Women in Science and Medicine

Breaking New Ground
Dear Colleague,

The Spring/Summer 2003 issue of Robert Wood Johnson Medicine is one of the most exciting magazines we have published to date. The medical school continues to break new ground in medical education, research, patient care, and community health. This issue seeks to capture some of the flavor of the groundbreaking work either accomplished or in progress by our distinguished faculty, staff, physicians, researchers, medical students, and alumni.

One of the most fascinating areas of growth and achievement is the collective research of women scientists at RWJMS. The cover story illustrates eight scientists who are changing the future of medical discovery. These eight women are leaders in their respective fields, and we are fortunate to have them share their personal and professional insights into the issues they face and the obstacles they overcome while breaking new ground with their careers. A sidebar to this feature story profiles three women medical students who are following in the footsteps of their mentors as they are bound for future success.

This issue also highlights other remarkable research at RWJMS. We are at the forefront of emerging study of complex or polygenic disease. Dr. Ira Black, professor and chair, Department of Neuroscience and Cell Biology, explains how a large group of diseases, especially those of the central nervous system, involve multiple genes as well as complex environmental factors. New research is leading to a greater understanding of abnormalities in the processes of learning and memory.

In addition, this issue features two research colleagues from the Department of Medicine, Dr. Mark Preminger and Dr. John Kostis, who are among the nation’s leading scientists advancing the role of electrical devices in cardiac care. Their groundbreaking efforts are having a significant impact on saving patients’ lives.

This issue also offers a glimpse into the pioneering research and patient care taking place at the Center for Pediatric Continence at Bristol-Myers Squibb Children’s Hospital at Robert Wood Johnson University Hospital. The center’s founder, Dr. Joseph Barone, discusses how hundreds of school-age children have been diagnosed and treated to help gain control of their bladders. Innovative research in this area includes studies of children with neurological disorders and also the long-range psychological effects of bed-wetting on children.

Finally, this issue profiles several RWJMS alumni who are leaving their mark on medicine through their dedicated and passionate work. Other interesting news and information are unveiled in various columns and departments contained in this exciting issue of Robert Wood Johnson Medicine.

As always, we thank our alumni, colleagues, and faculty for their support of our programs and missions.

Sincerely,

Harold L. Paz, MD
Dean
Neuroscience and the Complexity of Disease

Ira B. Black, MD, probes the mystery behind polygenic diseases in the belief that study will yield important understanding of abnormalities in the processes of learning and memory.

By Rita M. Rooney

Electrophysiology: Harnessing Electricity to Save Lives

RWJMS clinical leaders Mark W. Preminger, MD, and John B. Kostis, MD, are among the nation’s top experts working to advance the evolution of electrical devices in heart patients, and their work is having a significant impact.

By Lisa Lopez Snyder

Women in Science: Breaking New Ground

Leading women scientists, whose collective research is changing the future of medical discovery, compare issues of tenure, gender bias, and other obstacles with the rewards inherent in their careers.

By Rita M. Rooney

Center for Pediatric Continence

Urinary incontinence affects millions of children, but the condition can be corrected in most cases. Since 1996, the Center for Pediatric Continence at Robert Wood Johnson University Hospital has helped hundreds of children gain control of their bladders.

By Amy Vames

Alumni Profiles: RWJMS Alumnae Leave Their Mark in Medicine

Passionate, dynamic, dedicated, and conscientious—four RWJMS alumnae define their careers by their priorities.

By Kate O’Neill

Contents
Handprints on the Wall: Child Health Institute Holds Ground Breaking

With random little handprints, children signal their presence in our lives. So, four years ago, the Child Health Institute of New Jersey (CHINJ) at UMDNJ-Robert Wood Johnson Medical School chose the signature of Everychild as a symbol of its spirit and its mission: to research and conquer devastating childhood diseases.

On the morning of October 28, 2002, when the groundbreaking for CHINJ took place, children and handprints were everywhere. Faculty and staff brought their children, who joined local pre-schoolers and elementary school children attending as special guests of the medical school. In addition to a festive tent and an unprecedented explosion of men sporting bow ties, there were balloons, streamers, cookies, juice, and big chocolate squares — bearing little handprints. The celebratory air of a child-centered event was unmistakable.

Underlying the lighthearted mood, however, was the serious mission of CHINJ. Harold L. Paz, MD, dean, described the “groundbreaking research” that will take place at CHINJ, “where world-class scientists will investigate innovative treatments for environmentally and genetically based disease. The Child Health Institute will stand side by side with the new Braxton Myer’s Squibb Children’s Hospital, seamlessly linking bench to bedside.”

Harvey A. Holzberg, chair of the UMDNJ Board of Trustees and president and chief executive officer of Robert Wood Johnson University Hospital, welcomed the crowd. Stuart D. Cook, MD, president of UMDNJ, cited the CHINJ commitment to excellence, its focus on using molecular processes to understand cognitive development and function, and the collaborations that will enhance its work.

“The Child Health Institute brings us hope,” added Roland Machold, vice chair of the Board of Directors of CHINJ and founder of the Princeton Child Development Institute; Robert L. Trelstad, MD, acting director of CHINJ; Harold L. Paz, MD, dean, New Jersey Representative Frank Pallone, Jr.; Stuart D. Cook, MD, president, UMDNJ; Joseph Lapin, Jr., chief executive officer of Joseph J. Gallo, and Jan Bir speaks, touched on the same theme. “The institute is the noblest of ideas,” said Roger Fine, chair of the Foundation of UMDNJ and general counsel of Johnson & Johnson, “a dream of a world without childhood diseases.”

Politicians have been critical in advancing CHINJ, said Dr. Paz. Two members of the state’s congressional delegation, Representatives Frank Pallone, Jr. and Rodney Frelinghuysen, have kept CHINJ on the federal agenda. Through their personal commitment and committee memberships, they have secured more than $7 million in federal funding for the institute. Introducing James Cahill, mayor of New Brunswick, Dr. Paz also emphasized Mr. Cahill’s leadership in ensuring a partnership between CHINJ and the community.

Daniel A. Notterman, MD, University Professor and chair, Department of Pediatrics, told the children, “This institute is for you and your children.” It has been the school’s vision, he added, to bring a children’s academic campus to New Jersey, “creating a place where any child can find a cure for any disease.”

Robert L. Trelstad, MD, acting director of CHINJ, told the children, “Your grandparents are here, through the magic of embryology and genetics. We call that magic ‘discernible knowledge,’ and we use it to understand and treat genetic disorders.”

After Dr. Trelstad’s remarks, the audience watched people large and small pose with helmets and shovels sized to fit. Participants then turned to their next task; either building the institute or surrounding volunteers serving baskets of hand-imprinted chocolate. It depended on your priorities, but judging by the handshakes and smiles, everyone sensed the importance of this happy day.

— K.O.N.
New Jersey, from Union County to northern Burlington County. In response, she received 281 applications for 175 spots. The students were highly motivated and a pleasure to work with, says Dr. Terregino. They also got high marks for attendance, though many had an hour’s commute each way. Everyone “graduated,” she adds, and received certificates of participation that may someday hang alongside a medical school diploma. For faculty and high school students alike, “Achieving Excellence in the Sciences” was successful and satisfying, she says. “Next year, we plan to continue it and hope it will become an annual part of our Mini Medical School.”

In six two-hour sessions, RWJMS faculty and medical students introduced the school students to the medical sciences. They covered a wide variety of topics, hoping to provide useful insights onto the education and social life of a medical student. Topics included: the journey to medical school, macroscopic autopsy, the treatment of neurological disorders, humanism and ethics in medicine, caring for diverse populations, cardiology and emergency care, and the art and science of physical diagnosis.

“The high school students’ evaluations indicated wide-ranging enthusiasm, says Dr. Terregino, but their top-rated experience was meeting and learning from medical students. “We needed volunteers for two sessions and had no difficulty recruiting. Our students are amazing, they have a deep commitment to serving the medical school and the community.”

Seven medical students participated in the opening-night panel discussion, “A Day in the Life of a Medical Student.” They ranged from first-year students to soon-to-be graduates and represented different specialties and dual-degree programs.

— Carol A. Terregino, MD ’96, clinical associate professor of medicine and assistant dean for admissions

NIH Funding:
Benjamin F. Crabtree, PhD, professor of family medicine, received a $218,454 grant from NIH/NCI to study “Topoisomerase targeting & resistance in leukemia.”

— K.O’N.
The Motolinsky Foundation was established as a living memorial to Melvin Motolinsky, an outstanding New Brunswick lawyer who died in 1967, at age 25. “Dr. Lacy is just the kind of person who should receive this award,” says Jack Borus, treasurer of the Motolinsky Foundation and a member of the board of directors of the Child Health Institute of New Jersey at RWJMS. “It’s not just hardworking; he’s brilliant, and has a phenomenal talent for mobilizing people to act. He has demonstrated distinguished service as a citizen of our community and of the state.”

Since the foundation’s first gift to RWJMS nearly 30 years ago, it has partnered with the medical school’s hematology research program has grown. In addition to the Distinguished Service Award, the foundation has endowed the Melvin H. Motolinsky Laboratory for Hematology Research, the Motolinsky Fellowship Program, and, most recently, the Melvin H. and Ab Motolinsky Chair in Hematology, held by Parvin Sadiq, MD, professor of medicine, chief, division of hematology, and director of the Melvin H. Motolinsky Laboratory for Hematology Research.

— K.O’N.

Dr. Lacy Receives Motolinsky Service Award

As part of the growing appreciation of the need to commit additional funds to autism research, Dr. Lambert told the Star-Ledger in December. “That means it has to be something in the environment.”

Whether the prevalence of autism has increased or the diagnoses reflect heightened awareness of the condition, the situation cries out for understanding and intervention. A new study at the Center for Childhood Neurotoxicology and Exposure Assessment hopes to find answers to the mystery in their current study of toxic exposure in autistic children between 24 and 36 months old.

The conference was instrumental in widening discussions of the interaction between autism, the environment, and genes,” says George H. Lambert, MD, associate professor of pediatrics and director of CCNEA. The co-hosts plan to hold the conference every year, alternating between RWJMS and UCD, he adds. As part of the growing appreciation of the need to commit additional funds to autism research, Dr. Lambert and 100 additional national guests attended the conference. Dr. Olden was not only a presenter at the conference; he stayed for two days. He led informal discussions late into the night, trying to help participants determine how to best use the extensive information and interest that the event generated. Dr. Lambert also received a $24,833 grant from the U.S. Health Resources and Services Administration (HRSA). As part of the growing appreciation of the need to commit additional funds to autism research, Dr. Lambert told the Star-Ledger in December. “That means it has to be something in the environment.”
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The “GLUE” grant — so named because of the connective bond that brings together the work of more than 40 investigators — focuses on inflammation and its potential risk in leading to serious complications following trauma.

The “GLUE” grant was initiated and conducted by individual investigators. But this GLUE grant brings together resources that approach those of a pharmaceutical company. It makes a statement about the kind of scientific talent needed for such a big undertaking, and it is a hopeful sign for interdisciplinary and multi-institutional collaboration in the future.

— R.M.R.

Research

NEWS

RWJMS Key Participant in Landmark Grant

Surviving trauma is a tenous first step on the road back to good health for thousands of patients facing complications resulting from burns, serious injury, or major surgery. The potentially fatal fallout from such events is estimated at more than $200 billion annually and continues to challenge scientists seeking answers that will help guide treatment.

The National Institute of General Medical Sciences, of the National Institutes of Health, has awarded a record-making grant of $37 million to a consortium of leading clinical and basic scientists across the country over the course of five years. This unique partnership of 16 top medical institutions across the country includes members of the Department of Surgery at the UMDNJ-Robert Wood Johnson Medical School who pioneered the study of whole-body inflammation and its potential risk in leading to serious complications following trauma.

Stephen F. Lowry, MD, professor and chair, Department of Surgery, says the coordinated studies will examine the extensive interplay among the acute events that take place after a serious injury and how the body’s immune system responds.

“Advanced molecular techniques, such as DNA microarray technology are used to comprehensively evaluate trauma and burn patients at the genome level and gene expression level and determine how these relate to patient outcomes,” Dr. Lowry says.

Microarrays are used to examine cells for differences in gene expression profiles. The arrays contain thousands of immobilized DNA sequences on a glass slide, nylon membrane, or silicon chip, and they are used to analyze a sample for a pattern of gene expression.

Steve E. Calvano, PhD, associate professor of surgery, explains the model being used for the grant core in human studies of normal volunteers at RWJMS is one in which approximately 240 subjects have been studied in the last 15 years.

“Dr. Lowry has already performed extensive work in this field, making the medical school one of the most experienced sites in the world,” he says. Dr. Calvano says an Institutional Review Board has approved an initiative in which volunteers are given a small dose of bacterial endotoxin that induces a moderate whole-body inflammatory reaction with a well-characterized physiologic and metabolic response. At various times after the endotoxin is given, blood immune cells are collected and analyzed for patterns of gene expression using DNA microarray technology. Scientists conducting the computational core of the grant will analyze this information in the context of preclinical models, cell signaling, and other factors in anticipation that the data may provide understanding of why inflammation has fatal implications for some trauma patients.

“This really is an exciting endeavor,” Dr. Calvano says. “Most scientific projects are initiated and conducted by individual investigators. But this GLUE grant brings together resources that approach those of a pharmaceutical company. It makes a statement about the kind of scientific talent needed for such a big undertaking, and it is a hopeful sign for interdisciplinary and multi-institutional collaboration in the future.”

— R.M.R.
Human Sexuality Course Celebrates Milestone

It has been 30 years since the late Richard J. Cross, MD, professor emeritus of environmental and community medicine at UMDNJ-Robert Wood Johnson Medical School, founded the RWJMS “Human Sexuality” course. Presented to medical students and allied health professionals, the program today bears the distinction of being the longest-running and most comprehensive educational resource of its kind worldwide.

In January of this week, the course, now directed by Raymond C. Rosen, PhD, professor of psychiatry, and co-director Sandra R. Leblum, PhD, professor of psychiatry, has an attendance of 230 participants. In addition to second-year medical students, for whom the course is required, attendees embraced a wide cross-section of Allied Health care professionals, including physician assistants, social workers, counselors, dietary students, and students from the School of Public Health.

“Emphasis focused on the broadest aspects of sexuality from multi-cultural perspectives, to public health issues and the impact of treatment,” Dr. Rosen says. “We have had 23 visiting faculty from throughout the United States, as well as Canada, the United Kingdom, and South Africa. These lecturers came not only to teach, but to examine the program’s pioneering success as a model for use in their own institutions.”

The impressive list of faculty notables was Gorm Wagner, MD, professor at the University of Copenhagen and an internationally recognized leader and member of the World Health Organization. The occasion this year marked the 15th anniversary of the presentment of an award honoring its founder. The Richard Cross Award for Distinguished Contribution to Sexual Health Education, named for the program’s original director and first chair of the Department of Environmental and Community Medicine, was presented to David Satcher, MD, PhD, former assistant secretary for health and surgeon general of the United States.

In presenting the award, Harold L. Paz, MD, dean, noted, “It is particularly fitting that Dr. Satcher receive this award on the 30th anniversary of the medical school’s human sexuality program. During his term as surgeon general, he was a strong advocate for sexual health education. His achievements in that office now serve as a blueprint for sexual health promotion in the United States.”

Dr. Satcher, only the second person to simultaneously hold the positions of surgeon general and assistant secretary for health, currently is director of the National Center for Primary Care at the Morehouse School of Medicine. He previously served as president of Meharry Medical College; professor and chair of the Department of Community Medicine and Family Practice at Morehouse; and interim dean of the Charles R. Drew Postgraduate Medical School.

In addition, he was a faculty member of the UCLA School of Medicine and Public Health.

Presentation of the award to Dr. Satcher was witnessed by Dr. Cross, who remained a member of the program’s faculty during this year’s event, just a week prior to his death. Dr. Cross is regarded as a pioneer, driven by a conviction that medical students needed knowledge of sexuality in order to become good doctors. It is a view widely accepted today but might well be considered visionary for medical schools 30 years ago.

— R.M.R.

Medical School’s Magazine Honored

Robert Wood Johnson Medicine has been honored with a prestigious award recognizing excellence among university and medical school magazines throughout the mid-Atlantic states.

The Council on Advancement and Support of Education (CASE), DC, presented its Bronar Accolade Award for outstanding writing, design, editing, and overall distinction to RWJMS during its recent conference in New York. The awards program is an extremely competitive showcase of the highest caliber publications produced from New York to the District of Columbia.

“Robert Wood Johnson Medicine has become an important source of information about the pioneering advances in research, education, patient care, and community service at the medical school,” says Harold L. Paz, MD, dean. “It is our window to the world of science and medicine,” he adds. “We receive numerous compliments on its attractive presentation of discoveries at RWJMS, about our exceptional alumni, as well as the outstanding clinicians and scientists now being trained at the medical school.”

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MD/MBA students examine a critical patient — Health care in the 21st Century

A stand-alone medical degree is not enough for some medical students. Seeking broader preparation for their careers, students increasingly seek out new approaches to an MD by completing dual-degree programs in complementary fields.

By offering six dual-degree programs, UMDNJ-Robert Wood Johnson Medical School strongly supports this quest. One of the most popular is the MD/MBA, a collaboration between RWJMS and the Rutgers Business School at Rutgers, the State University of New Jersey. Each year since 1999, the school has paid full tuition for four students to pursue the MBA phase of the program.

The opportunity to take a 10-credit MBA program in health care management is a strong recruitment tool, says Carol A. Terregino, MD ‘86, clinical associate professor of anesthesiology and assistant dean for admissions and student affairs. “Applicants are intrigued by the possibility of individualizing their medical school experience.”

Dr. Seiden sees MD/MBA candidates as “an MD/MBA candidate Kathryn Getzewich ’03 will begin a residency in internal medicine before entering a career most likely in academia or research,” she says. Ms. Getzewich, one of the first women to enter the health care management program, sought to find business-based solutions that would put physicians back in control of the system. Like most candidates in the program, she completed the MBA phase of her degree between her first and second years.

“At the end of the day, when we're recommending a treatment for a patient, I tend to chime in, ‘Why are we doing this, and what’s the cost?’” MD/MBA candidate Kusum Punjabi ’05 says. “In medical school, you learn to help the patient weigh risks versus benefits, but today, physicians have to understand that cost can be one of the biggest risks of treatment.”

“Business knowledge makes you much more aware of how each decision affects not just the bottom line but the health care system as a whole,” she says. “Now, when we’re recommending a test for a patient, I tend to chime in, ‘Why are we doing this, and what’s the cost?’”

Published Research:
An article by Lisa A. Michaela, MD, assistant professor of pediatrics, titled “Should Adolescents with Hemophilia be Couch Potatoes? No Way!” was published in Hemophilia Awareness 7, no. 4 (September-October 2002).

Jerome Parnes, MD, PhD, associate professor of anesthesiology, and Shekhar J. N, MD, University Professor of Physiology and Biophysics, were among the co-authors of “Identification of a Dystrobrevin Binding Sequence on the Skeletal Muscle Ryndrone Receptor,” which was published in The Journal of Biological Chemistry 2002;277:34318–34323.

Santia S. Patel, PhD, professor of biochemistry, co-authored an article titled “TAT Dna Helicase: A Molecular Motor That Processively and Unidirectionally Translocates along Single-Stranded DNA,” which was published to Molecular Biology 2002;312:407–418. Dr. Patel also co-authored “Helicase and Biophysics, were among the co-authors of "Identification of a Dystrobrevin Binding Sequence on the Skeletal Muscle Ryndrone Receptor," which was published in The Journal of Biological Chemistry 2002;277:34318–34323. Santia S. Patel, PhD, professor of physiology and biophysics, was among the co-authors of "Identification of a Dystrobrevin Binding Sequence on the Skeletal Muscle Ryndrone Receptor," which was published in The Journal of Biological Chemistry 2002;277:34318–34323.
Dr. Olivia Named President and CEO at Cooper

Charles E. Sessa, chairman of the Board of Trustees of Cooper Health System, has announced the appointment of Christopher T. Olivia, MD, as president and chief executive officer. Following a national search and extensive interview process, we recognized that our best choice has been guiding us in the role of transition executive," Mr. Sessa said.

"Dr. Olivia’s knowledge of physician practice issues and expertise in business and financial strategy are important qualities that will enable him to manage the complex challenges in a large health system," he added.

Prior to his recent appointment as transition executive, Dr. Olivia served as president of University Physicians–UPC (UCP), the health system’s faculty physician organization.

“I am honored by the trust placed in me,” he says. “I look forward to helping Cooper Health grow through a vision driven by a goal of becoming a leader of health care services in New Jersey, and the provider of choice in the Delaware Valley and South Jersey. We have the excellence in research and clinical skills to become no less.”

Under Dr. Olivia’s leadership, UCP’s management was consolidated and restructured, resulting in improved business operations. Emphasis on clinical leadership, along with improved billing and collections, has increased the organization’s net results and profits. Consequently, funds were available to recruit nationally and internationally renowned clinical specialists to the Cooper physician staff.

Among the staff notable are Joseph E. Parrillo, MD, director of the division of cardiovascular disease and critical care medicine, and Lawrence S. Miller, MD, chief of the division of sports medicine. Dr. Parrillo has served as chief of critical care medicine at the National Institutes of Health (NIH). His research on a lipoprotein complex with potential for raising good cholesterol was recently featured in Time magazine. Dr. Miller, who has pioneered one of the region’s leading sports medicine practices, is actively involved in clinical research and has authored numerous peer review publications. Other physician luminaries recruited by the revitalized UPC include R. Steven A. Ross, MD, whose specialty is trauma medicine. Commenting on these and other recent staff appointments, Dr. Olivia says, “We believe we are in a position to compete favorably with Philadelphia medical centers because we have shown our strength in being able to grow in key service areas through the addition of world-class faculty leaders who will develop leading-edge clinical care and research.”

Dr. Olivia, who reports that Cooper’s NIH funding has increased from a ground level position to approximately $5 million, says one of his goals is to strengthen the medical school’s presence at Cooper.

“The medical school is the glue that binds our hospital and faculty together,” he says. “It’s the core of what we do as an academic medical center focused on education and research in addition to outstanding clinical care.

A clinical assistant professor of ophthalmology at UMDNJ-Robert Wood Johnson Medical School, Dr. Olivia received his medical degree from Hahnemann Medical School, and an MBA from the Wharton School at the University of Pennsylvania. — A.M.R.
Last fall, Institute 2002 participants from South America, Asia, and sub-Saharan Africa enjoyed an in-depth tour of classes and facilities at UMDNJ-Robert Wood Johnson Medical School and Rutgers Faculty and staff also welcomed them for tours and presentations at Robert Wood Johnson University Hospital, a principal teaching affiliate of RWJMS, and St. Peter’s University Hospital, a university hospital affiliate.

This is the second year of the institute program, which is funded by the Foundation for the Advancement of International Medical Education and Research (FAIMER), a non-profit foundation of the Educational Commission for Foreign Medical Graduates (ECFMG). RWJMS has closely collaborated with ECFMG in nurturing the program. Two years ago, Harold L. Paz, MD, dean, and John B. Kosits, MD, John G. Detwiler Chair in Cardiology, professor of medicine and pharmacology, and chair, Department of Medicine, helped shape the institute at a special planning meeting in Casablanca, Morocco. Dr. Kosits continues to serve as a board member of both FAIMER and ECFMG. In addition, Nayan K. Kothari, MBBS, clinical professor of medicine and director, Internal Medicine Residency Program, serves on the institute faculty and works with Ramita Sharma, MD, assistant professor of medicine, to coordinate the annual visits to RWJMS.

Based in Philadelphia, the yearlong program features two residential sessions in the United States. With each year, the institute extends its worldwide network of medical school faculty and upper-level administrators. Like their predecessors, the 11 members of this year’s class returned home to launch and grow projects developed with the help of FAIMER consultants. As classmates and “alums,” they support one another through a yearlong Internet exchange.

Several of this year’s participants propose to initiate Objectively Structured Clinical Examinations (OSCEs) at their schools. OSCEs, an integral part of the RWJMS curriculum sequence, were a feature of both years’ tours. Another popular Institute 2002 project is the development and integration of Web-based learning. In a visit to the RWJMS library and in the Teaching Labs, participants were exposed to a number of innovative approaches to computer-based resources. They also enjoyed a session on strategic planning, led by Dr. Paz, and were impressed by a demonstration of the Patient Simulator as a means to teach patient monitoring and response to “code” emergencies.

Robert Wood Johnson Medical School

Deborah A. Cory-Slechta, PhD
Accepts Dual Appointment at RWJMS

In April 2003, Deborah A. Cory-Slechta, PhD, became chair of the Department of Environmental and Community Medicine. She is also serving as director of the Environmental and Occupational Health Sciences Institute (EOHSI), a joint institute of UMDNJ-Robert Wood Johnson Medical School and Rutgers University that is located on the Busch campus, in Piscataway. Until April, Dr. Cory-Slechta served part time in both positions while commuting from the University of Rochester School of Medicine and Dentistry, where she was professor of environmental medicine, pediatrics, neurobiology, and anatomy. At Rochester, she also served as chair of environmental medicine and dean for research, and was director of the National Institute for Environmental Health Sciences’ Environmental Health Sciences Center at the University of Rochester Medical Center.

“I am delighted that we were able to recruit one of the leaders in environmental health to the Busch campus,” says Harold L. Paz, MD, dean. “But the department focuses on environmental chemicals and how they affect human health, while the institute takes its research into the field in areas of service and public policy making.”

Dr. Cory-Slechta holds a doctorate in experimental psychology from the University of Minnesota. She is noted for her work on the relationships between neurotoxicants. In her laboratory, she has found that combined exposures to the herbicide/desiccant paraquat and the fungicide Maneb resulted in a mouse model of environmental Parkinsonism. “The insults to the nervous system can occur early in life, then play out later,” she says. “Pesticides may not be the direct cause of Parkinson’s disease, but they can tilt the balance for those at risk to develop the disease.”

“Chemical mixtures are risk factors for a wide variety of conditions,” she adds, “including diabetes, cardiovascular disease, cancer, and behavioral dysfunction. They can also affect complex cognitive functions such as learning, memory, and attention, functions that are also at risk from low-level exposure to environmental agents like lead.”

Dr. Cory-Slechta says that environmental risks rarely come from a single source. Rather, people are exposed to complicated chemical mixtures that can emanate from building materials, result from iron or calcium deficiencies, or occur after a disaster such as the World Trade Center inferno. While those chemical mixtures interact with genetic background and other risk factors, they can culminate in disease.

To keep pace with the breakneck progress in biotechnology, Dr. Cory-Slechta says her and her fellow researchers must work hard to identify biomarkers of exposure and effect that will help them understand these neurochemical interactions. The potential for collaborative work at RWJMS encourages her. “Most places focus on bench research or the public policy, but here we have the ability to bring pure research directly into the public policy loop.”

K.O’N.
Suhayl Dhib-Jalbut, MD, Chairs Department of Neurology

Suhayl Dhib-Jalbut, MD, a world-class researcher on multiple sclerosis (MS), has been named professor and chair, Department of Neurology, at UMDNJ-Robert Wood Johnson Medical School. He will assume the post full time in July 2003 and until then will be on board part time. Most recently, he served as professor of neurology at the University of Maryland. He also holds an appointment as principal investigator and staff neurologist at the Baltimore Veterans Administration Medical Center and is a guest researcher at the National Institute of Neurological Disorders and Stroke. An intensive nationwide search by RWJMS led to Dr. Dhib-Jalbut’s nomination as department chair. “He is a superb scientist. Since he is also an excellent clinician and teacher, he was the ideal candidate for this position,” says David H. Carver, MD, associate dean for faculty affairs, who chaired the search committee. “We couldn’t be more delighted that he will be joining us.”

Dr. Dhib-Jalbut is pleased that his wife, M. Maral Mouradian, MD, will also join the department as the William Dow Lovett Professor of Neurology. She is serving as chief of the Genetics Pharmacology Unit at the National Institute of Neurological Disorders and Stroke (NINDS), of the National Institutes of Health (NIH), has been appointed the William Dow Lovett Professor of Neurology at UMDNJ.

There is strong potential for a separate collaboration on Parkinson’s disease research, which would include faculty of the Department of Neurology, the Department of Environmental and Community Medicine, and the Environmental and Occupational Health Sciences Institute. “We can apply for funds and advance our research programs better than any individual department or institution can do alone,” Dr. Dhib-Jalbut says.

M. Maral Mouradian, MD, chief of the Genetic Pharmacology Unit at the National Institute of Neurological Disorders and Stroke (NINDS), of the National Institutes of Health (NIH), has been appointed the William Dow Lovett Professor of Neurology at UMDNJ-Robert Wood Johnson Medical School. She is the first woman neurologist appointed to a chaired endowed position at UMDNJ-RWJMS.

Dr. Mouradian is an elected member of the Alpha Omega Alpha Honor Medical Society and the American Neurological Association. She is an associate editor of the Journal of Pharmacology and Therapeutics, and a member of the Scientific Advisory Board of the American Parkinson’s Disease Association.

M. Maral Mouradian, MD

Dr. Mouradian is an elected member of the Alpha Omega Alpha Honor Medical Society and the American Neurological Association. She is an associate editor of the Journal of Pharmacology and Therapeutics, and a member of the Scientific Advisory Board of the American Parkinson’s Disease Association.
Don Chen, PhD, has been appointed professor of pharmacology at UMNJ’s Robert Wood Johnson Medical School. Dr. Chen holds the distinction of being named a University Professor, one of a select group among the country’s leading scientists, recruited to expand the university’s world-class faculty. The University Professorship program, established in 2001, is bringing researchers on the cutting edge of discovery to the various UMNJ campuses. Support for the initiative sustains each professor at a cost of $125,000 a year for five years, after which support becomes the responsibility of the department in which the professor holds his or her appointment.

Each University Professor brings to the school a minimum of $100,000 in direct research income from the National Institutes of Health (NIH) or other federal funding source, along with indication of continued support. In the past six years, Dr. Chen has had more than $5 million in grant support from federal, volunteer, and private foundation funding and well being three NIH R01 grants to his new post at RWJMS.

Dr. Chen carries serves as associate professor of biochemistry and molecular pharmacology at the University of Massachusetts Medical School. He is nationally recognized for his studies involving hormone receptors in leukemia, specifically for work on the molecular mechanisms of gene regulation by steroid hormone or steroid/nuclear receptors. His research has covered new genes involved in regulating nuclear receptor function, as well as the molecular tools to combat hormone-related diseases including acute promyelocytic leukemia, breast cancer, and diabetes.

Responsible for identifying and cloning the first nuclear receptor co-regulator that associates with unliganded retinoid and thyroid hormone receptors to mediate transcriptional repression of target genes, Dr. Chen’s laboratory also has cloned the nuclear receptor co-activator RAC3, amplified in breast cancer. Dr. Chen was awarded the 2002 International Cancer Congress Travel Award from the American Cancer Society, the 2000 Scholar Award from the Leukemia and Lymphoma Society, and the American Cancer Society of Hematology’s Young Investigator Award in 1997.

Commenting on his recent appointment to the RWJMS faculty, Dr. Chen says it represents both challenge and opportunity. “The medical school is an extraordinary environment for me, and I am looking forward to the daily challenge of discovery that will come from working with such outstanding researchers, many of whom I already know and for whom I have professional regard,” he says.

Dr. Chen has published more than 35 articles and book chapters, and is the author or co-author of several patents and patent disclosures. A graduate of the National Taiwan University, Taiwan, Dr. Chen received his PhD in cell biology from Baylor College of Medicine, Houston.

Arnold J. Levine, PhD, internationally renowned for his groundbreaking cancer research, has been appointed professor of pediatrics and biochemistry, and a member of The Cancer Institute of New Jersey. A foremost molecular biologist long associated with work in viral oncogenesis and tumor suppressor genes, Dr. Levine is the co-discoverer of the p53 gene, believed to be the most critical tumor suppressor gene in the development of human cancer. The p53 and other tumor suppressor genes are effective in controlling cell growth, thereby preventing cancer.

Dr. Levine received a doctorate in microbiology from the University of Pennsylvania and completed a post-doctoral fellowship at the California Institute of Technology. His honorary degrees, awarded for his work in cellular and molecular biology, include those from the University of Pennsylvania; the University of Pierre and Marie Curie, Paris; the State University of New York, Binghamton; York University, England; and the Mount Sinai School of Medicine, New York. He is a professor at the School of Natural Sciences, Institute for Advanced Study, Princeton.

In 2010, Dr. Levine became a charter member of the Board of Overseers of RWJMS and later was recognized by UMNJ with the honorary degree of Doctor of Humane Letters at the 2001 commencement. His long association with Princeton University began as assistant professor of biochemistry in 1968 and included positions as professor and chair, Department of Microbiology. From 1984 to 1998, he was the Harry C. Weiss Professor in the Life Sciences and chair, Department of Molecular Biology. Most recently, he served as president and chief executive officer of The Rockefeller University, New York.

Dr. Levine has been honored with numerous national and international scientific awards, has held editorial positions on several scientific journals, and has served on the boards of prestigious universities and medical groups.

Cancer Researcher Appointed

Prominent Cancer Joins Faculty

Reseacher

Joins Faculty

For more information on the University of Pierre and Marie Curie, Paris; the State University of New York, Binghamton; York University, England; and the Mount Sinai School of Medicine, New York, see the UMNJ website at: www.umnj.edu

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— R.M.R.

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Don Chen, PhD, has been appointed professor of pharmacology at UMNJ’s Robert Wood Johnson Medical School. Dr. Chen holds the distinction of being named a University Professor, one of a select group among the country’s leading scientists, recruited to expand the university’s world-class faculty.

The University Professorship program, established in 2001, is bringing researchers on the cutting edge of discovery to the various UMNJ campuses. Support for the initiative sustains each professor at a cost of $125,000 a year for five years, after which support becomes the responsibility of the department in which the professor holds his or her appointment.

Each University Professor brings to the school a minimum of $100,000 in direct research income from the National Institutes of Health (NIH) or other federal funding source, along with indication of continued support. In the past six years, Dr. Chen has had more than $5 million in grant support from federal, volunteer, and private foundation funding and well being three NIH R01 grants to his new post at RWJMS.

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Dr. Chen has published more than 35 articles and book chapters, and is the author or co-author of several patents and patent disclosures. A graduate of the National Taiwan University, Taiwan, Dr. Chen received his PhD in cell biology from Baylor College of Medicine, Houston.
Points of Pride

James B. Alexander, MD, associate professor of surgery, received the 2003 Luriback Distinguished Teaching Award. The $4,000 award recognizes an outstanding teacher on one of UMDNJ’s South Jersey campuses. Underwritten by the Christian R. and Mary F. Luriback Foundation, of Philadelphia, it is presented annually by the foundation of UMDNJ. After reviewing the comments of students and residents, the selection committee, chaired by Paul R. Mene, PhD, associate professor of family medicine and associate dean for academic and student affairs, Camden campus, identified Dr. Alexander as the school’s third nominee. In 1992, Dr. Alexander, a vascular surgeon, developed a computer-based procedure log for surgical clinics, which became a widely recognized model. The log and his educational Web sites have developed a broad following across North America.

Judith K. Amorosa, MD, clinical professor of radiology, participated in the Radiology and Imaging Technology Delegation to China, sponsored by the People to People Ambassador Programs, People’s Republic of China. Delegates visited hospitals in China to discuss current and emerging developments in radiology. The Association of University Radiologists invited Dr. Amorosa to be a member of its 2002–2003 Scientific Program Committee, which selected scientific abstracts for presentation at the association’s annual meeting in April 2003.

Susan R. Baschoff, PhD, associate professor of medicine, received $90,000 from the U. S. Health Resources and Services Administration for a local performance site of the New Jersey AIDS Education and Training Center. The RWUM Continuing Medical Education Advisory Committee has awarded 18 $5,000 grants, for the development of new and innovative programs, to the following faculty members:

- Jeffrey C. Brenner, MD ’75, instructor of family medicine, "Urban Health;"
- Archana Pradhan, MD, MPH, instructor of obstetrics, gynecology, and reproductive sciences, "Pre- and post-menopausal medicine in the 21st century;"
- Michael Steinberg, MD, MPH, assistant professor of medicine, "Tobacco dependence treatment during pregnancy;"
- Patricia N. Whitley-Williams, MD, associate professor of pediatrics, and Daniel A. Nottelman, MD, University Professor of Pediatrics and chair, Department of Pediatrics, "Management of the febrile infant less than 90 days of age — the current evidence."
- Edison Catalano, PhD, professor and chair, Department of Radiology and Imaging for "Tobacco dependence treatment during pregnancy;"
- Panos G. Georgopoulos, PhD, associate professor of environmental and community medicine, co-chaired an international workshop at the Environmental and Occupational Health Sciences Institute (EOHSI), where the topic was “Occupational Health Sciences Institute."

Division of Coincidence, Department of Surgery

Larry E. Shindelman, MD, associate professor of surgery, reports a recent coincidence in the Operating Room at Robert Wood Johnson University Hospital. Fellow vascular surgeon William Rough, MD, was visiting for a course Dr. Shindelman teaches on endovascular interventions. Not only are the two surgeons in the same specialty, they were fraternity brothers at Ohio Wesleyan University. Dr. Shindelman made it a threesome when he invited Stephen F. Lawrey, MD, professor and chair, Department of Surgery, another Ohio Wesleyan graduate, down to the OR for a photograph, memorializing the occasion. “I hope the news gets back to Ohio Wesleyan, so more of their future physicians will apply to RWUM,” says Dr. Shindelman. “It’s clear there’s a stronger link between the two schools than we knew!”
Endowed Scholarships: Using Your Past to Secure the Future

Endowed scholarships to the Robert Wood Johnson Medical School are a wonderful way for you to use your past to help assure a steady stream of quality physicians in the future.

That’s why the Foundation of UMDNJ has embarked on an ambitious program to raise $500,000 in endowed scholarships throughout the University.

To date, we have raised $175,000 and thank you for your generous gifts! And we are going to keep going. City News has published an editorial calling for adoption of recommendations made by Denise V. Rodgers, MD, professor of family medicine and environmental and community medicine and associate dean for community health, in her report titled “The State of Black Health in New Jersey.” City News publishes information about people, services, businesses, and events of interest to African-Americans in New Jersey. The report is online at http://policy.rutgers.edu/blackhealth/.

Daniel M. Shindler, MD, associate professor of medicine, was quoted in an Associated Press article about a recent study that found that aspirin taken before and after bypass surgery lowers the risk of complications and death. Dr. Shindler hosts an online discussion on echocardiography and runs a Web site on the topic (http://aspirin.rutgers.edu/). He received 1.8 million hits last year.

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For more information about how you can give back something of lasting value with your gift of an endowed scholarship, contact Jim Golubitsky, chief operating officer, at (732) 743-3290 or via e-mail at golubitsky@umdnj.edu.

Visit our web site at www.umdnj.edu/foundation
A child takes his first steps on wobbly legs, and the next
day remembers how he did it. An old man recalls the
taste of his grandmother's homemade gingerbread.
Inexplicably coupled in the mysterious evolution of
learning and memory, the two phenomena are served by
different parts of the brain. Are there common gene
changes underlying these distinct types of memory? Is it
possible that the molecular processes have a cohesion?
Scientists don’t have the answers yet, but they are mov-
ing closer. As they do, evidence of how seemingly dis-
similar diseases may be linked is leading to greater
understanding of the nervous system.

BY RITA M. ROONEY
PORTRAITS BY NAT CLYMER
Speculation that abnormalities in the genes associated with memory and learning can result in dementia, specifically Alzheimer’s, has yielded exciting evidence, thanks to the use of microarray and gene chip technology. Microarrays are used to analyze gene variations, and can measure the product of 5,000 or more genes, pinpointing activated genes with far greater speed than scientists formerly could achieve when limited by one gene-at-a-time methodology. The arrays generally are examined on a membrane, whereas a correlated technology using gene chips uses photolithography on a hard surface and can analyze as many as 10,000 genes with controls built into the system.

Dr. Black’s laboratory uses both arrays and chips in studying communication in the brain. “The ability to analyze activity of multiple genes simultaneously has enabled great leaps in the pursuit of science,” Dr. Black says. “For instance, when analyzing thousands of genes that may be of particular concern, we have the capability now to learn more about the whole process. We can ask how groups of genes change over time with the biological process or with potential disease. We can begin to understand what genes become active or inactive really are more important than any one gene.”

While the research still is in its early stages, Dr. Black’s team has found one gene that showed increased activity with enhanced electrical activity of the neurons. He speculated about what would happen if that gene became knockout out in the living mouse. When he and his colleagues performed the experiment on a knockout mouse, they compared results with the same cells in the dish, finding that enhanced electrical activity failed to occur, but baseline activity remained normal. The conclusion is that the gene is not necessary for normal function but that it is critical to the memory and learning part of the neuron’s activity.

“When we began working in the dish, we thought we were dealing with a single memory process,” Dr. Black says. “But that inactive gene told us loud and clear there were at least two memory processes involved. The discovery is opening up a whole new world of possibilities.”

Although that discovery alone is of milestone proportions, Dr. Black is quick to report that it centers on just one of the genes that affect one part of the memory process. With the use of chips, his laboratory has since identified an additional 50 genes that showed increased activity with the enhanced communication that appears to be associated with memory. The implications, although still speculative, offer hope that researchers now can identify multiple genes that, when denatured, result in dementia.

Reporting that he currently is in the process of publishing results of his study, Dr. Black credits microarray technology with much of his early progress. “We were able to identify a specific group of genes by using arrays and electrically activating neurons in the dish,” he says. “We then learned that the same genes increased in the living animal when that animal learned to perform a task. That leads us to believe that the genes, operative in culture, will point us to the very same genes active in the living brain. We could not have done this without microarray and chip technology.”

He calls it nothing less than amazing that one can move from a single neuron in culture to a smart animal and find the same operative genes. The significance is that scientists can use simplified cellular models to begin understanding the genetics of behavior, emotion, and mental processes. “If we were restricted to using live animals, we could not come to our conclusions this quickly,” Dr. Black says. “Now, however, as soon as we identify a gene in the dish, we can begin to ask questions about its function in real life.”

One of the more surprising revelations of the research is that it raises questions about which diseases can be called complex and which actually are simple — those attributable to a single gene or environmental cause.

“We have a suspicion that the predominance of diseases are polygenic,” he says. “It’s probable that there are communalities among seemingly different diseases, not only those of the nervous system, but many others including cancer as well.”

What is the next step in moving laboratory research to clinical applications in treating Alzheimer’s and other diseases affected by communication in the brain? Dr. Black says it’s conceivable that abnormalities identified in cultures and in animals can be detected in cells from living patients. Admitting it may now be no more than wishful thinking, he says it’s possible that, in the not-too-distant future, blood tests can be developed to examine gene abnormality that may affect brain function.

Microarray and gene chip technology have helped scientists analyze the activity of 5,000 to 10,000 genes simultaneously in the study of complex diseases of the brain. Here, Ira B. Black, MD, professor and chair, Department of Neuroscience and Cell Biology, and Janet Alder, PhD, instructor of neuroscience and cell biology, discuss progress in Dr. Black’s laboratory.

“I realize it is still speculative at this point,” he says. “But there is increasing possibility that we will one day be able to use MRIs to detect patients at risk for Alzheimer’s disease and study their genes. One thing is certain. We are well on our way to being able to initiate treatment before the devastating effects of the disease progress.”

Dr. Black’s laboratory has assumed a leadership position in investigating the complexity of disease as it relates to neurological function. His team is one of the very few with success in examining single nerve cells in the dish, characterizing those cells electrically and determining which genes are active and which are inactive, thereby associating given genes with the specific type of electrical response. His studies are being funded by the National Institutes of Health, the New Jersey Commission on Science and Technology, and the National Alliance for Research on Schizophrenia and Depression.

The study of polygenic disease is an emerging focus, one that perhaps hasn’t yet caught the investigative fancy of researchers throughout the scientific community. Nevertheless, the technology that supports it is rapidly expanding and the implications, drawn from research such as that performed in Dr. Black’s laboratory, suggest it may well take a center-stage position in the investigation of an unlimited number of disease entities in the near future.

Dr. Black’s Book Earns Praise

Reviews are calling it “an intriguing scientific thriller.” The updated version of a book by Ira B. Black, MD, professor and chair, Department of Neuroscience and Cell Biology, is now available at all paperback bookstores, as well as at Amazon and Barnes and Noble online.

The Changing Brain: Alzheimer’s Disease and Advances in Neuroscience, which was published last year by Oxford University Press and has become a popular book on the subject, as well as one that has earned critical acclaim in both the medical and lay publications.

A review in Nature Neuroscience reads, “The parallel telling of clinical and scientific tales breathes life, personality and clinical relevance into the neuroscience...” While the clinical problems are as yet unsolved, Ira Black’s enthusiasm and optimism make for a good read.”

Ira B. Black, MD, professor and chair, Department of Neuroscience and Cell Biology, explains current interest in the emerging complexity of polygenic disease.

“We’re learning there are many diseases that cannot be attributed to a single gene defect or solitary environmental insult,” Dr. Black says. “A large group of diseases, especially those of the nervous system, involve multiple genes plus complex environmental interactions.”

Dr. Black is careful to point out that science is just beginning to explore groups of genes that are related to these diseases, but it’s believed that studying genes associated with communication in the brain will reveal what happens when the processes of memory and learning are abnormal. His laboratory has performed cell culture studies to identify these genes, and the success of the efforts has led to work with animals and significant promise for unraveling important clues about diseases that affect more than one part of the brain — among them, schizophrenia, autism, Parkinson’s disease, and Alzheimer’s disease, an affliction that affects 4 million Americans and is estimated at an annual cost of $40 billion to $50 billion.

Dr. Black and his colleagues, Janet Alder, PhD, instructor of neuroscience and cell biology, and Smita Thakker-Varia, PhD, associate professor of neuroscience and cell biology, began their research by isolating memory neurons or nerve cells in culture and recording their electrical activity to determine what experiences enhance communication among the neurons. That increased electrical activity, and the genes that activate it, are then analyzed.

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Almost 200 years ago, researchers experimented with electricity as a mechanism to assess heart problems. Their crude instruments first detected and recorded electricity from mammals’ hearts.

Not until the mid-20th century did electrical devices — including pacemakers and other implanted devices such as defibrillators — grow rapidly in their sophistication and application. The result: the creation of the dynamic field of electrophysiology, the use of electrical devices to diagnose and treat — and now prevent further complication from — serious heart conditions.

The future of electrophysiology lies in its advantage of being a fairly new development. “It’s been a field in which research comparative trials have been used very carefully to show a benefit of one form of therapy versus another,” says Mark W. Preminger, MD, associate professor of medicine, associate chair for clinical services in the Department of Medicine, chief of the Cardiac Electrophysiology & Arrhythmia Program at UMDNJ-Robert Wood Johnson Medical School, and director of the Cardiac Arrhythmia Center and Cardiac Electrophysiology Laboratories at Robert Wood Johnson University Hospital (RWJUH). John B. Kostis, MD, the John G. Detwiler Chair in Cardiology, professor of medicine and pharmacology, chair, Department of Medicine, and co-director of the Center for Disease Management and Clinical Outcomes.

The expanding role of electrical devices is creating a dynamic pulse in cardiac care.

Electrophysiology: Harnessing Electricity to Save Lives

By Lisa Lopez Snyder

Almost 200 years ago, researchers experimented with electricity as a mechanism to assess heart problems. Their crude instruments first detected and recorded electricity from mammals’ hearts.
works closely with Dr. Preminger in following patient outcomes and the impact of electrophysiology. According to Dr. Kostis, in the six years since Dr. Preminger established the electrophysiology service at RWJUH, the number of patients brought into its advanced techniques has created a host of opportunities to study the technology’s effectiveness and cost-effectiveness.

Drs. Preminger and Kostis and their colleagues at RWJMS are among the nation’s top experts working diligently to advance these evolutionary applications from diagnostics to true preventive ones. Their work is already having a significant impact on heart research, education, and clinical practice. Moreover, they are among a number of individuals within the department’s division of cardiovascular diseases and hypertension who have held many leadership roles in large clinical trials addressing other cardiovascular diseases, including chronic heart failure, high blood pressure, and lipid disorders.

The Heart: A Steady and Unsteady Power

It takes only a few facts about the human heart to appreciate electrophysiologists’ efforts to correct this crucial organ’s irregular heartbeats, for the heart is quite an electrifying marvel. Its natural pacemaker, called the sinoatrial node (SA node), sends an electrical impulse that stimulates the heart to contract in a steady rhythm, left as a heartbeat. At rest, the heart beats 60 to 80 times a minute, some 2.5 billion times in the average lifetime, pumping about 5 quarts of blood a minute, 1,800 gallons each day until the end of life.

In individuals with abnormal heartbeats, however, a part of the heart muscle interrupts this electrical impulse, or even takes over the SA node, causing arrhythmia, or irregular heart rhythm. Some arrhythmias are non-threatening; others can be deadly. Some 2 million Americans are living with atrial fibrillation, the most common type of arrhythmia, which occurs when the heart’s two upper chambers, the atria, pump too fast and unevenly. While not life-threatening, if left untreated, it can lead to other conditions, such as congestive heart failure and stroke. Bradycardia is a slowed heartbeat that causes a person to feel dizzy and fatigued. Premature atrial contraction is considered benign and happens to most people at some point in their lives, because the heartbeat comes sooner than normal, this occurrence is often referred to as the heart “skipping a beat.”

Tachycardia, which occurs when the heartbeat is rapid, falls into two categories: supraventricular tachycardia, or rapid heart rhythm involving the atria, the upper heart chambers, and ventricular tachycardia, which refers to a rapid heart rhythm that involves the ventricles, the lower heart chambers. The most serious disturbance is ventricular tachycardia, which occurs when the heartbeat is so rapid that the heart ventricles quiver and heat uncontrollably, and the heart stops pumping. If a normal heart rhythm is not restored within three to five minutes, the patient will suffer heart and brain damage and die.

From Early Applications to Continued Advances Today

Cardiac devices to stimulate the problem heart to a normal rhythm have a dramatic history of transformation, from simple devices in the late 1880s to sweeping technological advances in recent years. As early as the 1880s, after work on mammoth hearts, researchers experimented with inducing shocks to the human heart with electrodes to stimulate cardiac action. Willem Einthoven invented a galvanometer, which detected the smallest electrical changes generated by the human heart and eventually led to the first electrocardiograph.

Over time, the design and use of diagnostic tools advanced and improved clinicians’ ability to assess the mechanics of arrhythmias, from the electrocardiogram and Holter Monitor to the electrophysiology study (see sidebar on page 37). Treatment modalities have been transformed as well. While medications are prescribed for persons with certain arrhythmias, physicians often choose among several implanted devices when patients need more intensive care: catheter ablation, pacemakers, and implantable cardioverter defibrillators (ICDs).

Catheter ablation involves placing into the blood vessels one or more flexible, thin tubes, which channel radio-frequency energy bursts so as to ablate, or destroy, small tissue areas that cause abnormal electrical signals. Pacemakers “pace” and monitor the heart, stimulating it with small electrical impulses if it beats too slowly. Also implanted under the skin, ICDs send a much larger electrical shock to correct life-threatening heart rhythms. They have proven effective in preventing sudden cardiac death in high-risk patients.

“Electrophysiology is a rapidly evolving field,” says Dr. Preminger. “In 1991, when I started practicing electrophysiology, we had the tools available to perform basic diagnostic electrophysiology studies, where catheters are placed in the heart and a variety of arrhythmias can be induced and studied. The conduction properties of the heart could also be studied with these methods. At that time, however, treatments were limited to medications and to early catheter ablation of supraventricular tachycardias, which are generally not life-threatening.”

“Over the next 13 years, we’ve seen an evolution into catheter-based therapy to treat and cure the majority of arrhythmias, from supraventricular tachycardias (SVTs) to atrial flutter, many forms of ventricular tachycardia, and even atrial fibrillation,” Dr. Preminger adds.

From Diagnosis to Prevention

Perhaps the most exciting development in electrophysiology, however, is its transformation from a diagnostic to a therapeutic modality, Dr. Preminger says. For example, pacemakers are now playing a major role in managing patients with heart failure. Dr. Preminger notes that in the past several years, pacemaker therapy...
Kostis adds, particularly with defibrillators. “With arrhythmia, pharmacological therapy has not been successful. In some... time goes by, we'll see more clinical trials on the benefit of implanting devices in additional patient subsets.”

Certainly the benefits of the devices are overwhelming, Dr. Kostis says. New device applications mean electrophysiologists have much to look forward to in terms of... disease. The RWJMS study enrolled 12 patients with congestive heart failure: the primary cause of death among the 30 to 50 percent of these patients who die is sudden cardiac death. To date, many of the tested therapies either have been ineffective or even decreased survival.

In this test, physicians... the heart, from which signals can be recorded from within the heart and the mechanisms underlying a variety of rhythmic disturbances can be elucidated. Advanced mapping systems now allow for re-creating three-dimensional maps of the heart showing the electrical activation of various arrhythmias. This guided geography helps physicians locate the site of the arrhythmia's origin, in order to position catheters to that site and apply radio-frequency energy to destroy it, thus curing the patient of the arrhythmia.

Clinical Trials Explore Electrophysiology's Potential

Preminger and his colleagues at RWJMS have participated in multi-center clinical trials exploring the effectiveness of such devices, carrying out their work at the Cardiac Arrhythmia Center and Cardiac Electrophysiology Laboratories at RWJUH. The medical school is one of 100 in the United States exploring the use of ICDs among patients with congestive heart failure in the Sudden Cardiac Death in Heart Failure Patients (Sudden Cardiac Death in Heart Failure Patients) study. Now in its final year, the five-year study, funded by the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health (NIH), explores the role of ICDs and drug therapy in preventing sudden death in heart-failure patients.

The study will have significant ramifications for treatment of congestive heart failure: the primary cause of death among the 30 to 50 percent of these patients who die is sudden arrhythmic death. Experts say ICDs can prevent those deaths. To date, many of the tested therapies either have been ineffective or even decreased survival.

The RWJMS study enrolled 12 patients with congestive heart failure, four of whom received the drug amiodarone, four of whom received a placebo, and four of whom received the ICD. All are now in the final, follow-up phase. Preliminary indications are positive, Dr. Preminger says. “We know that defibrillators are superior to drugs in preventing cardiac arrest.”

Dr. Kostis is leading the effort to design protocols for assessing the patient outcomes of such cardiovascular interventions. His Center for Disease Management and Clinical Outcomes is a collaborative effort of the RWJMS Department of Medicine, RWJUH, and Rutgers University's College of Pharmacy.

Researchers at RWJMS also participated in the NHLBI Multicenter Unsustained Tachycardia Trial (MUSTT), which examined not only the use of defibrillators as a preventive measure against sudden death among patients who survived heart attacks, but also the value of electrophysiology studies in predicting who is most at risk of sudden cardiac death. Between 1991 and 1997, clinical researchers nationwide studied more than 2,000 patients who had coronary artery disease and had experienced episodes of ventricular tachycardia. The results showed a 77 percent reduction in the rate of sudden cardiac death among patients treated with ICDs.

While not a device-focused comparative trial, another NIH-funded study, the Atrial Fibrillation Follow-Up Investigation of Rhythm Management (AFFIRM), found that drugs used to restore normal heart rhythm do not benefit patients with atrial fibrillation more than medications that control the heart rate. RWJMS was one of 213 sites that studied more than 4,000 atrial fibrillation patients between 1995 and 1999. The MUSTT and AFFIRM outcomes have changed the way clinicians at RWJMS teach and practice. For instance, Dr. Preminger says, “Today we often manage atrial fibrillation with medicines to control heart rate rather than medicines to convert the heart rate back to a normal rhythm.”

Looking Ahead

Clinical trials, technology improvements, and new device applications mean electrophysiologists have much to look forward to in terms of effectiveness and outcomes, Dr. Kostis says. Certainly the benefits of the devices are overwhelming. Dr. Kostis adds, particularly with defibrillators. “With arrhythmia, pharmacological therapy has not been successful. In some cases it has increased rather than decreased mortality. As time goes by, we'll see more clinical trials on the benefit of implanting devices in additional patient subsets.”

Moreover, Dr. Kostis adds, “The new devices have improved. They’re smaller in size and have additional functionalities. And there’s proof that they can indeed improve lives.”

Dr. Preminger agrees: “Defibrillators and pacemakers are getting smaller, the case of implanting them is improving, and they’re providing us with more and more diagnostic information about the patient in whom they are implanted.”

Improvements have also been made in non-invasive devices. Automatic external defibrillators (AEDs), portable devices that weigh less than ten pounds and deliver a charge to restore heart rhythms, have proved successful at saving the lives of persons in cardiac arrest and are now mandated in many community police and emergency stations. Last year, aid in part from a grant that Dr. Preminger secured from a major device manufacturer, RWJMS and RWJUH donated AEDs to 20 community organizations.

Such developments spill good news for the next generation of electrophysiologists and other physicians, Dr. Preminger notes.

“Five years from now we should be able to derive from these units how patients are functioning with respect to heart failure and cardiac output, and whether the drugs that are treating their other conditions are working or not,” he says. “These are things we’re seeing in the next generation of devices.”

“Electrophysiology has a good deal of substantiation from clinical trials, and that helps guide what we’re doing for our patients,” he adds.
professional support critical

Sibhainn Corbett, MD ‘87, assistant professor of surgery, studies cell biology in the function of integrins in her research involving wound contraction and healing. Her work ultimately may provide scientists with a mechanism for turning integrins on or off to assist in treatment.

Chairman’s Faculty Research Award, RWJMS Department of Surgery; and almost $210,000 annually in current grant support from the National Institutes of Health (NIH).

Her activities involve wound contraction and healing. She is studying cell biology in the function of integrins, those proteins that mediate interactions between cells and the extracellular matrix. Her laboratory has shown that one of the integrins has a role in wound contraction. Continued study centers on how specific integrin expression affects the
function of other integrins. That understanding may well enhance the movement of cells in the wound to hasten or retard healing, providing scientists with a mechanism for turning the integrins on or off to assist in treatment.

Like Dr. Corbett, other women scientists at RWJMS have very positive attitudes about their roles at the medical school and their research in general. There is flexibility in their work, they say, and enormous satisfaction in the autonomy they enjoy. They do, however, recognize the inequities in a system in which parity for female scientists often falls short of that accorded to males.

**CHANGE NEEDED**

Nicola C. Partridge, PhD, professor and chair, Department of Physiology and Biophysics, recently had responsibility for reviewing 30 conferences for the Federation of American Societies for Experimental Biology (FASEB), a group funding the meetings. "Even though applications for funding asked how parity would be achieved in assigning chairs and speakers for the conferences, there was little evidence diversity was a consideration," Dr. Partridge says. "I was one of several voicing the complaint that there were not enough women." The first woman chair at the medical school and one of only nine in a national field of 158 chairs of physiology, Dr. Partridge is vice president-elect for science policy of FASEB, and the 2002 recipient of the Shirley Held Award for Service, presented by the American Society for Bone and Mineral Research. She currently holds three NIH RO1 grants and an NIH R21 grant totaling close to $1 million annually.

Research in her laboratory is focused on work with bone and cartilage, and the parathyroid hormone that regulates bone metabolism. After success in studying the hormone at the cellular level and generating mechanisms of its signal transduction in the bone cell, the osteoblast, her laboratory is looking at a series of genes regulated by the hormone. The project, first done in culture, is now attempting to determine if the effect of the hormone is eliminated when these genes are knocked out in mice.

"Several clinical trials involving parathyroid hormone have resulted in increased bone formation, resulting in FDA approval of the injected hormone for osteoporosis," Dr. Partridge reports. "My laboratory is exploring the pathways involved in how this works. It is our hope that continued research will lead to discovery of a drug that can be taken orally, rather than by injection."

Judith A. Neubauer, PhD, professor of medicine and acting senior associate dean for research, received the NIH New Investigator Research Award while a post-doctoral research fellow. She holds several editorial positions including one as associate editor of the Journal of Applied Physiology, and has considerable current grant support including an NIH RO1 award.

Addressing the issue of women scientists, Dr. Neubauer says that when she was an undergraduate with a biology major in the early 1970s, her adviser tried to convince her the only outlet open to her was teaching at the secondary level. "I guess I was too strong willed to heed that advice," she says. "But I wonder how many potential women scientists were discouraged from pursuing their goals because of similar warnings."

**HIGH ATTENTION**

While estimates of the number of women researchers who rise to full professor or administrative positions are difficult to come by, Dr. Neubauer suggests it is probably no more than 15 to 20 percent. As a result, too many women fall by the wayside before reaching that pinnacle of tenure. The Association of American Medical Colleges reports that only 9 percent of all women scientists become department chairs.

"This school is well above the curve in terms of recognizing women," Dr. Neubauer says. "Most of the country is lagging behind. For instance, I hope the future will see more women assuming the presidency of major scientific societies. There has been a hopeful trend toward this in recent years, but it bears improvement."

Dr. Neubauer’s work centers on how breathing is controlled by the brain, specifically the neurobiology of respiratory control. Her lab has identified an oxygen-sensing region in the respiratory network that is believed to be important in setting responses to conditions associated with hypoxia or low oxygen. The clinical implications of hypoxia extend from lung and cardiovascular disease to heart failure, but it is its association with obstructive sleep apnea that concerns Dr. Neubauer’s most recent efforts.

"Called intermittent hypoxia, this is a serious problem that can start out as snoring and develop into complete airway obstruction," she says. "A person can have 60 or more episodes an hour, during which he or she stops breathing."

Her studies have resulted in the identification of a brain site that responds to these changes in oxygenation. The next step is to identify a mechanism that may allow researchers to identify biomarkers that could be used to predict which patients in the RWJMS sleep laboratory are likely to experience intermittent hypoxia.

**A NATIONAL FOCUS**

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Nicola C. Partridge, PhD, professor and chair, Department of Physiology and Biophysics, is one of only nine women in academia to hold a chair in physiology. Judith A. Neubauer, PhD, professor of medicine and acting senior associate dean for research, believes RWJMS is above the curve in advancing women scientists but that other schools may be less progressive in doing so.
Could she have gotten where she is today without the support of a strong female mentor who she was托menting the role of motherhood with her fledging research at Princeton?

“I don’t know,” she says candidly. “It was important for me to work with someone like her. I had always been in a predominantly male environment. It helped enormously to see a woman who was so bright and so well respected. I’m not sure it would have worked for me if I didn’t have that.”

Another rising star on the RWJMS scene, Terri Goss Kinity, PhD, associate professor of molecular genetics, microbiology, and immunology, is the recent recipient of the Faculty Mentor of the Year Award.

“Mentoring works best when there is a good match of professional interests, she says. “My own mentors were men, and that didn’t matter because we shared a scientific focus.”

Dr. Neubauer agrees that mentoring is critical and adds that women researchers need to take it a step further.

“Scientists have to market science,” she says. “We need to reach out to the community and promote their work on a wider scale, she reports, “The implications extend far beyond prostate cancer, although that was our starting point. We now are broadening our work to models of breast and ovarian cancer.”

As a member of a National Cancer Institute consortium, Mouse Models of Human Cancer, Dr. Abate-Shen and her colleagues are developing models of carcinogenesis and, in some contexts, metastasis.

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A QUESTION OF TENURE

Dr. Kinzy is working on protein synthesis in fungi, using a yeast model. She explains that fungal infection is a growing problem, especially in transplant patients and people with immune deficiencies. Currently, there are few drugs to effectively combat these infections, and those that are available have serious complications. Her studies are aimed at finding appropriate drug therapy.

Recently, Dr. Kinzy received the Human Frontier in Medicine International Consortium Grant, and will be collaborating with scientists at the University of Pennsylvania and University of Aarhus, Denmark.

“IT’S an exciting challenge,” she says. “We will be hosting students from Denmark in my laboratory, and my students will be going there as well. It’s a high-risk, interdisciplinary project with no guarantee of success, but it has significant potential and is groundbreaking in its efforts toward international collaboration.”

Part of Dr. Casaccia-Bonnefils’s funded research is focused on the study of neurological disorders and brain tumors. These studies are funded by a Junior Investigator Award from the Cancer Institute of New Jersey and a grant from the Wallace Foundation. In addition, her laboratory is studying the mechanisms leading
to myelin formation as it relates to finding a cure for multiple sclerosis (MS). The research has shown that changes in chromatin may affect the ability of progenitors to differentiate into oligodendrocytes, the myelin-forming cells of the central nervous system.

“MS patients can be classified as two major groups,” Dr. Casaccia-Bonnefil says. “Some show a significant improvement of the clinical symptoms during the early stage of the disease, due to progenitors repairing the}
Perhaps nothing is more embarrassing to a school-age child than wetting himself or herself. Both day-wetting and bed-wetting not only are messy and inconvenient for kids — and the adults who care for them — but also can overwhelm a child with feelings of shame and low self-esteem.

Urinary incontinence affects about 4 million children in the United States, but virtually all cases of wetting can be treated successfully. The Center for Pediatric Continence at Bristol-Myers Squibb Children’s Hospital at Robert Wood Johnson University Hospital, which opened in 1996 and is the only one of its kind in New Jersey, has helped hundreds of children and young adults gain control of their bladders.

The center’s founder, Joseph G. Barone, MD ’87, assistant professor of surgery and chief of pediatric urology at RWJMS and urologist-in-chief at the Bristol-Myers Squibb Children’s Hospital, says the center was established to fill a need that was not being met: to help children and their parents conquer wetting problems.

“Urinary incontinence in children is sometimes considered just part of growing up,” says Dr. Barone. “Children who wet are often told, ‘Just wait, you’ll outgrow it.’ But things are different now than they were 20 years ago. Children have to be dry during the day to get into pre-school or kindergarten. So it’s more stressful for them, because there’s more demand on them to be dry.”

Indeed, the demand for services at the center has increased nearly fivefold since it opened. The center originally scheduled diagnosis and treatment visits for just a half day a week; it now sees patients three days a week. About 750 children were treated at the center in 2002.
Although some wetting is the result of a physical problem, such as spina bifida, most cases in normal, healthy children are simply due to an immature connection between the brain and the bladder. In infants, the bladder contracts and squeezes involuntarily, “like it’s on autopilot,” Dr. Barone notes. The process of toilet training helps a child develop the proper neurological connections so that the brain can tell the bladder to contract and when to wet. “When children don’t develop that, they have the uninhibited, or infantile, bladder contractions that break through and cause them to wet,” he adds.

Contrary to what some believe, most pediatric incontinence does not indicate deep psychological or emotional turmoil within a child. Nor does it mean the child is simply not trying hard enough. Sharon J. Underberg-Davis, MD, clinical assistant professor of radiology, says, “We have so many parents who come in and say, ‘The reason my child wets is that he’s not paying attention.’ But we know that the reason they’re wetting is that they’ve got a problem that we can deal with.”

Children who are referred to the Center for Pediatric Continence are given a complete physical examination. Tests may include urinalysis, X-rays, isotope renograms, and urethrocystograms. The urodynamics test measures the pressure and size of the bladder and shows how the urinary sphincter muscle is working. The test is done using a tiny catheter connected to a computer. The continence center is the only facility in the state that has a video urodynamics machine, which permits visualization of the bladder and shows how it is functioning. A topical anesthetic, and sometimes sedation, is given to the child to minimize stress.

To minimize stress on the patient’s parents, education about what the procedure will be like is provided beforehand. “The difference in the anxiety level between a family that has been adequately educated about the procedure and one that hasn’t is tremendous,” says Dr. Underberg-Davis. Eileen Creenan, RN, clinical nurse coordinator at the center, says the parents are also instructed in how to prepare their child before the tests. “Based on their child’s age, we tell them what words to use, how much to say, when to say it,” she adds.

Once a child has been evaluated, he or she is grouped into one of three categories of incontinence. The first group comprises bed wetters who show no evidence of a medical problem. The second group of wetters includes children with daytime urinary problems, such as frequency, urgency, and damp underwear. These children may have a tendency toward constipation, urinary tract infections, and bed-wetting too. The third type of incontinence is due to obvious physical abnormalities, such as spina bifida.

Treatment for children in the last group usually consists of surgery, sometimes combined with medication and intermittent catheterization. For children who wet only at night, the most effective treatments are the use of bed-wetting alarms, which wakes a bed wetter at the first sign of wetting, and a variety of medications. The center also helps parents learn how to support and encourage, rather than punish, their child during the treatment.

Children who have trouble staying dry during the day are usually helped by bladder antispasmodic medications, behavior modification therapy, and biofeedback. Many of these children have become so adept at squeezing the urinary sphincter muscle to avoid wetting that the muscle remains tight even when they do eventually urinate. “The biofeedback teaches them to relax that muscle when they go,” Dr. Barone says.

For children being treated with biofeedback and behavior modification therapy, preparing and engaging their parents in the treatment is crucial. “It’s like an adult embarking on a diet or exercise program; it involves lifestyle modification,” says Mrs. Creenan. “The problems are not going to go away overnight,” so the parents are taught how to encourage their children.

The typical treatment for bed wetters takes a few months. Day-wetting usually requires a bit longer, and the center follows up on day wetters’ progress for six months to a year.

In addition to diagnosis and treatment, the center conducts research. A current study being done with the pharmaceutical firm Pharmacia is looking at the effect of medications on children with neurological problems such as spina bifida, cerebral palsy, or trauma.

A study proposed by Michael Lewis, PhD, Distinguished Professor of Pediatrics and Psychiatry and director of the Institute for the Study of Child Development, will look at the long-range psychological effects of bed-wetting on children. Dr. Lewis, who will conduct the study with Dr. Barone and Barbara Louis, PhD, adjunct assistant professor of pediatrics, wants to look at children between the ages of five and ten who wet the bed at least three times a week. The study will follow the children for five years.

In addition to conducting research at the center, Dr. Barone has applied for a patent for a device that he developed for day wetters. “One thing I found in treating children with incontinence is that sometimes they just forget to urinate,” he says. “I wanted to figure out a way to help them remember.” So he would tell the parents to buy the child a watch with an alarm; however, often those are complicated to set, and they can also alert the child’s classmates that the child should use the restroom.

“So we developed this little watch that vibrates,” Dr. Barone says. “The parents and child can set it at whatever interval they want, and schoolmates won’t know that the child is wearing it.”

For more information about the Center for Pediatric Continence, call Eileen Creenan at 732-937-8862.

Dear Alumni and Friends:

I am delighted to have the opportunity to serve as president of the Alumni Association, and I look forward to working with Dean Paz and our new alumni leadership team: Steven Krawet, MD ’89, vice president; Geza Kiss, MD ’95, secretary-treasurer; and Nancy Sierra, MD ’89, chair, Membership Committee.

The Alumni Association Board of Trustees continues to welcome new class delegates. If you are interested in becoming involved, please contact Roberta Ribner, coordinator of alumni affairs, at 732-235-6310, or by email: ribnerrs@umdnj.edu.

We thank you in advance for your generous contribution to the Alumni Association Annual Fund to help us support student scholarships and loans. Annual Fund contributions can now be made online.

Please see our new Web site at http://rwjms.udmj.edu/alumni. There you will also find the latest information on news and events, details of the Alumni Reunion Weekend, and great photos of past events.

All alumni in the New York metropolitan area are cordially invited to join us at a reception for RWJMS alumni and friends at the New York Academy of Sciences on Monday evening, April 28, 2003, from 6:30 to 8:30 P.M. This event follows successful alumni receptions in Philadelphia, Los Angeles, and San Francisco.

Please mark your calendars for the next Alumni Reunion Weekend, on October 24–26, 2003. Plans include a Friday evening cocktail reception; Saturday morning CME program, luncheon, and tours of the campus; and Sunday morning exercise program; it involves lifestyle modification,” says Mrs. Creenan. "The problems are not going to go away overnight," so the parents are taught how to encourage their children.

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For more information about the Center for Pediatric Continence, call Eileen Creenan at 732-937-8862.
Euton Laing, MD '90, Leads Alumni Association

"I'm looking forward to two great years!" says Euton M. Laing, MD '90, recently elected president of the Robert Wood Johnson Medical School Alumni Association. Dr. Laing, who will be president until December 2004, previously served as vice president, secretary-treasurer, and membership chair. He was also a class delegate to the Alumni Association. A family practice physician, Dr. Laing is in private practice in Somerset.

Second-in-command on the alumni board is Steven M. Krawet, MD '89, vice president, who practices gastroenterology in East Brunswick. Other new officers are Geza Kiss, MD '95, assistant professor of anesthesiology, secretary-treasurer, and Nancy Sierra, MD '89, chair, membership committee.

Among the current Alumni Association officers are Euton M. Laing, MD '90, president; Francine E. Sinofsky, MD '81, reunion co-chair; and Geza Kiss, MD '95, assistant professor of anesthesiology, secretary-treasurer and reunion co-chair.

Dr. Kiss, who received the association's Alumni Award in 1995, has served on the board since graduation. "I see the role of the Alumni Association as establishing the continuum from medical student to physician," he says. "I've been here 12 years, as a student, resident, fellow, and now as a physician. I see alumni around the hospital all the time, and I like encouraging them to come to reunions or get involved in Alumni Association programs. After all," he adds, "when we were students, the alumni often helped us out. Now it's our turn to pitch."

The association annually carries out many projects, some longstanding, some entirely new, and some with an updated twist. Most of its events and programs are tailored to encouraging and supporting current students. A Day in the Life makes alumni available to students as mentors for a day. Career Night brings alumni back to the medical school to discuss specialties with current medical students and answer questions. And Happy Hour provides an opportunity for students and alumni to meet and mingle.

During Orientation, the association sponsors a breakfast for incoming RWJMS students to introduce them to its programs. In the following years, students receive several rounds of gifts from the Alumni Association, timed to coincide with milestones in their medical education. Alumni hope to remind students of their presence and support, but, equally important, they choose helpful gifts, such as the Manual of Medical Therapeutics, traditionally presented to third-year students at the Student Clinician Ceremony. The Alumni Association annually presents the Alumni Award to two outstanding members of the graduating class, one from each campus. In addition, the association honors its own most exceptional members with the Distinguished Alumni Award, announced at the Reunion Dinner Dance. This year, for the first time, the board created member-at-large positions. Serving in this new post are Thomas McPartland, MD '91, and Tamar A. LaCouture, MD '94, who have shown great enthusiasm both for RWJMS and for alumni programs. Dr. McPartland, who served as student representative to the board during his student years, is in his second year of an orthopedic surgery residency at RWJMS. Dr. LaCouture, a radiation oncologist, who graduated from the Camden campus, practices at Penn Radiation Oncology in Rancocas Valley, in Willingboro. "Since I live and work close to the Camden campus, I hope I can help build up the number of recent graduates from South Jersey who are involved in the Alumni Association," she says. "One of the best things alumni can do is to encourage students through words and actions that indicate that there is a light at the end of the tunnel, and the challenges that await them are both exciting and humbling."

— K.O.N.
Michael Charles, MD ’77, agrees that reconnecting is always worth the effort. “I enjoy the opportunity of conversing with other alumni who are colleagues in this area,” says Dr. Charles, an orthopedic surgeon whose specialty is treating sockets’ injuries. Dr. Charles savored the good memories sparked by the reception. “I value the emphasis Rutgers Medical School placed on family medicine and community service. Moreover, as individuals, we weren’t traditional second- and third-generation doctors; they picked us out as a new generation of physicians — people who would think outside the box. It’s always good to be back in touch.”

— K.O’N.
A spontaneous, behind-the-scenes tour of new classrooms was a highlight of Career Night 2003. Led by Marie C. Trontell, MD '76, professor of medicine and senior associate dean for education, alumni were awed by the changes taking place at UMDNJ-Robert Wood Johnson Medical School. Alumni on hand for Career Night found themselves learning more than they taught that evening. “They were totally thrilled,” says Dr. Trontell, who pulled the tour together when she realized that many alumni have no idea about the extensive classroom renovations. After traversing familiar narrow halls that lead to the new classrooms, dermatologist Eric Herman, MMS '74, MD, says he was “absolutely amazed” to see his old haunts completely transformed into wide, bright spaces, full of students using state-of-the-art technology to study and learn. This was the 15th annual Career Night sponsored by the RWJMS Alumni Association. Held on January 14, 2003, it afforded an opportunity for students to meet with practicing physicians representing 25 specialties and sub-specialties. Clifford R. Lacy, MD '79, commissioner, New Jersey Department of Health and Senior Services, says, “In every way, it appeared to be one of the most successful Career Nights ever.” — K.O’N.
Miriam Labbok, MMS ’73, MD, MPH
Senior Adviser for Infant and Young Child Feeding and Care, Program Division, UNICEF

A Passion for PUBLIC HEALTH

In the early years at Robert Wood Johnson Medical School (then Rutgers Medical School), the curriculum consisted of two years of intensive study in the basic sciences, which led to a master’s degree in medical science (MMS). For their clinical studies, MMS holders went on to some of the country’s top medical schools to complete their medical degree.

As an MMS candidate, Dr. Labbok had a passion for public health and found that the program was deeply supportive of her goals. “The school had a high level of women on the faculty,” she says, “and across the board, it was filled with interesting people from diverse cultures.” In addition, her class included a high percentage of women, even by today’s standards, she adds.

Dr. Labbok went on to earn her medical degree at Tulane School of Medicine before completing one year of a residency in pediatrics at Georgetown University School of Medicine. ... U.S. Agency for International Development (USAID) that allowed her to indulge her first love: maternal and child health.

Throughout her career, Dr. Labbok has emphasized the role of maternal and child health in building healthier communities. In 2001, she moved to the United Nations Children’s Fund (UNICEF) as senior adviser for infant and young child feeding and care. “It’s a great place to spend time and energy,” she says. “Our goal is to serve children, and it’s a delight to work for an organization that’s doing the best by kids. By collaborating with others who have this shared vision, we can sometimes change the world!”

In 2002, working through UNICEF offices worldwide, Dr. Labbok helped launch an international Golden Bow campaign. By emphasizing the importance of breastfeed-
ing, complementary feeding, and birth spacing, she says, the campaign advances maternal health and promotes every child’s survival, growth, and development. The Executive Board of UNICEF recently renewed its dedica-
tion to this work, and Dr. Labbok was further gratified when the World Health Assembly adopted a similar strategy on infant and young child feeding.

Dr. Labbok’s position at UNICEF is the latest milestone in a career marked by achievement. As a USAID medical officer in Morocco, she developed an outreach program that liberated rural Moroccan women from policies that prevented many from obtaining contraception. Her suc-
cess earned Dr. Labbok one of USAID’s first Awards for Science and Technology Development. In 1998, on a return visit to Morocco, she was delighted to learn that, since her first visit, family planning prevalence had risen in the preceding decade from 8 percent to approximately 29 percent. “Much of the increase could be directly traced to our outreach program,” she says.

Subsequently, as assistant professor of population dynamics at the Johns Hopkins University School of Hygiene and Public Health, she helped develop church-run community programs.
With her Tenth Reunion still two years away, Dr. Reedy already has packed at least 20 years of achievement into her career. In 1998, she joined the RWJMS faculty, where she now serves as associate professor of family medicine. She joined the Westfield Family Practice in 2001 and took on the responsibility of opening and managing a second office for the practice.

As a medical student, she demonstrated her already-energetic style with several professional decisions. Between her first and second years, she interned in a federally funded program that asssisted community-based programs for the homeless in Trenton. Building on that experience, she decided to directly engage medical students in similar types of community-based work in New Brunswick. The outcome was the student service program known as HIPHOP (Homeless and Indigent Population Health Outreach Project), which Dr. Reedy co-founded during her second year at RWJMS. She worked with the deans to make HIPHOP part of the RWJMS curriculum and to develop several of the program’s lasting components, such as a student-run clinic and a community education program.

Before completing her medical degree at RWJMS, Dr. Reedy was chosen to serve two years as a Health Policy Fellow for the New Jersey Senate Health Committee. A joint program of the RWJMS Department of Family Medicine and Robert Wood Johnson University Hospital, the Health Policy Fellowship instills knowledge and expertise into the deliberations of the New Jersey Legislature and gives young family physicians hands-on experience in health policy-making and legislative advocacy. Dr. Reedy was subsequently chosen to direct the Health Policy Fellowship program.

Through the program, Dr. Reedy worked on legislation that reformed several areas of health care policy in New Jersey at a critical time. In addition to advising on managed care issues, such as mandates and prompt payment to providers, she helped develop a development disabilities training program that has increased the number of primary care physicians with the skills and expertise to care for special needs patients.

One of her proudest accomplishments was helping establish the Spinal Cord Injury Research Fund. Using money collected through increases on fees for moving-vehicle violations, the fund provides a permanent source of aid for spinal cord injury research in New Jersey. “The most memorable moment,” says Dr. Reedy, “was having Christopher Reeve present at the Kessler Rehabilitation Institute, where Governor Whitman signed the new bill.”

Dr. Reedy participated in expanding the Health Policy Fellowship to cover both houses of the New Jersey Legislature — another major achievement, she says. “We were able to transcend partisan politics and major changes in legislative leadership to place a Health Policy Fellow in the Assembly, in addition to the Senate,” she says.

“The two Health Policy Fellows now work collaboratively toward rational health policies being passed by both houses,” she adds.

Dr. Reedy has volunteered as a board member for numerous community-based not-for-profit organizations, including several dedicated to the advancement of women’s health and primary care. One of her many national honors was selection as one of only 50 young physicians invited to participate in the 2001 AMAG/Johns Hopkins Leadership Development Program. Today, in addition to her responsibilities at the Westfield Family Practice, Dr. Reedy serves as program director of the Pisacano Leadership Foundation, the philanthropic foundation of the American Board of Family Practice.
“Rutgers Medical School was a home away from home,” she recalls, “where everyone looked out for you, like family.”

After a year in family practice residency, she took an unconventional trial run into research, an impulse that reconfigured her career. Hired by Ortho Pharmaceuticals to do research, she became intrigued by the opportunity to perform surgery and decided to stay on for an extra year. “I thought I’d try research before finishing my family practice residency. But I loved it and never turned back,” she says. Offered an opportunity to do clinical research for prescription products in OB/GYN, Ortho’s flagship line, she developed a specialty in women’s health care, later serving as the division’s medical director.

Most recently, in April 2002, Dr. Sampson-Landers accepted a position with Berlex as medical director for female health care. “It’s very exciting,” she says. “Everything’s coming in at the same time, including new products for contraception and hormone replacement therapy.” In addition to clinical research, she is involved in product development through evaluating existing studies, projecting costs, developing products, brainstorming, and theorizing.

On the way to her current position at Berlex, Dr. Sampson-Landers has touched down at most of New Jersey’s major pharmaceutical companies. She was in Advance Care Products at J&J, then moved on to Bristol-Myers Squibb, as executive medical director. Over a span of 12 years, she led the effort at both companies to make more prescription products safe for over-the-counter (OTC) purchase. “You need more MDs inside companies, developing products for patients,” she believes. “You can’t forget that the patient is the ultimate purpose of research.”

Education: A Six-Step Approach. Success in this area depends on encouraging teachers to develop and implement new ideas, says Dr. Thomas. Each year in the faculty development workshop, four to five teams of faculty work on an innovation in undergraduate, graduate, or continuing medical education, which is piloted and implemented the following year. Most faculty are affiliated with teaching programs at Johns Hopkins, but the workshop draws regional faculty from other institutions as well.

Dr. Thomas is active in the Department of Medicine’s Task Force on Women’s Careers and has a particular interest in the career path of the clinician educator. Her professional experience and leadership position should help her provide solutions for residents and fellows at critical branchings in their career. Yet she finds no ideal answers. “The situation is complex for women in medical careers,” she says, “because they are working within a culture, and the barriers are not always obvious. Simple things like seeking equity pay have been taken care of. But when you get to promotion equity, it’s a more sensitive question.”

“Hopkins has maintained a single-track, ‘up or out’ promotion system,” says Dr. Thomas. Depending on the department chair, there is greater flexibility than there used to be, but the perception persists that clinician educators have a tougher time achieving rank. Although women have achieved a 50 percent critical mass in residency, the tacit “seven [years] and out” policy puts them in a difficult position as they weigh family demands against career. Dr. Thomas says she can best help by being candid about the benefits and risks of decisions of taking time off. “Young women are justifiably concerned whether they will get back in, if they take time off to focus on family responsibilities.”

She often faced the conflicting demands of career and family and speaks from experience. After completing a fellowship in rheumatology, she worked in geriatrics as a clinical faculty member at George Washington University and the University of Tennessee, while her husband followed a traditional career path as an academic researcher in multiple sclerosis. She joined the Johns Hopkins faculty in 1987, as part of an increased emphasis in the medicine house staff program on ambulatory medicine teaching. Fortunately, a supportive department chair arranged for her to reduce clinical half-time, while her three children were young. This period coincided with the medical school’s introduction of curriculum changes, and the timing was good for Dr. Thomas.

Later, she was asked to develop the school’s required clerkship in ambulatory care and community-based medicine, and then to facilitate changes in residency evaluation procedures. Today, in addition to teaching, she directs the Ambulatory Medicine Clerkship, oversees the student educational experiences in the Department of Medicine from Year II through Year IV, and devotes 20 percent of her time to clinical work. “RWJMS had many strengths,” she recalls, “including a requirement in community-based medicine — the clerkship was later asked to start at Johns Hopkins.” Her alma mater was ahead of the times in other ways, she adds: “My class was 30 percent women and diverse in a way that older medical schools are only beginning to catch up to today. For example, many students were 26 or 27 years old, not straight out of college, and brought a range of life experience to the school.” Their varied backgrounds and experience enriched the medical education at RWJMS, and she finds that, in many ways, “where Hopkins is now, we were then.”
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712-235-6100, or email: tribnerrs@umdnj.edu.

Student doctors in America Bay Area as published in San Francisco Magazine.

Robert Winter was elected president-elect of the Association of Family Practice Residency Directors (AFPDR) for 2002–2003.

Patricia Dryfas, an obstetrician/gynecologist on the St. Clare’s medical staff in Bounton, has been elected to the Board of Trustees of the St. Clare’s Foundation.

Susan Martling writes: “I have been living and practicing medicine in ‘marvelous Marin’ County for 25 years. Are any of my classmates around?”

Keith Calligaris reports: “I continue to serve as chief, vascular surgery, and director, vascular surgery fellowship, at Pennsylvania Hospital in Philadelphia. I recently completed a three-year term as a member of the Vascular Board of the American Board of Surgery. I have been named to Philadelphia magazine’s ‘Top Doctors,’ Castle Connolly’s Best Doctors in America, and the Center for the Study of Services Guide to Top Doctors. My wife, Ina Lee, serves as assistant dean of Temple School of Pharmacy. My son, Anthony, is five years old.”

Larry Schildeseger is director of the division of infectious diseases and director of the Center for Microbial Interface Biology at Ohio State University Medical Center.

Richard Corson writes: “After 16 years of private practice and volunteer teaching, I was recently appointed director of the Family Practice Residency Program at Somerset Medical Center.”

David Miller practices psychiatry in Springfield. He and his wife have two children, Rachel (18) and Benjamin (15).

Carolyne Horowitz was named chief medical director of radiation oncology for Kennedy Health System in Swellil.

Martin Daniel was appointed medical director of post-anesthesia care at Northwestern Memorial Hospital and chief of neuromanzoeology at the Feinberg School of Medicine.

Joseph Yanz reports: “My wife, Jane, a retired ER nurse, and I have two daugh-
ters: Noel and Beth. We reside in Glens
Fall, N.Y., where I am a member of a single-specialty GP private practice. I con-
tinue to be involved in teaching medical students from Albany Medical College. I have also remained active in clinical research and have authored three book chapters in major gastroenterology text-
books. I have also authored over 80 pub-
lications, an reviewers for The American Journal of Gastroenterology, and a member of the editorial review board of Gastrointestinal Endoscopy. I fly fixed-wing aircraft and obtained a pri-
ivate pilot certificate in 2000.”

Vandana Nandra writes: “I am at the University of California, Irvine, as an associate professor of dermatology, full-
time. I did a pediatrics fellowship.”

Jeffrey Petrella is an assistant professor of radiology at Duke University Medical Center. He recently received a $1.8 million grant from the National Institute of Aging to study the use of functional MRI in the early diagnosis of Alzheimer’s disease.

Elisa Hernandez-Cuautli writes: “Married ten years this past November to Jim. Our son, Lucas, is two years old. Working as an ER MD at Huntington Hospital. Hope you are all well in the Class of 1988!”

Robert Mantillo is executive director and medical director at the Center for Occupational Health in Newark. He and his wife, Maura, reside in Marlboro with their two sons, Robert and Matthew.
CATHY ANGELL and her husband are pleased to announce the birth of their third child, Hallie, born on July 29, 2001.

PHILIP CLAUS is in private practice of general and vascular surgery in Bylbyville, Ark. He is board certified in general surgery and is a fellow of the American College of Surgeons.

DONALD GENTIN was appointed associate chief of anesthesia at Beverly Hospital in Beverly, Mass.

DOREEN HUCK and her husband, Robert Bein, MD, are pleased to announce the birth of their daughter.

ARNA LAW writes: "Alex William Isaacson is now two years old.

HASAN NAMEM recently joined the faculty at Loyola University Chicago, Stritch School of Medicine, as an assistant professor in the Department of Thoracic and Cardiovascular Surgery.

VICTOR GARBER writes: "I am currently an ER attending at North Shore University Hospital. My wife, Jeanne, and I have three children: Matthew, Gregory, and our new baby girl, Melissa, born March 15, 2002."

JENNIFER JACOBS completed an ophthalmology residency at Howard University Hospital. Her husband, Brian, is completing a dermatology residency at Emory and still enjoys his music. After completing a medicine residency at Bassett in Cooperstown, N.Y., I work for the Epidemic Intelligence Service (EIS) at the Centers for Disease Control.

CAROL GRANT writes: "I currently live in Eugene, Oregon, and have two sons.

JON FERGUSON is in private practice in radiology in Palm Beach County, Fla. He has been married for almost ten years to Michelle, and they are proud parents of Isabel (6) and Elijah (15 months old).

KATHLEEN MONTEL continued a cosmetic and reconstructive surgery fellowship at the University of Maryland in Baltimore in 2000. She joined a group practice in January 2001. She is married to Everett Jacobs, and they have three children.

DANIEL KIM reports: "I recently opened an office in Moorestown, specializing in pain management. I am using state-of-the-art techniques, which can either supplement current treatments or be used when traditional therapy has failed. These techniques do not involve drugs or invasive procedures, thus avoiding significant side effects. Recent clinical data is yielding excellent results."

VERONICA STERNER recently joined the faculty at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University. She has two girls, Shira (8) and Karen (3), and a baby boy, Erez.

DUBLA BLAKE writes: "I will complete a pediatric/cardiac care fellowship at University Hospital in Newark in 2003 and practice pulmonary critical care and sleep medicine in Florida."

GARRETT HYMAN writes: "I am currently completing a one-year fellowship in sports, spine, and musculoskeletal rehabilitation at the Keiser Institute for Rehabilitation. On October 17, 2002, my wife, Rachel, and I welcomed our son, Jonah Isaac, to the world. He’s a looker!"

DARYL VICTOR is in his second year of a fellowship at the Center for Parkinson’s Disease and Other Movement Disorders at Columbia University. He recently became board certified in adult neurology.

NICOLE DE LUCA reports: "I am in residency certified in ophthalmology with a specialty in pediatrics from Children’s Hospital of Pennsylvania. I am in private practice in Voorhees, Medford, and Cinnaminson. My son turned two!"

BRIAN HALABTAR was recently promoted to assistant residency director of the Department of Family Medicine at UCLA.

ERIC KAPERSDORPH is a chief of the sub-internship in internal medicine at RWJMS, Camden campus.

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JEFFREY LADSON completed his residency in emergency medicine at Brown University and began a two-year fellowship in emergency medical services at the University of Pittsburgh.

LOIS HELWILER reports: "Married Brian Pullick '00 in February 2001. We are currently living in Atlanta. Brian is completing a dermatology residency at Emory and still enjoys his music. After completing a medicine residency at Basset in Cooperstown, N.Y., I work for the Epidemic Intelligence Service (EIS) at the Centers for Disease Control."

AZIZ HAUSMAN is chief resident in the Department of Pediatrics at RWJMS for 2002–2003.

SONIA GARCÍA LAUNBACH writes: "I am currently doing a health policy fellowship at the RWJMS Department of Family Medicine. I work as a health care adviser to Assemblywoman Loretta Weinberg, chair of the New Jersey Assembly State Health Committee. We also recently welcomed the arrival of our second son, Michael Gregory Laumbach."


EMILIO MACCA, JR., is an internal medicine resident at the University of Pennsylvania, where he received the Maurice T. Attie Resident Teaching Award.

EMMANUEL KING writes: "Married in 2002 to Jane Kim, SOM, Class of 2003. Finishing internal medicine residency at Temple University Hospital. Plan to enter general internal medicine post graduation."

NEUTON SHAB has been selected as a chief medical resident at UMDNJ-New Jersey Medical School for the 2003-2004 year.

SHARON SCHAUFFELBECH writes: "I’ve been working in methadone maintenance in New York City for seven years. I live with my husband, Larry, who is an ID specialist, and my 2½-year-old son, Matthew."

MANUEL CARMONA wins the Class Notes 1997-1998 Resident Teaching Award.

FRANK SHEMA from the University of Pennsylvania's Department of Pediatrics at RWJMS for 2002–2003.

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BRAD WALKER and his wife, Christine Anne, have three children: Sanjay, Amrit, and Arjun.

RICHARD WEXLER, a former medical resident at the University of Pennsylvania, '00 '00, is an internal medicine resident at Southern Israel Medical Center in Phoenix. He and his wife, Christine Anne, have three children: Sanjay, Amrit, and Arjun.


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What’s New?

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CLASS NOTES:

Roberta Ribner, Editor,

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Mentoring is a critical ingredient for success in science or medicine. Anyone who pursues a career in science must have someone to help guide the way and promote career opportunities. Mentoring is a commitment of support and, if done well, develops into a relationship in which both parties benefit from the collaboration. The mentor’s role is to pass along those insights that cannot be obtained in a classroom or book but are necessary for obtaining a good position, adequate research funding, and an important place in the scientific community. It is not surprising that when successful scientists are asked what factors contributed to their success, high on the list is someone responsible for mentoring.

When I made the decision to pursue a graduate degree in physiology, it was for all the same reasons that most of us enter science or medicine—to make the pursuit of medical discovery the focus of my life and find new cures for diseases. I thought that the course work, laboratory experience, and dissertation work would be all that was required to give me the credentials I would need to find a faculty position in an academic setting. Thankfully, this naive perception that science comprises individuals trained in scientific methodology, each pursuing discovery in isolation, was soon dispelled by the recognition that the scientific world is a “community” of scientists with a distinct social culture.

At the root of this culture is the “apprenticeship” or mentoring process that becomes a key element in the shaping of scientific thinking. Scientific thinking encompasses how someone identifies important scientific questions and approaches these questions, and what level of experimental risk is worth taking to make breakthrough discoveries. These elements are passed from mentor to protégé and frame the nature of scientific pursuit in the context of the social structure of science. In this way, it is not hard to see how scientific families emerge and how scientific “lineage and pedigree” become important factors in our careers. Hence, identification of that mentor is the key to any successful career in science. A mentor may be a thesis adviser, a post-doctoral sponsor, or a senior scientist with whom each of us collaborates at some point in our career. This person will help shape our thinking, train us to answer questions effectively, and offer us access to the scientific community at large.

Continued on Page 67

BY JUDITH A. NEUBAUER, PHD

When the President comes to South Jersey, only one hospital is designated by the U.S. Government to treat him.

As the only Level One Trauma center in South Jersey, Cooper is the medical center designated to treat the President should he need care during his visit. To do so, Cooper must pass the scrutiny of both the FBI and the CIA. But as a Level One hospital, we’re used to living up to the highest standards. In fact, we do it every minute of every day. Nor do Cooper brings that level of expert care to other specialties like cardiovascular and critical care, cancer care and stroke care. It’s all part of the new Cooper. Thanks to recent expansion and the addition of internationally known physicians to our already star-studded faculty of physicians, we’re bigger, we’re better and we’re making our expert care more accessible to South Jersey. For more information call 1-800-S-COOPER or visit us online at www.cooperhealth.org.
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