recipients are those whose groundbreaking contributions commercialize technologies, create jobs, improve productivity, and stimulate the nation’s growth and development. To date, the honor has been bestowed on 120 individuals and 12 companies.

Commenting on the 2001 Laureates and the significance of the medal itself, U.S. Secretary of Commerce Donald L. Evans remarked, “Those we honor are pioneers, risk takers who push the boundaries of technology to improve the lives of others. They are adventurers and explorers in the great world of science and technology — a world where progress prevails over inertia, enlightenment prevails over ignorance, and opportunity prevails over hopelessness.”

In his own comments on becoming part of the select group of Laureates, Dr. Pestka referred to the medal as the second most important award of his life — the first being his wife, Joan, and family. He extended special thanks to Joan Pestka.

Drop Us A Line!

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A SENSE of Community

Dear Editor:

I really love the latest issue of Robert Wood Johnson Medicine. You’ve done a beautiful job with the magazine. The photography is really first-class, I especially like the portraits. I also like reading about the research being pursued here.

The magazine really creates a sense of community, a feeling that we’re all together in a common pursuit.

Regards,

— R.M.R.

Robert R. Rodrick
Grants and Contracts Administrator
Robert Wood Johnson Medical School

Every once in a while, a scientist emerges whose genius and courage in pursuing the unknown elevate him or her entire field of endeavor. Sidney Pestka is such a person.

— Harold L. Paz, MD, dean
Research

NIH FUNDING:
During fiscal year 2002, the National Institutes of Health (NIH) awarded $48,876,464 to RWJMS faculty. NIH grants included the following: "Regulated C-myc destabilization during differentiation." In addition, they also received $7,974,000 in funding for an NIH competitive renewal, "Post-transcriptional regulation of oligomer messenger RNA." Barbara Brodsky, PhD, professor of biochemistry, received a one-year, $161,653 NIH grant for "Acquisition of a circular dichroism spectrometer." NIH awarded $77,760 to Oak Z. Chi, MD, professor of anesthesiology, for "Estrogens and the aging blood-brain barrier." NIH awarded Sarah F. Hitchcock-De Gregori, PhD, professor of neuroscience and cell biology, a four-year, $1,241,780 grant titled "Molecular mechanisms of regulation of contraction in muscle and nerve cells." NIH awarded John Lenard, PhD, professor of physiology and biophysics, a $74,819 grant for "Transport mechanisms of regulation of contraction in muscle and nerve cells." NIH awarded $1,965,184 to Bingham L. Li, PhD, associate professor of molecular genetics, microbiology, and immunology, for "A genetic approach to genome-scale analysis of cancer."}

The 1997 strategic planning retreat led to the appointment of a strategic planning steering committee. In addition, Dr. Paz appointed four ongoing faculty subcommittees that focus on the main areas of the school’s mission: education, patient care, research, and community service and diversity. Two years ago, the pace of planning picked up as a task force came together to organize people and gather the information required by the LCME.

"We are delighted that the LCME recognized the exceptional work we do in educating our students and preparing them to be lifelong learners.” — Harold L. Paz, MD, dean

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John B. Kostis, MD, a professor at UMDNJ’s Award for Outstanding Research Achievement, which was accompanied by a $50,000 grant toward his project, “Function of Drap1 in vivo.” NIH awarded $77,750 to Irina Nayvelt, PhD, assistant professor of obstetrics, gynecology, and reproductive sciences, for “Bidirectional Ca signaling between cell surfaces and intracellular membranes.” NIH awarded Dr. Mehne says the school was “impressive” and that “the LCME’s total commitment and the integral involvement of students at every level.” In addition to administrators and department chairs, 250 faculty members and 225 students were involved in preparing for the LCME visit. The effort included committee work and discussions, gathering and organizing more than 10,000 items of data required for the final documents, and participating in February’s all-important mock site visit. Dr. Tromell adds, “The LCME evaluators commented afterward that they had never encountered such an enthusiastic group of teachers and students.”

Accreditation is important for several reasons. Without it, schools are ineligible to receive federal grants for medical education and cannot participate in federal loan programs. Only students and graduates of LCME-accredited medical schools are eligible to take the U.S. Medical Licensing Examination through the National Board of Medical Examiners.

Dr. Paz, who has served on four LCME survey teams, says the work does not stop with reaccreditation. “We are delighted that the LCME recognized the exceptional work we do in educating our students and preparing them to be lifelong learners.” — E.O.N.
Robert E. Campbell Family Pavilion at CINJ

When Robert E. Campbell makes a gift to an institution, people are his priority. In the summer of 2002, when he contributed $1.5 million to The Cancer Institute of New Jersey (CINJ), he was thinking of his father, who had died from cancer, and of other patients and their families. The gift, the largest personal contribution in CINJ history, will create the Robert E. Campbell Family Pavilion, “an investment in the future of people in need,” he says.

“The vision the Cancer Institute does and how well it does it,” Mr. Campbell adds. “I’ve seen the response — not just statewide but worldwide — as CINJ quickly went from serving the projected 16,000 patient visits a year to over 50,000.”

As CINJ implies in size to meet patient needs, many new programs and protocols have been created. Mr. Campbell thought carefully before designating the core pavilion in honor of his family: his wife, Joan, their four children, and eight grandchildren. “I didn’t want to single out a particular area of cancer treatment as deserving of research,” he says. “I hope others will follow by supporting those.” Instead, he imagines the Robert E. Campbell Family Pavilion as a comfortable first stop on patients’ journeys through the cancer institute.

“With the CINJ Board of Trustees and his enthusiasm for all of the new facilities, he also hopes the named pavilion will inspire his children and grandchildren to continue giving generously to institutions of their choosing and supporting causes in which they truly believe,” Mr. Campbell says.

Commenting on the impact of the new facility to the treatment of cancer patients through the state, Harvey Holzberg, president and CEO of the hospital, recently dedicated, now serves as the flagship hospital of CINJ, our new Cancer Hospital means New Jersey cancer patients will have the latest and best in cancer treatment, care, and research here in New Brunswick.”

Underlining the significance of the new hospital is the fact that more than half of RWJUH’s cancer patients reside outside the traditional service area and constitute the highest-case mix intensity index in the State. CINJ, a designated UMDNJ Statewide Center of Excellence, is the only National Cancer Institute (NCI)-designated program in New Jersey and one of only 39 NCI-designated Comprehensive Cancer Centers in the nation. Laboratory research currently is supported by more than $45 million in grants.

“RWJUH began laying the groundwork for the new hospital in the early 1990s with the help of William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology programs, and director of CINJ. “The hospital’s response to the need for expanded inpatient cancer services parallels the vision of CINJ,” Dr. Hait says. “By building the Cancer Hospital of New Jersey on the hospital’s campus, we are creating a cancer research and treatment complex unrivaled by any cancer center in the world.”

The main lobby creates a welcoming two-story glass atrium and will house admits and pre-admission testing space, a gift shop, and a surgical waiting area. Outside, a two-story, space, to drop off patients facilitates parking. Mr. Holzberg reports the new building features improved “wayfinding” for patients and visitors. Thirty private ICU rooms are located on the third floor; 31 private rooms for medical oncology patients, rocketed to an addition- al 31 patient beds if needed. The seventh floor will house the mechanical equipment and penthouse. Provision for an eighth-floor rooftop heli-pad has been made as well.

An expanded adult emergency department and adult radiology program are planned for the floor of the new hospital. In emergency, increased patient treatment space, improved triage, and enhanced services for acute care, based on new requirements for bioterrorism preparedness, will be added.

Parvesh Kumar, MD, professor and chair, Department of Radiation Oncology, is developing a leading-edge radiation therapy service, to include 3-D conformal radiation therapy, intensity-modulated radiation therapy (IMRT), stereotactic radiosurgery, stereotactic radiation therapy, total body irradiation, and high-dose- and low-dose-rate brachytherapy, as well as cardiovascular brachytherapy.

Commenting on its significance to the community, Dr. Kumar says, “The new depart- ment will have capability for the most sophisticated radiation therapy treatment available in New Jersey and will be commensurate with the nation’s leading cancer centers.”
New Classrooms Rise from an Ancient Tradition

Five years after receiving the Cancer Institute of New Jersey (CINJ) at UMDNJ-Robert Wood Johnson Medical School has received the highest designation of the National Cancer Institute as a Comprehensive Cancer Center. CINJ is New Jersey’s only NCI-designated Comprehensive Cancer Center and one of only 39 nationwide.

“CINJ is working tirelessly to discover improved methods to prevent, detect, and treat cancer,” says William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology programs, and director of CINJ.

“It is through such efforts that CINJ is working tirelessly to discover improved methods to prevent, detect, and treat cancer.”

Among criteria needed to gain the new designation, a center must provide a strong core of basic laboratory research in several fields as well as a mechanism for transferring research findings into clinical practice. It must hold a record of innovative clinical research studies in the community served by the center and must have a program of high-priority clinical trials for therapies with unusual promise, along with a program of cancer prevention and control research.

The NCI Cancer Advisory Board, whose members are appointed by the president of the United States to oversee the NCI programs and policies, must recommend approval for a center to receive the comprehensive designation.

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Harvey Holzberg Assumes UMDNJ Chair

Governor James E. McGreevey has announced the appointment of Harvey A. Holzberg, president and chief executive officer of Robert Wood Johnson University Hospital (RWJUH), as chair of the UMDNJ-Robert Wood Johnson Medical School Board of Trustees.

In his role as chair, Mr. Holzberg will spearhead the activities of the ten-member board as it directs the growth of UMDNJ’s campuses statewide and its affiliate institutions.

“Congratulations to Harvey A. Holzberg, president and chief executive officer of Robert Wood Johnson University Hospital and chair of the UMDNJ Board of Trustees.”

Mr. Holzberg goes beyond mere philanthropy. At its highest level, the donor enables the recipient to become self-reliant. That is where one will find the Grossman, who lean toward supporting educational projects, especially at the some’ colleges. Because the Grossman have been fortunate, they make a point of giving back to the community. As board members of their family’s foundation, Matthew and his brother, Adam, participate in each philanthropic decision.

The technology of the new classrooms is fascinating, says Matthew’s father, Dr. Jerold Grossman, president of Bio-Pharmaceuticals. Every student closely observes clinical examinations thanks to a closed-circuit camera. The teacher can stand anywhere in the classroom and manage all its audio and video resources through a portable, remote-control touch screen. A white screen replaces information stored on a computer, then erases lectures and annotations for student reference throughout the semester.

Dr. and Mrs. Grossman hope to inspire others to support RWJMS. To that end, they hosted an elegant garden party this past summer to showcase the medical school and announce their gift to alumni, students, faculty, neighbors, and community leaders.

“An extremely grateful to the faculty and staff of CINJ for their outstanding contributions that helped earn this designation,” says William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology programs, and director of CINJ.

“It is through such efforts that CINJ is working tirelessly to discover improved methods to prevent, detect, and treat cancer.”

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To learn how you can benefit from the future of medical education, call 732-235-9531 or by email, katzli@umdnj.edu.

to DN J

“Tzedakah is a gift of goodwill and good fortune to those in need.”

Dr. and Mrs. Grossman are committed to building the University’s legacy of excellence and service to patients throughout the world.

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“Lancet” Publishes Student’s Public Health Findings

Recent publication in The Lancet has named Douglas Berkman ’04 into something of a celebrity. Although a British Broadcasting Corporation report promoted him as “Dr. Berkman,” he did his research as a pre-medical student working toward a master’s degree in public health. When The Lancet accepted his article for publication, he had just finished his first year at UMDNJ-Robert Wood Johnson Medical School.

To collect data for his master’s thesis, Mr. Berkman spent the summer in a Peruvian shantytown, surrounded by the nine-year-olds who were the subjects of his study. Along the way to publication, he encountered local dialects, resolving labor disputes, overcoming cranky computers, earning his master’s degree, writing application essays for medical schools, and successfully completing his first year of medical school.

After maturing in biology at the University of Pennsylvania, Mr. Berkman enrolled in a two-year master’s program in epidemiology at the Johns Hopkins University Bloomberg School of Public Health. The school’s Robert Gilman, MD, professor of neuroscience and cell biology, and Bill Schafter, in the laboratory of Aaron J. Shatkin, PhD, professor of molecular genetics, microbiology, and immunology, and director, CABC, awarded Mr. Berkman $2,800 summer fellowships from the N.J. Commission on Cancer Research, which also awarded Mrs. Berkman $4,900, beginning July 2002, to Wajidrak Salamagaran, PhD, assistant professor of physiology and biophysics, for “TGF-beta, professor of physiology and biophysics, a $35,000 grant, titled “Novel computational tools for the identification and prediction of endocrine-disrupting chemicals.”

The Lancet accepted his article. “We realize, ‘Oh! We really have something here,’” Mr. Berkman found that 32 percent of the 145 children were physically stunted. Moreover, his WSC-R results linked serious cognitive losses to childhood malnutrition. A 10-point difference on the full-scale WSC-R corresponds to nearly a standard deviation, he says. His study showed that children who had been severely stunted in their first two years scored an average of 10 points lower than their peers when they took the WSC-R at age nine. He also found that infection at least once a year with the Giardia lamblia parasite cor-

The Lancet was the most prestigious and challenging, but Bob [Gilman] thought I had only a ten percent chance,” he says. “I decided to go for it, though, because they cover a variety of topics and are interested in papers with significant findings in international health. It was the best thing I ever did.” As a first-year medical student, he spent every free moment reducing his 70-page thesis to a six-page article. In March, he submitted it to The Lancet and soon afterward headed to Argentina to participate in a summer exchange program. Mr. Berkman was there when he learned that The Lancet had accepted his article.

Back at RWJMS, he worked for five months editing drafts and galleys that were shipped back and forth between there and London. “They always seemed to ar-

Mr. Berkman warns “This paper alone won’t change things, but it makes a dent. It provides the evidence needed to begin introducing better sanitation and improving food supplement programs. Change might begin with governments, non-governmental organizations, but everyone knows knowledge is power, and ultimately, the people will want things to happen.”

— K.O’N.
Explosive Joy: RWJMS Convocation, May 21, 2002

J oined by an audience of family and friends, the UMDNJ-Robert Wood Johnson Medical School Class of 2002 gathered for Convocation on May 21. The event, held annually on the eve of the UMDNJ Commencement, focuses on the four years that each RWJMS class has spent together.

The students were welcomed by DepoMed to study “MetforminED (M-ER) tablets and Metformin immediate release (M-IR) tablets in the treatment of type 2 diabetes mellitus,” and $24,510 from Novo Nordisk to study the “Preference and frequency of blood glucose monitoring comparison with MG51 and visual/synthetic/receptor in insulin-requiring type-1 subjects.”

The elected student speakers were Alexander Grunfeld '02, Piscataway campus, and Howard Hughes Medical Investigator. Clifton R. Lacy, MD ’79, Camden campus. Scott L. Aronson ’02, Piscataway campus, and Elawo were chosen by their classmates to receive the Alumnus Award. This honor recognizes the students who best demonstrate the high ideals of the medical professional, maintain the highest standards of personal integrity, and have made a significant contribution to the medical school class.

Individually, the 134 soon-to-be graduates were introduced to their enthusiastic audience by David Soden, PhD, professor of neuroscience and cell biology and associate dean for admissions and student affairs, and Paul R. Melch, PhD, associate professor of family medicine and associate dean for academic and student affairs, Camden campus. Bruce D. Fisher, MD, clinical professor of medicine, Piscataway campus, and Daniel J. Hyman, D.O., assistant professor of medicine, Camden campus, led the students in reciting the Hippocratic Oath.

The students were welcomed in the Alumni Association by Geza Kiss, MD ’95, chair, membership committee, who presented each graduate with a mug emblazoned with the association’s logo.

— K.O.N.
Farriris Casaccia-Bonnefil, MD, PhD, assistant professor of neuroscience and cell biology, has received funding for her multiple sclerosis research from an unusual source—an MS patient himself.

In 1995, Ralph Rosa was a recent college graduate with a promising musical career as a guitarist. Shortly after that, he began to notice a lack of coordination in his hands. "The guys in the band told me I was slackin’ off, getting sloppy," he says. "But that wasn’t it. I was working harder than ever to get my music right."

A spinal tap confirmed that Ms. Rosa had multiple sclerosis. The degenerative effects of the neurological disease became more pronounced, and by 1998 he was bound to a wheelchair. He can no longer perform, and that is perhaps the most tragic consequence of the illness for a young man who, a few years before, faced life with such promise. Still, he is determined to walk again, and he is hastening that event by establishing a foundation aimed at MS research.

To date, the MS Research Foundation, based in Perth Amboy, has raised $10,000 through grants to research being conducted by Dr. Casaccia-Bonnefil, the group’s only beneficiary. The money was raised through a benefit show, and Ms. Rosa currently is working to raise still more to earn additional funds for UMDNJ-Robert Wood Johnson Medical School research.

"I went to the Web and scanned all the research being done on the disease," she says. "Dr. Casaccia-Bonnefil’s work at RWJMS interested me most because she is a researcher as well as a clinician. When I talked to her, I knew instantly she was the right choice. She is a person, and she cares deeply about what she is doing."

Dr. Casaccia-Bonnefil explains that MS is a disease in which the immune system attacks myelin, an insulating membrane that protects the axons in the brain and spinal cord. When myelin is attacked, the nerve conduction is slower, and this leads to the onset of various clinical symptoms, depending on the site of the lesion. Patients may experience impaired memory, blurred vision, poor coordination, an altered sense of touch, defective balance, or damaged locomotion.

"In MS, there is a constant battle between the attacks on the neurological system and the attempts by the body to repair the damage," she says. "One way to do that is to replace damaged cells by stimulating the young progenitor cells present in the brain to mature into oligodendrocytes so that they can restore myelin."

Dr. Casaccia-Bonnefil is interested in understanding the cellular mechanisms responsible for the differentiation of the progenitor cells into oligodendrocytes.

"We began to ask ourselves why, at a certain stage of the disease, the ability of the body to repair the damage dramatically decreases," she says. "We hypothesized the existence of some sort of obstacle inside the cell that appears to inhibit myelin formation. We are now starting to unravel the nature of this inhibition, and we believe it is linked to the state of chromatin inside the cells. We think complete repair will be possible only if pharmacological agents able to stimulate the cells can be combined with treatments to bypass the cellular resistance to make new myelin."

Mr. Rosa says he and Dr. Casaccia-Bonnefil, who first met through the grant provided by the MS Research Foundation, have become fast friends. She agrees, saying his optimism and determination are an inspiration to work being undertaken to find a cure for MS.

"I invited him to meet my colleagues and to address my medical students," she says. "They were all touched by Ralph’s life story and impressed by his determination and strength."

Mr. Rosa admits he wasn’t always a crusader, working on behalf of MS research. "I was slacking off, getting sloppy," he says. "But that wasn’t it. I was working harder than ever to get my music right."

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"We began to ask ourselves why, at a certain stage of the disease, the ability of the body to repair the damage dramatically decreases," she says. "We hypothesized the existence of some sort of obstacle inside the cell that appears to inhibit myelin formation. We are now starting to unravel the nature of this inhibition, and we believe it is linked to the state of chromatin inside the cells. We think complete repair will be possible only if pharmacological agents able to stimulate the cells can be combined with treatments to bypass the cellular resistance to make new myelin."

Mr. Rosa says he and Dr. Casaccia-Bonnefil, who first met through the grant provided by the MS Research Foundation, have become fast friends. She agrees, saying his optimism and determination are an inspiration to work being undertaken to find a cure for MS.

"I invited him to meet my colleagues and to address my medical students," she says. "They were all touched by Ralph’s life story and impressed by his determination and strength."

Mr. Rosa admits he wasn’t always a crusader, working on behalf of MS research. "I was slacking off, getting sloppy," he says. "But that wasn’t it. I was working harder than ever to get my music right."

"I knew instantly she was the right choice. She is a person, and she cares deeply about what she is doing."

Dr. Casaccia-Bonnefil explains that MS is a disease in which the immune system attacks myelin, an insulating membrane that protects the axons in the brain and spinal cord. When myelin is attacked, the nerve conduction is slower, and this leads to the onset of various clinical symptoms, depending on the site of the lesion. Patients may experience impaired memory, blurred vision, poor coordination, an altered sense of touch, defective balance, or damaged locomotion.

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Meeting the Press

The comments of Harold L. Pao, MD, were featured in the April 15 issue of New Jersey Business (NJB). The article describes the city of New Brunswick’s new $750 million CORE (Commercial, Office, Research, and Entertainment) Plan. The plan seeks to attract downtown start-up businesses, including “those spawned in the labs of the Robert Wood Johnson Medical School,” says NJB. In addition to plazas, residential areas, and 1.75 million square feet of office space, the plan calls for 450,000 square feet of laboratory facilities. In the article, Dr. Pao notes that several faculty members have had to seek space elsewhere to accommodate their growing young technology companies.

Professionally Speaking

Lilly A. Bruzina, MD, professor of environmental and community medicine, presented “Bioterrorism Preparedness and Response: Implications of the Anthrax Experience,” at the American Association of Medical Colleges, Organization of Student Representatives, funded the day’s closing event: a pizza and ice cream party and a lively discussion of the day’s experiences.

Summer Break? Not for HIPHOP!

The RWJMS chapter of the American Association of Medical Colleges, Organization of Student Representatives, funded the July issue of Fertility and Sterility. "Thalidomide Use: Past History and Current Implications for Practice." The illustration accompanied the art "DNA Microarray Analysis of the Expression Profiles of Luteinized Granulosa Cells as a Function of Ovarian Reserve," co-authored by Khoo-Whan Chen, PhD, assistant professor of medicine and pharmacology.

Oncology Excellence in Writing Award in Clinical Practice for her work in "Thalidomide Use: Past History and Current Implications for Practice.

The accompanying figure was used as the cover illustration for the June issue of Fertility and Sterility. It illustrates the mRNA expression profiling of granulosa cells isolated from women of different reproductive ages during an M phase.

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David B. Selvar, MD, professor of obstetrics, gynecology, and reproductive sciences; Bo Fang, PhD, assistant professor of obstetrics, gynecology, and reproductive sciences; Yong Lin, PhD, assistant professor, UMDNJ-School of Public Health; and Weijiang J. Shi, PhD, professor of environmental and community medicine. Their work was supported by two grants from the National Institute of Health.

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Gene expression — the process that cells use to produce protein from genes on DNA strands — is fundamental to all life. In all living cells, DNA sequences in genes are first “transcribed” to RNA molecules, which then become the templates for proteins. But for life to exist, the right genes have to be expressed at the right time to produce the right amounts of each protein when needed. “Why does a gene get transcribed when it does? What controls this process?” asks Danny F. Reinberg, PhD, professor of biochemistry and Investigator, Howard Hughes Medical Institute, at UMDNJ-Robert Wood Johnson Medical School. “These are the key questions I have been working on since 1985.”

In the process of answering these questions, Dr. Reinberg has become one of the world’s leading researchers in gene expression, unraveling some of the key mechanisms in the exceedingly complex process that controls the genes. “Dr. Reinberg is one of the most distinguished and outstanding researchers at the medical school,” says Judith A. Neusz, PhD, professor of medicine and acting senior associate dean for research. “His work was recognized at the highest level by his being one of the first of our scientists to become an Investigator of the Howard Hughes Medical Institute, an extremely prestigious award for any medical scientist.”

The special recognition continues. In May, Dr. Reinberg was awarded the Foundation of UMDNJ Award for Outstanding Research Achievement. This $50,000 grant is awarded every other year to a UMDNJ faculty member in recognition and support of outstanding research. The external review committee described Dr. Reinberg as “an outstanding scientist and leader in the field of understanding how genes are regulated transcriptionally.”

BY ERIC J. LERNER • PHOTO BY JOHN EMERSON
WHICH GENES ARE EXPRESSED WHEN

very cell in the human body has the same set of genes, but not all genes are expressed in all cells, at all times,“ says Dr. Reinberg. “Some genes are tissue-specific — they are expressed only in heart tissue or only in liver tissue. And within a single cell, a gene is expressed only when the cell requires much of its tissue’s genetic material to be made. So there have to be control mechanisms that ensure certain genes are expressed at the level that the cells need them to be expressed.

“In some diseases,” he adds, “there is something wrong with these control mechanisms — proteins needed for a cell to be normal are not present in the right amounts. Understanding the control mechanisms is critical to understanding and treating disease.”

Dr. Reinberg started his search for these control mechanisms in 1985, when he became an assistant professor of biochemistry at the State University of New York at Stony Brook. He had emigrated from his native Chile in 1978 to do graduate work at the University of Chile, where he was exposed to the field of molecular biology. “So to do research I had to come here,” he says. Dr. Reinberg earned his doctoral degree with Jerry Hurwitz, PhD (now a pioneer in the field of cancer research at the Albert Einstein College of Medicine), studying the basic mechanisms that enable DNA replication during cell division.

Initially, he went to the University of California at Berkeley for post-doctoral studies. “But I left after four months — California was too laid-back,” he recalls. He then completed his post-doctoral work at Rockefeller University in New York City, where the pace of life better suited his temperament. “For seven years I would work seven days a week, after regular hours,” he says, describing his time at Rockefeller. “It was then that I really understood what research in a biological problem is and the importance of passion, enthusiasm, and dedication for what you are doing. Rockefeller toughened us up; it is never a burden; it’s just part of your passion for what you are doing.

Dr. Reinberg was hired at Stony Brook in 1985 by Massoud Issy, PhD, now professor and chair, Department of Biochemistry at RWJMS. “Everyone was impressed by Danny’s determination and deep personal interest,” says Dr. Issy. “And he worked hard at Stony Brook.”

Thus, Dr. Reinberg has spent almost his entire career at RWJMS, advancing to associate professor in 1990 and professor in 1994. “In the process, he has trained a generation of graduate students and post-doctoral researchers,” Dr. Reinberg’s lab discovered that when the smallest (11-nm) fiber is exposed, a factor that he called FACT can allow the polymerase to read the DNA while it is still wrapped on the nucleosomes. “We found that FACT removed half of the histones ahead of the polymerase and replaced them, allowing the polymerase to push its way through the spool, transcribing the DNA as it went,” Dr. Reinberg explains.

Closing In on the Goal

To allow polymerase access to the genes, the 30-nm and larger-order structures in the chromosome have to be unraveled, opening up so that the gene can be transcribed. “The chromosomal structure around silent genes is tightly wound up, allowing no access, while the active genes have the polymerase and other factors moving around,” Dr. Reinberg says. In past years, Dr. Reinberg and his team have found that the key to unlocking this chromosomal structure lies in histone tails — hook-like projections that extend outward from each tiny histone spool in the chromosome. The tails lock together tightly or loosely, and thus whether the genes spool around them are active or silent, says Dr. Reinberg.

This was an exciting discovery, because the modifications formed on these tails determine whether the tails lock tightly or loosely, and thus whether the genes spool around them are active or silent, says Dr. Reinberg. “By this time, Danny was recognized as one of the leading scientists in the field of gene expression,” says Dr. Inouye. “Many other institutions tried to lure him away, but we were somehow able to win the competition.”

Finding the Critical Factors in Gene Expression

Finding the critical factors in gene expression is a complex and labor-intensive process. First, molecules that might play a role in RNA generation are identified, a difficult process in itself. The ticket to success in gene expression is in understanding the GTFs, Dr. Reinberg was named an Investigator of the Howard Hughes Medical Institute in 1994, an...
Discovery rooted in both basic and clinical studies by nationally recognized investigators underlines progressive treatment initiatives in the fight against women’s gynecological cancers at RWJMS.

“Discovery propels search for cure,” reports William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology programs, and director of CINJ. “We want to make the discoveries that define how gynecological oncology will be practiced in the years ahead.”

He explains that Lorna Rodriguez-Rodriguez, MD, PhD, associate professor of obstetrics, gynecology, and reproductive sciences, and chief of gynecological oncology, is one of the few physicians in her field with an active laboratory program.

“She brings a strong research base to CINJ,” he says. “Her extraordinary background, working in concert with research colleagues in other disciplines, will, I expect, culminate in important results that can be applied to women’s cancers.”

“The gravity of the place was compromised, however, by unexpected normalcy, as women reached into tote bags for snacks or chatted about a recent family wedding — almost as if cancer hadn’t intruded their lives. Occasionally, a nurse walked stealthily through the area, slowing her pace to speak with a patient. The exchanges were warm and unabashedly personal. From her corner, the newcomer felt her body relax, just a little. There was a sense of reassurance here, hope — and the unmistakable realization that patients were well cared for. What no amount of casual observation was likely to detect, though, is that good patient care is only part of what women diagnosed with reproductive cancers can expect at The Cancer Institute of New Jersey (CINJ) at UMDNJ-Robert Wood Johnson Medical School.”

“…Our mission is one not only of service, but of discovery,” reports William N. Hait, MD, PhD, professor of medicine and pharmacology, associate dean for oncology programs, and director of CINJ. “We want to make the discoveries that define how gynecological oncology will be practiced in the years ahead.”

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When the famed E. R. Ruppell Foundation Center for Women's Reproductive cancers opened its doors, patients will be treated in a dedicated facility featuring more clinic space with enlarged treatment rooms and added support services. “This will bring us closer to a 91% growth in patient volume in each area,” she says. “Our work is structured on a concept of integration so that a researcher heading a clinical trial will have access to a translational component. Collaboration hastens progress, and that is critical to what we do here.”

Such progress will be enhanced by the opening in 2004 of the Fannie E. Ruppell Foundation Center for Women’s Reproductive Cancers at The Cancer Institute of New Jersey. The Ruppell Foundation’s recent gift of $1 million, designated toward women’s cancers, is one of the largest in its history and builds on a solid base of support that began with a $500,000 commitment in 1998 toward construction costs at CINJ.

Expressing his gratitude for continued support, Dr. Hait reflects, “The Ruppell Foundation’s first investment in CINJ single-handedly launched the field of breast cancer research. In the short time that followed, patients developed smart cells that become resistant in time. Since approximately 60 percent of women with ovarian cancer can cure a recurrence, finding drugs with long-term effectiveness is tantamount to keeping patients cancer-free. This kind of integrated scientific research is just one floor above the clinics. Researchers and clinicians are constantly running into each other in hallways. The close proximity helps to develop a protocol using selenium with chemotherapy to test if ovarian cancer cells become less resistant to therapy.”

Among the newest interests in the department are studies that seek to preserve fertility in patients who have lost ovarian function as a result of chemotherapy. Dr. Gibbon reports that if successful, the initiative would benefit women, still in their childbearing years, who have hematological malignancies or breast cancer. The collaborative effort pairs Drs. Gibbon and David B. Seidt, MD, professor of obstetrics, gynecology, and reproductive sciences, and chief of gynecological oncology and radiology.

We are working toward having three fully developed branches of research — basic, clinical, and translational — with people who have strengths in each area. Our work is structured on a concept of integration so that a researcher heading a clinical trial will have access to a translational component. Collaboration hastens progress, and that is critical to what we do here.”

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With the power of more than $70 million invested annually in research, The Cancer Institute of New Jersey (CINJ) is dedicated to unlocking the mysteries of cancer for future generations today.

And at the same time CINJ’s prevention programs allow cancer to be diagnosed early. And in some cases even prevented. CINJ’s comprehensive treatment programs also provide unprecedented access to the latest treatment options including participation in clinical trials only available to National Cancer Institute (NCI) designated Cancer Centers.

Specialized prevention programs, which also provide education and treatment, include:

- The Dean and Betty Gallo Prostate Cancer Center
- The LIFE Center for Breast Cancer Awareness
- The Faruie E. Rippel Foundation Center for Women’s Reproductive Cancers
- The Center for the Study of Nutrition and Cancer
- Cancer Control Studies of Environmental Causes

Other services include:

- Bone Marrow/Stem Cell Transplant Program
- New Jersey Comprehensive Breast Care Center
- Cancer Risk Assessment and Genetic Counseling Program
- Gastrointestinal/Hepatobiliary Oncology Program
- Leukemia/Lymphoma Program
- Melanoma and Soft Tissue Oncology Program
- Neuro-Oncology Program
- Pediatric Hematology/Oncology Program
- Phase I/II Developmental Therapeutics Program
- Symptom Management Supportive Care Program
- Thoracic Oncology Program

New Jersey’s only NCI-designated Cancer Center

CINJ is recognized by the National Cancer Institute as the only NCI-designated Cancer Center in New Jersey.

For more information about world class care close to home, just call 866-788-3929. Or visit http://cinj.umdnj.edu

PHOTO ILLUSTRATION: BARBARA WALSH
Robert Wood Johnson Medical School has been a leader in medical education and patient care since its founding in 1959. The school is committed to the principles of medicine that were outlined by Hippocrates in his Hippocratic Oath: “To hold him who has taught me this art as equal to my parents and to gladly share such knowledge with others.” The school’s graduates are prepared to provide compassionate and competent care to their patients, and to hold the highest ethical standards in their work. The Gold Foundation, a non-profit organization that is dedicated to the principles of humanism in medicine, has partnered with RWJMS to promote these ideals. In 2002, RWJMS first awarded the Gold Humanism Honor Society, which recognizes medical students who exemplify the principles of humanism in medicine. The first recipients of the award were Melissa Abrams, MD ‘02, and Nadia Ovchinsky, MBA, MD ‘02. Today, the Gold Humanism Honor Society continues to recognize medical students who exemplify the principles of humanism in medicine.
On the eve of their first classes, first-year students gather for the White Coat Ceremony to focus on the importance of humanism in medicine. By the end of the event, they will have received their white coats and, for the first time, read the Hippocratic Oath together.

Dr. Kothari, this year’s White Coat Ceremony speaker, illustrated his talk with stories of people who had left indelible footprints on his career (see page 35). He emphasized to the first-year students that classmates, more than anyone else, shape one another’s education and their outlook as physicians. Classmates form the first important human element in medical education, he said, especially early on when the facts are in a book and patient care exists in the abstract. “You could sit down with a textbook and a tutor and learn most of the facts,” he added later. “But it wouldn’t be the same because, in the end, it’s the interaction of a whole class that creates a new physician.”

Thomas J. Magliaro, MD ’87, professor of pediatrics and chief, division of child neurology, finds the White Coat Ceremony rejuvenating. “When you wander into an office, where someone reached into a locker and handed you a white coat. You got no sense of entering a new world, though it should have been the symbol of becoming a doctor. But at the White Coat Ceremony, you see that wave of white cover the colors of the students’ street clothes, and you remember that receiving and wearing that coat is the symbol of the privilege of being a doctor.”

From 1983 to 1985, Dr. Mandelbaum did a fellowship with Arnold P. Gold, MD, at Columbia University College of Physicians and Surgeons. His mentor, the founder of the Gold Foundation, has remained a close friend.

“The White Coat Ceremony reflects Dr. Gold’s boundless spirit and love for his patients,” says Dr. Mandelbaum. “You listen to the speakers and remember why you became a doctor. You remember that you are an intimate to your patients at a vital time in their lives.”

The highlight of the ceremony is the presentation of the Gold Foundation Awards for Humanism and Excellence in Teaching. This honor is given to six residents, selected by the previous third-year class. The honorees receive special lapel pins and a cash award, contributed by the Gold Foundation. Their names and photographs can be found on the Web site of the Accreditation Council for Graduate Medical Education.

Two years ago, Carole Robertson, MD ’02, and Danielle Ludwin, MD ’02, presented gift baskets to Women Aware.

Comparing residency programs, Dr. Aronson noticed that RWJMS sets particularly high standards for humanism in the classroom and in the community. He says that when Dr. Fisher teaches how to interview a patient, he emphasizes how much more you can learn from an open-ended interview. “After an examination, you take time to ask, ‘Is there anything else I can do for you today?’ By then, the patient feels comfortable enough to really open up.”

Dr. Mandelbaum teaches students about the patient-physician relationship and the importance of humanism in medicine. He believes that teaching the students about the human side of medicine is essential to their future practice.

The Student Clinician Ceremony celebrates the eagerness of rising third-year students as they await their first clinical experience. Scheduled to coincide with the start of the course “Introduction to the Clinical Experience,” the program is organized by students entering their fourth year. On the Camden campus, the ceremony initiates third-year students into the school’s Whitman Society of Learners.

In New Brunswick, the new clinicians are greeted by Harold L. Paz, MD, dean, and Dr. Rosenbuhl. On the Camden campus, the opening welcome comes from Paul R. Melne, MD, associate professor of family medicine and associate dean for academic and student affairs.

The Student Clinician Ceremony is a time for reflection and celebration. It is a day when students are recognized for their dedication and commitment to their patients and their future careers.

The Student Clinician Ceremony is a day to remember. It is a day when students are recognized for their dedication and commitment to their patients and their future careers.
In the early 19th century, René Laënnec, a French doctor, created a simple tool that later became the stethoscope, medical science took a forward leap in terms of accuracy — but stepped back from the patient in terms of touch. Doctors would no longer lay their head against a patient’s chest to observe what they could not see.

In New Brunswick, organizers Melissa Hayward ’03 and Melina Metzger ’03 used the occasion to spotlight community health needs. They used the decoration budget to purchase 15 wooden caddies, filled with toiletries. The caddies first served as centerpieces and then were donated to Women Aware, a local agency for abused women.

In small groups, under the guidance of Dr. Stevens, we would rotate among the patients. My first patient was a 72-year-old woman who had a bleeding ulcer. I was nervous. How many other students had preceptors who needed help? He was constantly busy but able to balance his patients with my learning needs. His patients and office staff were accustomed to him. The experience was wonderful. The staff was warm and friendly. Each day that I showed up, they would wave to me. As time went by, I shared some stories, and tell you about some of our spectacular students, I challenged you to exceed your own expectations and to be ready to change the status quo.

Many memories from my own medical school years wash over me, and have shaped me during my own career. What I remember most are the other students. Fred Kniepmann was my anatomy partner. Fred was organized, smart, and always wore a smile. He taught me how to cope with seemingly insurmountable problems, breaking them down into manageable parts of medicine, and studying was easy for me. Lisa Hernandez, a rough, no-nonsense woman from Staten Island. She was the first person in her family to graduate beyond high school, and everything was going to stand in her way. She administred her drive and determination. Robert Pannett, whose career has taken a similar path to mine, was from Jamaica by way of Brooklyn. In addition to the challenges of attending medical school, he was a dedicated husband and a father to two young children. He showed me how to balance family and school responsibility, where true priorities lay, and the real meaning of “pulling an all-nighter” when those kids were sick!

The bonds that you will form with your classmates will be special and often lifelong. You will realize the value of learning together, succeeding together, and, occasionally, failing together. That’s all part of the process.

White Coat Ceremony

Keynote Address

David S. Kountz, MD
associate professor of medicine; associate dean for postgraduate education; and acting senior associate dean for clinical affairs
August 9, 2002

The following is the keynote address given by Dr. David S. Kountz at the Class of 2006 at the White Coat Ceremony.

I feel a special kinship with all of you as I start your journey here at UMECS- Robert Wood Johnson Medical School. I came to Robert Wood Johnson in 1996, as the chief of a new division in the Department of Medicine. I was young, a newly appointed dean and was responsible for continuing medical education, an area that had not received much visibility or attention. My office, because of the space that was available, was set apart from those of my colleagues in the department, in a different building, and was also set apart from the dean’s office. I didn’t attend Robert Wood Johnson Medical School, and as a result I knew very few individuals when I joined.

So, yes, I understand your trepidation and anxiety. There will be mistakes along the way, but you will be fine. Today, as I share some stories, and tell you about some of our spectacular students, I challenge you to exceed your own expectations and to be ready to change the status quo.

Many memories from my own medical school years wash over me, and have shaped me during my own career. What I remember most are the other students. Fred Kniepmann was my anatomy partner. Fred was organized, smart, and always wore a smile. He taught me how to cope with seemingly insurmountable problems, breaking them down into manageable parts of medicine, and studying was easy for me. Lisa Hernandez, a rough, no-nonsense woman from Staten Island. She was the first person in her family to graduate beyond high school, and everything was going to stand in her way. She administrated her drive and determination. Robert Pannett, whose career has taken a similar path to mine, was from Jamaica by way of Brooklyn. In addition to the challenges of attending medical school, he was a dedicated husband and a father to two young children. He showed me how to balance family and school responsibility, where true priorities lay, and the real meaning of “pulling an all-nighter” when those kids were sick!

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students. Let me tell you about two of them. Rotating as acting interns this month are two senior students, Sophie and Mary. I mentioned that we have spectacular patients not only because of their diseases but also because of how their diseases are affecting them, because we ... helping them live and adjust to the slings and arrows of outrageous fortune, and helping them die with dignity.

The most challenging and fascinating patients are not only because of their diseases but also because of how their diseases are affecting them, because we often know how to treat a sick call than a suffering person. In primary care especial-

Dr. Paz, thank you for your counsel on behalf of the needs of your patient, regardless of who is trying to disrupt the care that they need. Dr. Lipkin. Follow your own dreams. Let us dream together that years from now, as you begin to look back on your career, you will see others around you not asking — and by not asking, losing their best opportunity to help.

And remember the looks of the parents. I can remember the information from the anesthesiologist as labor progressed. You can have lots of diamons and trophies on your wall, but don't forget the patients. And what will impress them is your skill and empathy, not the trappings of your success.”

Another story has personal meaning for me, and gives me a chance to thank you for your continued support over the years. In 1988, I was senior resident in the Coronary Care Unit at Hahnemans University Hospital in Philadelphia. My team admitted a 75-year-old man with severe chest and back pain, kidney failure, and multiple system involvement. The director was busy in a meeting, but before the meeting was over, he made time for me without hesitation. I appreciated the fact that he ignored that I was in dirty green scrubs, probably wondering why I sig-
Theirs aren’t the triumphs that necessarily carry the promise of specific cures. Often, the clinical applications of their pursuits are tied to a distant and unpredictable future. Such work, however, has its own rewards.

Research, both basic and clinical, in the Department of Pathology and Laboratory Medicine at UMDNJ-Robert Wood Johnson Medical School frequently travels a scientific ground untrodden by others. Those who pursue it are challenged to unearth knowledge in its most fundamental form. They are excited by theories and moved to discovery by their own inclinations. Their investigations examine how molecules interact, how axons reach their target, and how computer technology can be harnessed to automatically screen pathology specimens for malignancies. They are compensated by the gradual process of learning how a nervous system is composed, and how people move and think. Sometimes, they are driven by results that appear dead-ended but which are probed to satisfactory conclusion by instinct. And often, within such conclusions, lie the essence of further study and the therapies that are linked to cure.

Activities in pathology are focused on research conducted by those with national reputations in their areas of expertise as well as by investigators recognized as rising stars who explore new dimensions of study. Pathology represents a major portion of research undertaken at RWJMS. All laboratory-based researchers are funded.

By Rita M. Rooney

Photos by John Emerson
Dr. Amenta’s own research has focused on tissue localization and the role of extracellular matrix components during development and in normal and pathological adult tissues. This has been carried out with his colleagues at the University of Pennsylvania, Jeanne C. Myers, PhD, and Deqin Li, PhD. His clinical gastroenterology studies currently include collaboration with Kevin M. Das, MD, PhD, professor of medicine, chief of the division of gastroenterology and hepatology, and director of the Crohn’s and Colitis Center of New Jersey. Together they are examining an antibody that may be a colon-specific marker for esophageal cancer.

The Cancer Institute of New Jersey (CINJ) has played an integral role in the growth of pathology research. Dr. Amenta, who serves as director of CINJ’s Immunohistochemistry Shared Resource, has published a paper on a potentially key transcription factor in prostate cancer, with Arnold R. Rabson, MD, professor of pathology and laboratory medicine and of molecular genetics, microbiology, and immunology, resident member of the Center for Advanced Biotechnology and Medicine (CABIM), and associate director for basic science at CINJ. Other members of the department, including Parviz Jeyradar, MD, PhD, and David Weissmann, MD, all assistant professors of pathology and laboratory medicine, interact with researchers at CINJ to help localize specific proteins that assist investigators in gaining insight into the function of these molecules.

“A kind of unique collaboration is what every program hopes for, but it can be difficult to achieve,” Dr. Amenta says. “Too often, the pressure to maintain financial viability inhibits the ability to pursue these important but academic initiatives. But it’s happening here. We have been successful in providing an environment in which interaction and collaboration can thrive.”

Leader in Basement Membrane

Understanding collaborative efforts are present department-wide such as in Pathology and Laboratory Medicine. Dr. Yurchenco has earned an international reputation for his studies in basement membrane — a type of extracellular matrix associated with the cell surface and containing at least one member of the laminin family. While his work at RWJMS is providing an understanding of how these molecules work, his studies are part of this extracellular architecture that dictates direction of the axons. As a post-doctoral fellow at Johns Hopkins University, Dr. Wadsworth co-discovered the very first molecules, UNC-6, known to guide axons to their target. His work at RWJMS is providing an understanding of how these molecules work.

“Studying axon guidance in organisms such as humans presents several problems, including the fact that humans contain trillions of neurons,” he says. “And so, the team uses a transparent model organism called C. elegans — a roundworm with only 300 neurons. “The advantage is that we can do genetic screening by mutating the worms, viewing the nervous system to see if anything is wrong, and then cloning those genes, which often turn out to be involved in targeting the axons,” he adds.

Dr. Wadsworth’s basic research is aimed at understanding the biology behind the developing nervous system. This knowledge can then be used to develop therapies. His progress has generated considerable attention in the scientific community.

“There has been an explosion of interest in the UNC-6 molecules,” he says. “These same molecules guiding the axons in worms are present in the human vertebrae. A number of companies are now interested in these molecules, known as netrins, for the purpose of developing therapies for diseases of the nervous system and spinal cord injuries.”

Nervous System Studied

An inherent link to Dr. Yurchenco’s research is that conducted by William G. Wadsworth, PhD, associate professor of pathology and laboratory medicine, in that the molecules he studies are involved with basement membrane. Dr. Wadsworth, who has been funded by an NIH RO1 grant for the last six years of his ten-year tenure at RWJMS, cites his long-term goal as understanding the nervous system and the way circuits are made: He is studying the axon processes of neurons and how they are targeted to connect with other axons or muscles. He wants to know how the axons find their targets and build the circuits that control movement and brain function.

“Knowing how the circuitry works leads us to diagnosis,” Dr. Wadsworth says. “In many diseases and injuries, such as spinal cord injuries, circuits are incorrectly wired. Someday, it may be possible to re-make damaged circuits.”

Through collaborative efforts by Laavi Goudal, MD ‘91, assistant professor of pathology and laboratory medicine and director of the division of hematology, and David J. Foran, PhD, assistant professor of pathology and laboratory medicine and director of the Center for Biomedical Imaging & Informatics, studies at RWJMS are headed toward developing analytical tools that can assist in assessing medical images in a manner that is analogous to the way in which Genbank provides computer-based support in gene sequencing.

“The main focus of this research is to develop a family of Web-based data-mining technologies and computational methods for automatically interpreting medical images and characterizing pathologies. Utilizing a combination of pattern recognition and multispectral statistics, the RWJMS team developed software that is being used to systematically query large digital image databases in an automated manner to see if the computer could identify signatures not...
To facilitate the use of these technologies, the system provides both graphical and audio command input and voice feedback. Dr. Foran explains, “In order to facilitate the expansion of the database and accommodate network-based collaborations with other institutions, a distributed telemed test system was developed. The system enables physicians and scientists from other parts of the country to image and forward suspicious cases to computers at UMDNJ for analyses.”

Dr. Goodell, whose primary responsibilities are clinical and diagnostic studies, works with Dr. Foran in developing the image-guided decision support system, while he develops the pattern recognition and computational methods for analyzing the pathologies.

“My job is to select the cases that are used to create the gold-standard database,” Dr. Goodell says. “We need representative cases so that the computer can learn what patterns correlate with which disorders. Each case that is entered into the database is diagnosed, not only by microscopic evaluation, but also by flow cytometry and molecular studies.”

Molecular Study Targets Cardiac Disease

Donald A. Winnikow, PhD, associate professor of pathology and laboratory medicine, calls his studies in molecular cell biology the experimental side of pathology research.

She uses yeast as a model of human physiology, because the proteins that make up the basic fusion machinery are conserved across evolution from yeast cells to human neurons, but mechanistic hypotheses can be tested at the biochemical and genetic level more easily in yeast.

“The dream” of membrane fusion studies, she says, would be finding a way to target a cure for cancer. It won’t be in the very near future, but if a method can be found to make artificial liposomes targeted to specific cancer antigens, the impact on medical history would be enormous. She says, “With good science, we have the potential to cure a wide range of diseases by understanding their molecular roots. If we have that, everything else falls in place.”
Twenty-five years ago, the National Science Foundation asked the generation’s leading scientists what they felt was the most important factor in their education. The answer was almost uniformly: the opportunity to work closely with a great and inspiring teacher. That same answer holds true today. I firmly believe that education is a university’s unique and most important mission.”
THE CLASS OF 2000

In 2000, the program’s first year, three RWJMS faculty were named Master Educators: Judith K. Amorosa, MD, clinical professor of radiology; Marian R. Zehring, PhD, clinical professor of biochemistry; and Jerome A. Langer, PhD, associate professor of molecular genetics, microbiology, and immunology, nominated by GSBS.

Even before she was named a Master Educator, Dr. Amorosa’s reputation as a teacher stretched the standard of excellence. But, she says, the nomination “encourages me to go as far as I can, and do more for students.” She used the stipend she received as a Master Educator to purchase a computer for students in her department, with the hope of teaching more about the accessibility of on-line information. She is interested in developing her field, radiology, as a teaching tool for first- and second-year medical students.

Shortly after joining the faculty in 1978, Dr. Zehring developed a lecture on physicians’ interviewing skills, addressing ways to learn about patients’ psychosocial issues along with their physical ones. She grew this single lecture into a popular textbook, The 15-Minute Hour (Century Health). Nominated by GSBS, she participated in faculty development and presents an intensive 15-week course on teaching undergraduate women and minorities to biomedical research careers.

The summer program grew into a significant effort toward increasing the presence of underrepresented minority students in biomedical research careers. With encouragement from Dr. Leibowitz and financial backing from sources including the National Institutes of Health (NIH), Dr. Langer later initiated a series of programs that provide financial and logistical support for minority undergraduates. She continues to develop methods to find grant support from sources including the NIH, private organizations, and foundations.

Dr. Langer and her colleagues believe that faculty must not only be excellent teachers, but also must encourage students to become teachers; she refers to “sponsoring” students who are interested in research.

Dr. Zehring was nominated by Masayori Inouye, PhD, associate professor of health care delivery and cutting-edge research, says Michael J. Leibowitz, MD, PhD, professor of molecular genetics, microbiology, and immunology and associate dean of UMDNJ-Graduate School of Biomedical Sciences (GSBS). “This program emphasizes that, for us, education is an equally important mission. We can’t train good clinicians or good scientists without good teaching.”

THE CLASS OF 2001

In 2001, by Nancy R. Stevenson, PhD, associate professor of psychiatry, and William A. Zehring, PhD, associate professor of biochemistry; and Terry K. Gruenke, MD, associate professor of molecular genetics, microbiology, and immunology, nominated by GSBS.

Dr. Stevenson came to RWJMS as a post-doctoral candidate in 1989. A full-time faculty member since 1971, she has pushed for developing teaching skills and fresh curriculum. For herself and her colleagues, she says she continually looks for new ways to transmit “not just information” but “enthusiasm for learning.”

Dr. Kountz heads the Continuing Medical Education (CME) programs at RWJMS. Nominated by John B. Kountz, MD, professor of medicine and pharmacology and John G. Detwiler, MD, associate professor of psychiatry, he organizes a school-wide retreat on teaching and mentoring for incoming RWJMS chief residents, and he has developed the CME Grants Initiative to encourage junior faculty to become involved in CME.

Dr. Kountz hopes the Master Educators Guild will initiate some of its own educational programs to demonstrate that teaching can be taught. “You only learn by doing,” she says. “It would be fantastic!”

In addition to its ongoing role as a mentoring “task force,” the Master Educators Guild will present regular symposia. The first, in May, addressed the question: “Should education drive technology or vice versa?” The guild is also developing a searchable, on-line Web site that will function as a center of excellence in teaching: www.umdnj.edu/megweb.

The Class of 2002

In 2002, the newest recipients of the Master Educators medallions are David S. Kountz, MD, associate professor of medicine, associate dean for health care delivery and cutting-edge research; and Michael J. Leibowitz, MD, PhD, professor of molecular genetics, microbiology, and immunology and associate dean for postgraduate education, and acting senior associate dean for clinical affairs, Alfred F. Tallia, MD ’78, MPH, associate professor and vice chair, Department of Family Medicine; and Ann M. Stock, PhD, professor of biochemistry, Associate Investigator, Howard Hughes Medical Institute, resident faculty member, Center for Advanced Biotechnology and Medicine, and a member of The Cancer Institute of New Jersey. These Master Educators not only teach in conventional settings, but also educate colleagues, postgraduates, and members of the community.

The Class of 2000 were joined by two “newcomers,” Dr. Zehring and Dr. Langer. From UMDNJ-Camden, Dr. Tallia is a past president of the Alumni Association and the first alumnus to be named a Master Educator.

Dr. Stock’s “high standards, approachability, and love for her science create a big incentive for her students to persevere.”
New Jerseyans have long traveled to Manhattan or Philadelphia for a variety of opportunities and diversions offered by the two metropolises that hug the state — jobs, culture, sports, and entertainment, to name a few. Unfortunately, parents in the Garden State have also long considered those two cities to be their best hope when their children have needed medical care.

Daniel A. Notterman, MD, newly appointed University Professor and chair, Department of Pediatrics, wants to change the perception that the best pediatric care can be found only beyond New Jersey’s borders. “New Jersey is one of the wealthiest states, and its populace is one of the best educated. As a lifelong resident of this state, I think it’s lamentable that although New Jersey is developing a good medical infrastructure, there is no regionally noted center of excellence for the care of children,” Dr. Notterman says. “I’m working with Dean Harold Puf to develop such a center, where any child in New Jersey can find treatment for any ailment. And we plan to develop it here in New Brunswick.”
Dr. Notterman sees the Department of Pediatrics at UMDNJ-Robert Wood Johnson Medical School as an integral part of a collaboration that includes the Bristol-Myers Squibb Children's Hospital at Robert Wood Johnson University Hospital, the Child Health Institute of New Jersey (CHINJ), and Children's Specialized Hospital, which is moving to New Brunswick from Mountainside. The completion of the Bristol-Myers Squibb Children's Hospital and the construction of the other two institutions within the next few years “will enable us to provide comprehensive clinical services, research, teaching, and outreach to the community,” Dr. Notterman adds. “My goal is that we become a statewide children's center in five years, a regional resource in 10 years, and a national treasure in 15 years.”

In a few short months, Dr. Notterman has exhibited outstanding leadership in enhancing the academic, research, and clinical programs in the Department of Pediatrics, says Harold L. Paz, MD, dean. “These activities, in conjunction with the Child Health Institute and the Bristol-Myers Squibb Children's Hospital at Robert Wood Johnson University Hospital, will produce a statewide resource for pediatric services.”

Dr. Notterman's expertise as a pediatrician, researcher, teacher, and administrator will be crucial in realizing that vision. Before coming to RWJMS, he conducted ground-breaking research on tumor biology at Princeton University. Prior to joining the faculty at Princeton, he established the division of pediatric critical care medicine at New York Hospital-Cornell Medical Center, which he brought to national prominence. The opportunity to help create a center of pediatric excellence in New Jersey was an offer that was too good to refuse.

“When Dean Paz told me he intended for pediatrics to be his legacy, I signed on the dotted line,” Dr. Notterman says. “He wasn’t just talking. He put together the Child Health Institute of New Jersey and worked to integrate it into a larger academic pediatric campus in New Brunswick. Over the next few to 10 years, we expect to build a national resource for the care of sick children for research into normal and abnormal development.”

While at RWJMS, Dr. Notterman will also continue his federally funded research on the role of the intracellular matrix — the glue that holds cells together — in cancer, as well as the molecular biology of colon cancer.

Perhaps Dr. Notterman's biggest challenge will be to focus attention on the need for comprehensive pediatric care in the Garden State. “Hospitals throughout the state have small pediatric services,” he says. “While they provide excellent clinical care, they do not offer the range of services or the research depth of the great children's centers. For too long, New Jersey's mothers and fathers have had to take their children to a neighboring state for advanced pediatric care. We intend to change that: our children's campus will be a place where every child can receive treatment for any disease or problem.

To that end, Dr. Notterman wants to add up to a dozen new faculty to the Department of Pediatrics in the areas of cardiology, pulmonary medicine, genetics/endoctrineology, and rheumatology. Dr. Notterman also envisions new surgical programs in neurosurgery, cardiothoracic surgery, and “bloodless” pediatric surgery.

In addition to clinical care, research into childhood diseases and conditions will be extremely important, says Dr. Notterman. While the Department of Pediatrics will focus its research on such areas as cardiology, genetics/endoctrineology, and rheumatology, CHINJ scientists will study basic developmental biology. “We'll be interested in how cancer occurs in children and how it differs from cancer in adults. "Pediatrics is the medical side of developmental biology," he adds. “The department already has a very strong portfolio of research across the sciences that addresses human development. Dr. Michael Lewis has pioneered the study of development from the perspective of the whole child, while Dr. Michael Shen has examined similar issues from the perspective of single genes and molecular pathways. This breadth of scientific study will allow the department and the CHINJ to integrate and support each other's research programs."

Ground was broken for CHINJ, adjacent to the Bristol-Myers Squibb Children's Hospital, in October. The building will include 150,000 square feet of research and clinical space. The institute will conduct clinical trials of pharmaceuticals.

Community outreach will be another component in making New Brunswick the state's premier location for outstanding pediatric care. Initiatives include a marketing program to inform the community about the range of services provided by the Department of Pediatrics and the children's hospital, strengthened continuing medical education programs, and expanded medical care for indigent children in outpatient areas. Dr. Notterman hopes to develop additional mini-medical schools for parents on such topics as child-rearing, autism, childhood cancer, weight and body image, and asthma. “By becoming a children's campus we will be a resource for parents to turn to when they need a physician, when they're worried about their child, or when they just want a second opinion,” he says.

He has also proposed implementing pediatrics fellowships, particularly in the subspecialties of critical care and emergency medicine, and gastroenterology. Faculty members in the Department of Pediatrics are enthusiastic and excited about the direction the department will be taking, and especially about having Dr. Notterman at the helm. “His strategies and objectives are absolutely right on target,” says Patricia N. Whitley-Williams, MD, associate professor of pediatrics and chief, pediatric infectious diseases, division of allergy, immunology and infectious diseases, whose research focuses on physical scientists and basic science researchers who will support the department's expanding clinical care.

Many faculty see the growth and expansion of the Department of Pediatrics as key to confronting the challenges as their own subspecialties. Dr. Whitley-Williams hopes her division can eventually expand to treat more children with allergies, especially food allergies, and to become known as a center for children with food allergies. She’d also like to see an immunologist brought on board as the number of trans-
plants in children increases. And as associate medical director for the Robert Wood Johnson AIDS Program, she believes that the changing nature of AIDS in children means that more medical care must be focused on children. As joint program director of the Pediatric AIDS Program, she is working with the AIDS Program to provide comprehensive care for children with HIV and AIDS.

"Children have notoriously been neglected when it comes to pain management," Dr. Hauck says. One reason for this neglect is that children's voices simply are not heard. "Children can be told to be quiet. They don't fight back and sometimes can't physically fight back. They don't vote; they don't donate money to politicians or charitable causes," she adds. Dr. Hauck hopes that an outgrowth of the Pediatric AIDS Program will be a palliative care program for children. "It would be a multifaceted approach, not just from the doctor's side but also involving the nursing, social work, and anesthesia staff, because part of palliation is to make sure terminal patients have adequate pain support and to take away their anxiety.

As part of a teaching hospital, of course, the Department of Pediatrics will continue to have a strong focus on educating medical students and residents. The dedication of the faculty will ensure that teaching is a priority for the department, says Dr. A. C. Hauck, MD, vice chair, Department of Pediatrics, RWJ MS, and director of critical care medicine. As director of critical care medicine for the department, he believes that the Department of Pediatrics has the best of both worlds: the opportunity to care for critically ill children and their families as well as to teach.

"Now it's unusual to have a death," Dr. Whitley-Williams notes. "We're focusing now on children who are living with HIV and AIDS, on their educational placement and their emotional well-being. Their families are going to have to learn how to deal with their child in a different light. They will have to learn how to deal with their chronic illness and their adolescent issues."
Dear Alumni and Friends:

This is my last official letter as president of the Alumni Association. However, I plan to remain active on the Board of Trustees and will have the honor of serving on the RWJMS Board of Overseers for the upcoming year.

It has been a great experience and real pleasure to work with Dean Paz, Dr. Cook, the Foundation of UMDNJ, students, and of course, alumni. The last two years have set a precedent for the Alumni Association to be proactive in the decision-making process at RWJMS. Alumni really do matter, and our opinions are given great consideration.

If asked would I do it all over, the answer would be a resounding yes. The Alumni Association and all of you who have participated in our programs and events have made my job easy and even fun.

Our new officers, who will continue with enthusiasm and dedication, are Euton M. Laing, MD ’90, president; Steven Krawet, MD ’89, vice president/president-elect; and Geza Kiss, MD ’95, secretary-treasurer. They will be a powerful force driving the Alumni Association. I cannot thank them enough for their support during my tenure.

As always, I would like to acknowledge our alumni coordinator, Roberta Ribner. She is the reason the Alumni Association can boast of its many successes. Roberta, thank you, thank you, thank you.

As I finish, I would like to leave you with one thought: There is never enough time to do everything, so as we all prioritize what we deem worthwhile, I think we can all agree that the education of our children is most important. Supporting your Alumni Association will guarantee that you will not be disappointed.

Keep well, and thanks again for your support.

Sincerely,

Eduardo Fernandez, MD ’89
President, RWJMS Alumni Association
A n RWJMS-sponsored reception at the Union League of Philadelphia was a summer highlight for the medical school. The July 9 event provided an opportunity for Harold L. Paz, MD, to meet with alumni, faculty, students, and friends from southern New Jersey and Philadelphia.

Dr. Paz opened the evening with a brief update on the Camden campus from Anthony Mazzaferri, MD '02. Dr. Paz described extensive renovations and construction at RWJMS and spoke of last year’s comprehensive curriculum revisions. “Our incoming class is the most interesting review ever, with the highest-ever GPA’s and MCAT scores,” said the dean. “But the school’s academic standing depends on its ability to recruit top candidates by offering significant scholarships. Expanding the endow-ment is the key to our future.”

“Dr. Paz charmed everyone, and Anthony Mazzaferri was great,” says Foundation of UMDNJ Trustee Glenn P. Callahan, an attorney at the Philadelphia offices of McGuire & English, who served as master of ceremonies. “Philadelphia turned out to be the ideal location for touring the virtues of a world-class institution in New Jersey.”

Afterward, Daniel Meyer, MD, assistant professor of medicine, a new faculty member who teaches in the division of infectious diseases, RWJMS, Camden campus, commented: “Students are the best aid for the school.” He caught up with several of his former students, now in local residencies, and was surrounded by alumni from every decade.

Ophthalmologist Ravi Goyal, MD ’97, practices in Cherry Hill. The reception reignited his enthusiasm for fund raising, the basics of which he learned as an undergraduate volunteer at Yale University. Seeing his classmates in Philadelphia kindled new plans to get involved in fund raising for RWJMS.

Yu-Ning Wong, MD ’99, dropped by briefly, full of news about her new hematology/oncology fellowship at Fox Chase Cancer Center. Other new graduates at the reception included Evan Weiner, MD ’01, a pediatrics resident at Thomas Jefferson University Hospital and Dupont Children’s Hospital, and Nabil Chaljouli, MD ’00, who is finishing a residency in internal medicine at the University of Pennsylvania School of Medicine. For Giang Nguyen, MPH, MD ’00, a third-year family practice resident at TJUH, the reception was both a tourist opportunity—a look inside the Union League—and a mini-reunion. “The Camden campus is close geographically,” says Dr. Nguyen, “but residents’ schedules and responsi-bilities make it difficult to get back there for visits.”

In Dr. Mazzaferri’s student’s-eye view of the Camden cam-pus, he expressed personal gratitude to two remarked professors: Jeffrey C. Brenner, MD ’95, instructor of family medi-cine, and Thomas A. Rebeccius, MD ’92, assistant professor of emergency medicine. Then, summing up the general expe-rience for Camden students, he voiced in一是 Paul R. Mehne, PhD, associate professor of family medicine and associate dean for academic and student affairs.

Dr. Paz described his student’s-ends, the 15th Reunion on the calendar for October 2003.
On October 1, Lynn Helmer, MD ’82, MBA, joined Riverview Medical Center in Red Bank as senior vice president for medical affairs. She has high expectations for her role at Riverview, a clinical affiliate of RWJMS. “It’s a forward-thinking organization with a deep commitment to education, patient care, and the development of people on the medical, clinical, and non-clinical staffs,” Dr. Helmer says. Riverview is a member of the Meridian Health System.

Riverview has a dynamic new leadership, she says, including a new chief executive officer, chief of operations, chief nurse executive, and president of the medical staff. They have set the important mission of enhancing the collaborative relationship between the health system and the medical staff.

Dr. Helmer hopes that they will also be able to promote a flexible, supportive, and efficient medical environment. “We want to deliver safe, effective, up-to-date patient care while remaining respectful and appreciative of the challenges, needs, contributions, and goals of our physicians,” she says.

In her new position, Dr. Helmer looks forward to working with Harold L. Paz, MD, dean, who is also a Meridian trustee, and she hopes to increase interaction between Riverview and the medical school.

Dr. Helmer’s appointment at Riverview is the latest step in her growth as a leader in medical education, clinical practice, and administration. She completed her residency at Hahnemann University Hospital before entering private practice, then returned to the academic arena as a clinical educator at Hahnemann. Subsequently, at Cooper Health System, she served as associate chief for practice operations of the Department of Medicine and head of the division of general internal medicine.

Realizing the growing importance of business expertise in medical practice, Dr. Helmer completed an MBA at Drexel University. Meanwhile, she worked as a network medical director at AetnaUS Healthcare. Her next position, as vice president of medical affairs and chief medical officer at Shore Memorial Hospital, in Somers Point, put her medical and business skills to work as she and her team redesigned processes to support enhanced patient care and safety.

Dr. Helmer, who helps out at the Volunteers in Medicine facility in Cape May, plans to continue volunteering in Red Bank, once she is settled in at Riverview.

After several years as the Class of 1982 delegate on the Alumni Association Board of Trustees, Dr. Helmer served as president of the Alumni Association from 1991 to 1992. During her tenure, the association introduced several innovative programs, including A Day in the Life, in which alumni volunteer as on-the-job mentors for students exploring different specialties. Dr. Helmer says her experience as Alumni Association president helped her develop many skills that are valuable in her current position. She continues to participate in alumni activities as a member of the Board of Trustees.

Education and family are critically important to Dr. Helmer. She and her family continue to support the Harris Shapiro Foundation, named for her father. Each year since its inception, the foundation has provided critical stipends for RWJMS students going through difficult times.

Married for 25 years to attorney Yaron Helmer, she welcomed their first child, Daniel, in her fourth year of medical school. Their daughter, Rebecca, was born during the first years of her medical practice. “My husband Ron’s support, help, sense of humor, and loyalty are critical factors in my ability to enjoy a terrific family life as well as a satisfying professional career,” she says. “I look forward to the same type of teamwork and collaboration with the Riverview people. I’m sure we’ll do great things together.”

—K.O’N.
Dr. Robert Mazzarelli reviews a case in the emergency room at Cooper Hospital in Camden, New Jersey.

Working at the Gateway

Next July, Dr. Mazzarelli will return to his favorite place in the hospital, the Emergency Room, “the gateway to the health system. It’s where hospitals first meet many of their patients,” he says. “And it’s where the health care system finds out what’s really going on in the community.”

In the Emergency Room, Dr. Mazzarelli gets to indulge in one of his favorite medical exercises: the differential diagnosis. “As a student, I always got a kick out of figuring out what’s wrong with this patient. I didn’t want to just make a diagnosis and suggest treatment that would work in the long term.”

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In the spring of 2000, he “auditioned” for the show, submitting five proposed anecdotes that turned on medical, legal, and bioethical issues. Typically, he did extensive advance research at Cooper, interviewing emergency room physicians about their most interesting cases. The audition was a success, and he spent the summer on the set, contributing to production meetings, and advising on medical accuracy. In addition, Dr. Mazzarelli got at least five proposed anecdotes that turned on medical, legal, and bioethical issues.

“Followers of the Anthony Mazzarelli One-Man Band and it’s where the health care system finds out what’s really going on in the community.”

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In emergency medicine. On July 3, 2002, on the night of a devastating house fire in Gloucester City, he appeared in Cooper’s ER to volunteer. He loves the teamwork, the rapid decision-making process, the gateway to the hospital on one side and the community on the other. “Camden offers a huge opportunity to help people, so maybe urban politics will be a natural progression, an ER on a larger scale. To me, politics is looking at a problem, considering all possible sources of the problem, and picking a treatment — or at least that’s how politics should work.”

This is one ER doctor who will never leave the show.

Not just topics like cloning and stem cell research, but the day-to-day interaction of people, medicine, and biology.

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Like many physicians, Vincent W. Yang, PhD, MD ’84, can pinpoint the moment he settled on his vocation. As a six-year-old in Taipei, he was hospitalized for a month with a serious case of hepatitis. “I spent a lot of time watching doctors helping people. I realized I wanted to grow up and do the same thing,” he says. Dr. Yang’s childhood illness may also have influenced his decision to pursue a career in gastroenterology, a field in which he has become a “triple threat” — a leader in research, education, and clinical care.

In the field of gastroenterology:

Dr. Yang has become a “triple threat” — a leader in research, education, and clinical care.

By Kate O’Neill
In July 2001, Dr. Yang accepted a position as Bruce Lugar Professor of Medicine and director, division of digestive diseases, at Emory University School of Medicine in Atlanta. In October, he accepted an additional appointment at Emory, as director, Colon Cancer Research Program, Winship Cancer Institute. “The GI position at Emory is considered one of the few top GI chief appointments in the country,” says Dr. Yang’s friend and colleague Andrew B. Leiter, MD, PhD, professor of medicine and physiology, Tufts–New England Medical Center.

Dr. Yang moved to Emory from the Department of Gastroenterology at Johns Hopkins University School of Medicine, his first stop after graduating from UMDNJ–Robert Wood Johnson Medical School. In 17 years, he rose from intern to associate professor. He held a joint appointment in biological chemistry and at the Johns Hopkins Oncology Center. He also served as director, Hopkins DK Center for the Analysis of Gene Expression.

The Making of a Physician-Scientist

As a graduate of National Taiwan University, Dr. Yang entered the doctoral program in the Department of Biochemical Sciences at Princeton University before applying to medical school. At the time, that graduate student sequence was unusual, but he hoped a PhD would improve his chances of acceptance into a top American medical school.

Mentored by Jane Flint, PhD, now professor of molecular biology at Princeton, he did basic research on the mechanisms of gene expression in mammalian cells. “He was an important member of an enthusiastic young team,” says Dr. Flint. “He was completely dedicated, unalloyed to new things, and had a sense of humor that kept us laughing.” In 1981, he was published in The Proceedings of the National Academy of Sciences, in collaboration with a group at Yale Medical School. The article, “A Small Nuclear Ribo-nucleoprotein Is Required for Splicing of Adenoviral Early RNA Sequences,” was based on his thesis topic, and its publication was an exciting achievement, recalls Dr. Flint.

During his dissertation, Dr. Yang did basic research on the mechanisms of gene expression in mammalian cells. “He was an important member of an enthusiastic young team,” says Dr. Flint. “He was completely dedicated, unalloyed to new things, and had a sense of humor that kept us laughing.” In 1981, he was published in The Proceedings of the National Academy of Sciences, in collaboration with a group at Yale Medical School. The article, “A Small Nuclear Ribo-nucleoprotein Is Required for Splicing of Adenoviral Early RNA Sequences,” was based on his thesis topic, and its publication was an exciting achievement, recalls Dr. Flint.

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Elliot Jacoby practices plastic surgery in Manhattan. He was recently named to Castle Connolly’s Best Doctors in America.

Daniel Kolot writes: “I now own a shirt-manufacturing company. We are the former Alter Six. We make sport, dress, and formal shirts. We also now manufacture very-high-quality medical coats.”

Ninetynine

Janine Kyrillos medicine residency at Jefferson. ’99 ’99

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New Brunswick, New Jersey 08903-0019 • 732-235-6310

Martin Laback was recently named senior adviser on infant and young child nutrition and care for UNICEF and posted to the New York headquarters.

Ninety-three

Aileen Blue writes: “Doctors in conditioning. The longer I am in medicine, the more I feel I should have been a lawyer.”

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Martin Laback was recently named senior adviser on infant and young child nutrition and care for UNICEF and posted to the New York headquarters.
Learning the Ropes

On the first day of medical school, a stethoscope salesman set up a table outside our lecture hall. I bought a red one, seeing that back then, color was the only stethoscope quality that I felt qualified to evaluate.

Three days earlier, I had been working at a great job at a big television company, wondering if I had made the right decision to abandon ship and become a physician.

Three days later, the producer with whom I had worked closely for nearly two years died after a drawn-out struggle with fibrosarcoma, a rare cancer of the chest wall.

At the end of that first week, my class participated in a “White Coat Ceremony,” in which students recited the Hippocratic Oath and received small pins symbolizing their commitment to “humanism” in medicine. I was at my bow’s funeral that day — and I never got a pin or took an oath. But luckily, entrance into the culture of medicine does not depend on ceremonies or lapel accessories, even though these things can serve as helpful reminders for some.

Becoming part of medicine means learning by example — from stitching a wound to delivering bad news. The “suture a pig’s foot” class and the “breaking bad news” class are just two examples of the many opportunities to learn. As a student I’ve learned that being part of this culture also means learning rituals, big ones and little ones: rounding on my patients every morning, answering the phone, pressing big silver buttons to get doors to open, fitting into a harsh pecking order.

Countless other role models and rituals come together like tiny tiles in a mosaic. When you stick them all together, take a big step back, and look at what you’ve got, you see an elaborate culture worthy of National Geographic: there’s me on the cover, wearing funny green clothes and a silly hat, undergoing yet another rite of passage as I confidently pass a plastic tube down somebody’s nose.

But most of all, there are the patients. Before school ever started, my old boss described to me the numbness that had worked its way up both his legs, and he pressed my hand against the rock-hard tumor in his right chest. Examples like this one are indelible.

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