IN THE LABORATORY
• In fiscal year 2010, Einstein received nearly $200 million in support from the National Institutes of Health. This includes funding for major Einstein centers studying diabetes, cancer, liver disease and AIDS.
• In 2010, Einstein researchers:
  – Helped find a way to eliminate a debilitating side effect associated with a major chemotherapy drug for treating colon cancer.
  – After studying 9/11 rescue workers, reported that most New York City firefighters who experienced acute lung problems after exposure to World Trade Center dust have not yet recovered.
  – Found that the osteoporosis drug raloxifene may be useful in treating kidney disease in women.

AROUND THE WORLD
• Einstein’s global presence includes programs in 10 countries: Argentina, Brazil, Egypt, Ethiopia, Guatemala, India, Nigeria, Rwanda, South Africa and Uganda.
• Each year, Einstein faculty members and some 50 medical students travel to underdeveloped countries, where they provide medical care and gain training.

IN THE COMMUNITY
• Created by an Einstein pediatrician, the CHAM-JAM (Children’s Hospital at Montefiore Joining Academics in Movement) program is helping 16,000 Bronx children take action against obesity.
• Einstein is conducting research among 4,000 Latinos living in the Bronx as part of the national Hispanic Community Health Study.

ON CAMPUS
• Over the last five years, Einstein offered 1,458 continuing medical education activities to 193,476 physicians and 76,645 nonphysicians.
• Each year, more than 3.5 million people click on the Einstein website, www.einstein.yu.edu. Please visit us!
As the academic year advances, Einstein’s Jack and Pearl Resnick Campus pulses with energy. Our research centers are where our world-class scientists make their discoveries. Our classrooms and laboratories provide education and training for America’s future top physicians and scientists. Our clinics offer excellent care to those who need it most. And our philanthropic partners help fuel this noble enterprise.

The faces of discovery, of learning, of care and of philanthropy in this 2010–2011 annual report illustrate how many people are involved in making this happen. They have dedicated themselves to furthering the mission of Yeshiva University—to bring wisdom to life through all that we teach, by all that we do and for all those we serve—by ensuring that Einstein continues to excel in the future.
The College of Medicine’s namesake, Albert Einstein, was both a great thinker and a great humanist who emphasized that concern for humankind and its fate is the reason for all technical endeavors—“Never forget this in the midst of your diagrams and equations,” he said. He would be proud today to see how the College of Medicine’s students and faculty are helping the people of the world, from nearby Bronx neighborhoods to underserved communities overseas.
“Science at the heart of medicine” is not only Einstein’s motto; it is the foundation for everything that happens on campus. The College of Medicine’s outstanding teachers are also first-rate researchers and doctors. The students and faculty make their discoveries in the laboratories on campus or in the wider world, from New York City streets to African villages. The work of our students, teachers, scientists and physicians helps fulfill Einstein’s mission: to push the boundaries of science to improve health in the community, the nation and the world.
During the 2010–11 academic year, Einstein has been home to 724 M.D. students, 256 Ph.D. students, 122 students in the combined M.D./Ph.D. program and 375 postdoctoral research fellows. Students have access to an extensive network of medical centers in the Bronx, Manhattan and Long Island, including Montefiore Medical Center, the University Hospital and Academic Medical Center for Einstein. From the entering student poised to perform a first dissection to the postdoc diving into a specialty area, all Einstein students have the opportunity to follow their academic passions. Significantly, the educational mission doesn’t stop there: Einstein offers one of the largest and best-regarded medical school–based continuing medical education programs in the United States.
Einstein’s students, faculty and researchers collaborate every day on the College of Medicine’s Jack and Pearl Resnick Campus—and they partner with thousands of individuals, foundations and corporations who provide critical philanthropic support for innovative medical education, research and clinical programs. Many of these dedicated friends also contribute time and expertise to the Einstein Board of Overseers, and enlist their colleagues in supporting Einstein through volunteer organizations and special events. They are fortified by more than 50 classes of generous alumni, who continue to explore new ways to enrich the lives of present-day students. Our supporters universally recognize the importance of advancing Einstein’s mission to transform human health.
Over the years, discoveries by Einstein researchers have improved the lives of people the world over. To cite just two examples: Einstein scientists discovered the novel mechanism by which the antitumor drug Taxol works, leading to its use as a major chemotherapy drug against breast, lung, ovarian and other types of cancer. And they were the first to demonstrate the association between low levels of high-density lipoproteins, or “good” cholesterol, and heart disease. Thanks to their top-notch training, Einstein students have developed into distinguished physicians in the medical community, where they establish caring relationships with patients and offer them optimal treatment. Einstein’s graduates and faculty members have touched millions of lives and made them better, one person at a time.
When I first came to Einstein a little over 40 years ago, most of the “faces of Einstein” I encountered were those of my skilled and caring colleagues at the Children’s Evaluation and Rehabilitation Center (CERC), and of the children and their families who came there for help and support. There were many heartwarming stories behind those faces—stories of children making incredible gains in walking, talking, reading and speaking, and of parents developing into more effective advocates for their children.

Over the years, as I worked with many individuals from the student body, faculty, administration and supportive services, I felt fortunate to be one of the many faces of Einstein, some of whom you will be reading about in this annual report.

Their stories are what this medical school is all about: Einstein scientists who, through their creativity, collaboration, collegiality, sheer brilliance, dedication and hard work, were awarded more funding than ever before from the National Institutes of Health this year, faculty who have been inspirational teachers to countless medical students, and medical and doctoral students who infuse the school with their idealism, energy and passion for making the world a better place.

Another group of faces is also essential to Einstein: the faces of dedicated philanthropists. You will find some of their stories in this report as well. Their support is essential for helping this school continue its leadership role in medical research and education. Philanthropy coupled with NIH funding support Einstein students and faculty as they carry out their efforts to improve the health of people locally, nationally and around the world.

Philanthropy constructs buildings that house our scientific programs, attracts and retains our stellar researchers, and helps purchase necessary equipment. Our donors provide seed money for new ventures that develop into fundable research projects. They also create scholarships for our medical students and support our programs in global health.

Einstein’s many faces make it the outstanding place it is: generous and dedicated alumni, Board of Overseers, volunteers and friends from around the world, combined with our student body, faculty and researchers, who are second to none.

Ruth L. Gottesman, Ed.D.
Chair, Einstein Board of Overseers

“Faces of Einstein,” the theme of this year’s annual report, spotlights the people behind the unprecedented progress we’ve made this year in meeting our goals for education and research.

Enhanced facilities on our Jack and Pearl Resnick Campus are making a positive difference in our medical students’ education and produced impressive results. Our graduating students, including those in our joint M.D./Ph.D. program, matched to residencies in some of the finest hospitals across the nation. And our Ph.D. program has become increasingly selective in admitting students while attracting individuals of the highest quality. More than ever, we seek to integrate our core missions, especially for those taking global health electives, where education, research and clinical care are often intertwined.

We are especially proud that our NIH grant awards for fiscal year 2010 reached an all-time high of nearly $200 million. This federal funding included new, major awards to top faculty members in areas such as structural genomics and radiology biology. In addition, our growing ability to attract research funds reflects our continuing success in recruiting outstanding investigators in areas defined by our strategic research plan such as stem cell biology, cardiology and systems & computational biology. The plan, published in the fall of 2010, also sets out ambitious priorities for key technology areas such as chemical genomics and an integrated imaging resource, and focuses attention on investment at the critical interface between research at Einstein and patient care at our University Hospital, Montefiore.

Einstein faculty members are tackling the major health problems of cancer and heart disease, along with diseases such as autism and Alzheimer’s at opposite ends of the age spectrum. Most important, their findings are appearing regularly in top scientific journals, as well as in traditional and social media, thanks to the efforts of our communications and public affairs department. We fully expect that discoveries by our faculty will change the way we diagnose and treat disease—developments that are helped immensely by the strong philanthropic support Einstein receives from individuals, corporations and foundations, as you’ll read about later in this report.

Regardless of our personal opinions about healthcare reform, one fact remains clear: we must learn how to achieve high-quality care, for more Americans, at lower cost. Einstein faculty in areas such as behavioral and social science, public health and “outcomes” research will help lead the effort to discover how we can best achieve these difficult objectives.

As members of the Einstein community pursue their goals, they continue to be mindful of the humanistic values of our school’s namesake. The closing line of the Class of 2014’s own oath, recited at the White Coat Ceremony in August, says it well: “I will dedicate myself to innovation in the art of medicine for the benefit of humanity.”

With the continued help of our many supporters, truly the best is yet to come.

Allen M. Spiegel, M.D. The Marilyn and Stanley M. Katz Dean
At Einstein, faculty and students are intensively studying cancer, heart disease, diabetes, infectious disease and most every other area of biomedicine. The discoveries they are making will help improve the health and the lives of millions of people.

**MELISSA E. SMITH**

Before entering Einstein, Melissa E. Smith hadn’t heard of rhabdoid tumors. Now Melissa, a Ph.D. candidate in the genetics lab of Ganjam V. Kalpana, Ph.D., has won a Julius Marmur Research Award for her investigations using molecularly targeted therapies against these rare, incurable childhood malignancies.

Last year, in the Proceedings of the National Academy of Sciences, Melissa published promising findings involving mice that develop rhabdoid-like tumors. A single course of treatment with flavopiridol, a chemotherapy agent, completely eliminated tumors in some of these mice.

“My goal was to learn which cellular factors are responsible for tumor growth, then select chemotherapies with the best chance of counteracting them,” says Melissa.

**RAJAT SINGH, M.D., M.B.B.S.**

Autophagy, the process by which cells recycle their worn-out components, is important for normal cell function. When Dr. Singh, assistant professor of medicine (endocrinology) and molecular pharmacology, opens his own laboratory in the Leo Forchheimer Medical Science building, he’ll be investigating how autophagy can be tweaked to combat several health issues.

“My work will involve studying autophagy as a novel therapeutic target in the fight against obesity, insulin resistance and aging,” he says. He’ll identify the cellular mechanisms that dysregulate autophagy during aging and look for drugs that can modulate the process.

Dr. Singh’s previous research, in the hepatology lab of Mark Czaja, M.D., won him a Dennis Shields Postdoctoral Research Prize.

**CLAUDIA SANCHEZ SAN MARTIN, PH.D.**

To ease their entry into host cells, influenza and other viruses cloak themselves in envelopes fashioned from their host cells’ membranes. Claudia Sanchez San Martin studies how enveloped alphaviruses fuse with and infect host cells and then replicate the genetic material needed to produce more viral particles. Claudia was recently awarded a Dennis Shields Postdoctoral Research Prize for her work, which may lead to new antiviral therapies.

“My work now focuses on identifying inhibitors that prevent fusion and stop viral replication,” she explains. She also supervises graduate students and technicians in the cell biology lab of Margaret Kelian, Ph.D.
Stem Cells and Regenerative Medicine

There is no hotter research area than stem cells—those seemingly magical cells that can renew themselves indefinitely and then, with the proper signal, develop into specialized tissues of the human body.

STEERING STEM CELLS INTO THERAPIES

After years of work at the cutting edge of stem cell investigation, Paul S. Frenette, M.D., arrived at Einstein in 2010 to become the first director of the Ruth L. and David S. Gottesman Institute for Stem Cell and Regenerative Medicine Research. Dr. Frenette focuses mainly on hematopoietic (blood-forming) stem cells, which produce all the cells—red cells, white cells and platelets—found in the bloodstream. Researchers may one day be able to cure leukemia, lymphoma and other blood diseases by transplanting hematopoietic stem cells programmed to form specific types of cells compatible with patients’ immune systems.

Hematopoietic stem cells also hold great potential for regenerative medicine—repairing or replacing lost or diseased cells and tissues. They could, for example, be made to function as “factories” producing red blood cells for patients needing transfusions.

Our hematopoietic stem cells reside and multiply in niches within the bone marrow. As an ongoing theme of his research, Dr. Frenette studies factors that influence their “care and feeding.” In a 2010 paper in Nature, Dr. Frenette reported that the hematopoietic stem cell pairs up in its niche with another type of stem cell, the mesenchymal stem cell, keeping hematopoietic stem cells alive and dividing. Researchers may be able to capitalize on this unique stem cell partnership to keep hematopoietic stem cells healthy and available for therapeutic use.

Hematopoietic stem cells can be harvested using a drug called granulocyte colony-stimulating factor (G-CSF), which prompts stem cells to migrate into the bloodstream. Several years ago, Dr. Frenette discovered that G-CSF mobilizes stem cells via signals sent by the nervous system. Therefore, modulating the nerve signals in these stem cells with a healthy version. The “repaired” pluripotent stem cells will be induced to form hematopoietic stem cells, which—on being returned to the patient—will generate healthy red blood cells.

“We do a lot of basic science,” Dr. Frenette says, “but there is always a clinically important reason. Large numbers of hematopoietic stem cells are needed for treating cancers or potentially for producing red cells for transfusions.”

STEM CELLS VS. TERRORISM

Chandan Guha, M.B.B.S., Ph.D., hopes that a nuclear tragedy such as the detonation of a terrorist “dirty bomb” never occurs. But if it does, his research may help victims survive.

High levels of radiation destroy the body’s sensitive gastrointestinal lining and usually cause death, since medicine can do little to help. To bridge that preparedness gap, the National Institutes of Health–funded Centers for Medical Countermeasures against Radiation recently awarded a five-year, $10 million grant to Dr. Guha, a professor in the departments of radiology and pathology at Einstein.

Dr. Guha has shown that, even 24 hours after mice receive a radiation dose that normally would kill them, the animals can be saved by stromal stem cells (which make connective tissue) removed from the bone marrow of other mice and injected into the bloodstream.

With his new grant, Dr. Guha will continue developing stem cell transplants into lifesaving therapies for victims of radiation exposure. In addition, he believes a strategy that stimulates stem cell activity may help people undergoing treatment for abdominal cancers.

The radiation dose for treating liver or Pancreatic cancers, for example, is limited by its toxicity to the intestines. Dr. Guha has identified molecules that stimulate intestinal stem cells to regenerate the intestinal lining. “These molecules,” he predicts, “will allow for the use of higher-dose—and more effective—radiation therapy.”

In another research project, Dr. Guha is exploiting radiations good side. Here the goal is rescuing failing livers using cell therapy, a regenerative medicine technique in which donated cells multiply and ultimately replace diseased tissue. Using an animal model, Dr. Guha has shown that after the liver is irradiated and some of its tissue removed, donor liver cells have a much better chance of engrafting in their new location. This approach could help treat liver failure, hepatitis and other liver disorders without requiring replacement of the entire organ.

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Facing page, left, Paul S. Frenette, M.D., who studies blood-forming cells; facing page, right, Chandan Guha, M.B.B.S., Ph.D., who uses stem cells to develop lifesaving therapies for victims of radiation exposure.

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Cancer Connections
Combating cancer requires many different approaches, from deciphering signaling pathways that control cancer cells to helping heavy smokers kick the habit.

MULTIDISCIPLINARY CANCER CARE
After 14 years at the National Cancer Institute, New York native Steven K. Libutti, M.D., above left, recently returned to the city to lead the Montefiore-Einstein Center for Cancer Care. The new center offers multidisciplinary care for patients with cancer in the Bronx and beyond and is a site for clinical trials under the direction of the NCI-designated Albert Einstein Cancer Center (AECC).

“In October 2009, we had the ribbon-cutting for our new outpatient facility at Jarret Place and began seeing patients there in December,” says Dr. Libutti. He notes that patients are offered the convenience of one-stop cancer care, since radiation oncologists, medical oncologists, surgeons, social workers, nurses, nutritionists and other professionals are now together under one roof.

Dr. Libutti is also professor and vice chair of surgery at Einstein and Montefiore, associate director for clinical services of the AECC and an active surgeon. “Our clinical work often raises new questions that we bring back to the lab for further investigation,” he says.

In his own laboratory, Dr. Libutti and his team are studying factors produced by tumors—particularly endocrine tumors of the pancreas—that trigger formation of the blood vessels that allow tumors to grow and spread. This year, Einstein Overseer Linda Altman and her husband, Earle Altman, made a major commitment to support this research. See page 50.

MAKING HEALTHCARE ACCESSIBLE
For Einstein investigators interested in cancer care at the community level, the go-to guy is Bruce D. Rapkin, Ph.D. (facing page, below left), leader of the AECC’s new Marilyn and Stanley M. Katz Comprehensive Cancer Prevention and Control Program.

“We want to reduce cancer risks that people face and to improve the health and well-being of patients with cancer in our community who have limited access to healthcare,” says Dr. Rapkin, professor of epidemiology & population health and of family and social medicine. Team member David Lounsbury, Ph.D., codirects a tobacco-cessation think tank that delivers the quit-smoking message to the local area and researches effective strategies. Elisa S. Weiss, Ph.D., works on preventing cervical cancer in older teens and young adults and encouraging minority subjects to participate in clinical cancer trials. Pamela Valera, Ph.D., studies the complex healthcare needs of people returning to the community after serving time in prison.

Dr. Rapkin’s group also collaborates with Einstein faculty on providing alcohol screening and other services in the emergency department—often the only place where inner-city people make contact with the healthcare system. “People living in low-income, medically underserved communities often don’t have access to the full range of services and treatment options available,” says Dr. Rapkin. “We are literally out in the streets trying to help people understand and get connected.”

Dr. Rapkin’s community projects often encounter funding cuts, staff layoffs and hospital closures. “We view reversals not only as unfortunate accidents but as opportunities,” he says. “Handling unanticipated events and crises along the way is part of what we’re learning.”

HELP IN FIGHTING CANCER
Amit Verma, M.B.B.S., at right, above, associate professor of medicine and of developmental and molecular biology, knows that gene mutations are major culprits in cancer. But his work focuses on less obvious villains: chemicals that switch genes on or off without altering their DNA.

“One such ‘epigenetic’ change is methylation, which occurs when bulky methyl groups bind to genes and turn them off. ‘When methylation turns off a gene that helps suppress cell division, cancer can result,’” says Dr. Verma.

Dr. Verma can now scan all 25,000 human genes for methylation with a technique called HELP, developed by John Greally, M.B., B.Ch., Ph.D., at right, below, associate professor of genetics. “Though a gene may appear normal, its abnormal methylation pattern may tip us off to its role in causing a tumor,” says Dr. Greally.

Einstein’s Faculty Scholar for Epigenomics, an endowed academic position established by Dr. Ruth L. and David S. Gottesman. HELP pinpoints epigenetic changes in many cancers—and may lead to therapies, since epigenetic changes are reversible. Overseer Arthur Hershaft and Janet Hershaft recently pledged their generous support for a functional genomics facility. See page 53.

“The Albert Einstein Cancer Center fosters collaborative, interdisciplinary research and translates basic discoveries into new approaches for preventing, detecting and treating cancer.”

— I. DAVID GOLDMAN, M.D., DIRECTOR, AECC
SUSAN RESNICK FISHER PROFESSOR
The work of the AECC is greatly enhanced by major gift support from its friends. Please see stories on pages 48-58.
discovery

Hearts and Hormones
Diseases of the heart and blood vessels are the number-one killer worldwide. From basic research through clinical care, Einstein has strong programs in cardiovascular disease and in diabetes, one of the leading causes of cardiovascular disease.

SHORT-CIRCUITING TYPE 1 DIABETES
Type 1 diabetes is an autoimmune disease: the body attacks itself. It occurs when the immune system’s T cells target and destroy pancreatic cells, called beta cells, that make insulin, the vital hormone that converts sugar, starches and other nutrients into energy. If T cells could be deterred from attacking beta cells, type 1 diabetes could be prevented—the mission of Teresa P. DiLorenzo, Ph.D., associate professor of microbiology & immunology and of medicine (endocrinology). T cells home in on proteins that jut from the surface of pancreatic beta cells. Using a mouse model of type 1 diabetes, Dr. DiLorenzo and her colleagues have identified one such protein, called IGRP, that T cells target early in the course of diabetes. IGRP is found only in the pancreas and mainly on beta cells. Dr. DiLorenzo and her colleagues are working to short-circuit the attraction between T cells and proteins such as IGRP.

In a second strategy, the researchers are trying to teach the immune system to tolerate beta cells. Since people diagnosed soon after the onset of type 1 diabetes retain about 20 percent of their beta cells, early tolerance therapy might actually stop diabetes from worsening.

DOWNSIZING DIABETES
Jeffrey E. Pessin, Ph.D., the Judy R. and Alfred A. Rosenberg Endowed Professorial Chair in Diabetes Research, directs Einstein’s Diabetes Research Center (DRC). He first became interested in diabetes research while doing his postdoctoral work.

“It became apparent to me that diabetes and other metabolic diseases such as obesity are insidious and highly destructive,” he recalls, “and I wanted to find solutions.”

Nearly 100 scientists carry out research in the DRC. This year they made a number of important findings related to diabetes. Among their contributions, they:

• Discovered a strategy that encourages the body to burn more fatty acids. Blocking an enzyme called Fyn kinase could help reduce both obesity and type 2 diabetes, which all too often accompanies obesity.
• Helped conduct a clinical trial showing that salsalate, a nonsteroidal anti-inflammatory drug similar to aspirin that has been used for many years to treat arthritis, shows promise in treating type 2 diabetes.
• Found that a peptide (small protein) known to help neurons survive in the brains of Alzheimer’s patients also improves insulin sensitivity in diabetic rats.

WILF INSTITUTE UPDATE
The Wilf Family Cardiovascular Research Institute is growing. “In the last year, we’ve added some stellar new faculty members to an already strong team,” says Richard N. Kitsis, M.D. (facing page, left), institute director, professor of medicine (cardiology) and cell biology, and the Dr. Gerald and Myra Dorros Professor of Cardiovascular Disease. Among them: Mario J. Garcia, M.D. (facing page, right); Nikolaos G. Frangogiannis, M.D., professor of medicine (cardiology) and the Edmond J. Safra/Republic National Bank of New York Chair in Cardiovascular Medicine, recruited from Baylor College of Medicine; and Amber L. Wells, Ph.D., from Einstein’s department of anatomy and structural biology.

“Together, we can meet the Wilf Family Cardiovascular Research Institute’s dual mission: to better understand cardiovascular disease, the world’s number-one killer, and to translate this knowledge into novel treatments to relieve suffering and improve human health,” says Dr. Kitsis.

RESTORING DAMAGED HEARTS
Rebuild the human heart? Robert E. Michler, M.D. (facing page, center), is pioneering the effort.

Dr. Michler is surgeon-in-chief, the Samuel I. Belkin Chair, professor and chair of the departments of surgery and cardiovascular and thoracic surgery, and codirector of the Montefiore-Einstein Center for Heart and Vascular Care, one of the nation’s elite cardiac care facilities. He studies myocardial regeneration—using stem cells to restore heart muscle damaged by heart attack or other causes.

“We’ve shown in animals given heart transplants that stem cells taken from their original hearts, cultured in the lab and then injected into the animals will target areas of rejection and injury and form new blood vessels and muscle cells,” says Dr. Michler. He is leading an effort through the National Heart, Lung and Blood Institute (NHLBI) to begin a human trial involving heart stem cells.

Dr. Michler exemplifies the link between research and clinical application. His previous research led to FDA approval of robotics for mitral valve repair and coronary artery bypass surgery. He is currently principal investigator on a multimillion-dollar grant from the NHLBI to conduct clinical trials assessing surgical treatments for mitral valve regurgitation, mitral valve repair or replacement, and other heart problems.

WATCHING HEARTS AT WORK
Dr. Garcia, the new chief of the division of cardiology and the Pauline A. Levitt Chair in Medicine, is using Einstein and Montefiore’s state-of-the-art technology to study the heart as it pumps—or doesn’t. Heart attacks often lead to heart failure. The main reason: regions of dead heart muscle, called infarcts. Dr. Garcia is using Einstein’s new 3 Tesla Philips magnetic resonance system to study the tiniest of these heart muscle “scars.” The goal, he says, is to learn how scarring occurs and develop therapies for preventing it.

Dr. Garcia is professor of radiology and codirector with Dr. Michler of the Montefiore-Einstein Center for Heart and Vascular Care.
Understanding the Biology of Aging

“Be happy, be healthy, long life!” Like Tevye in Fiddler on the Roof, we’d all like more years in our lives and more life in our years, and endocrinologist Nir Barzilai, M.D., is trying to grant our wish.

Dr. Barzilai and his team are analyzing the genes of more than 500 centenarians, 700 of their offspring and 600 age-matched controls to determine how genes influence longevity. The “LonGenity” study population is a group of Ashkenazi Jews, whose similar genetic makeup makes it easier to identify gene variations among members of the group.

The researchers have found that longevity is passed from generation to generation and is highly correlated with levels of HDL (“good”) cholesterol and inversely correlated with LDL (“bad”) cholesterol levels. The centenarians were also discovered to have longer telomeres—the parts of a gene’s DNA that shorten every time a cell divides. And a variation of the cholesteryl ester transfer protein (CETP) gene was linked to longer lives and to a reduced risk of cognitive decline and Alzheimer’s disease (see the Einstein Aging Study, right).

Specifically, when people had two copies of the CETP variant, their risk for developing Alzheimer’s disease was reduced by 70 percent compared with participants who had no copies, says Dr. Lipton, who is also the Lotti and Bernard Benson Faculty Scholar in Alzheimer’s Disease. CETP codes for a protein that affects the size of cholesterol particles, and the favorable CETP variant yields cholesterol particles that are less likely to clog arteries—helpful for preventing heart disease as well as Alzheimer’s. Drugs are being developed to duplicate the CETP gene’s impact.

In just the past year, the study has yielded two major papers. One, in the Journal of the American Geriatrics Society, found that having at least one exceptionally long-living parent reduces a person’s risk for developing Alzheimer’s disease by 40 percent. The second, in the Journal of the American Medical Association, involves a gene that seems to help older people stay sharp.

“Previously, in a study of Ashkenazi Jews 95 and older, we identified a gene variant associated with exceptional longevity,” says Richard B. Lipton, M.D., codirector of the Einstein Aging Study and professor in the Saul R. Korey Department of Neurology. “We then tested our Bronx participants and found that this same variant is associated with lowered risk of Alzheimer’s disease and delayed age-related memory decline.”

“Exceptional longevity,” says Dr. Barzilai, “is in the family of exceptional health.”

THE LONGENITY RESEARCH STUDY

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Next steps: The researchers will use highly automated equipment to sequence the entire genomes of centenarians and to study how protective or harmful genes are turned on or off. The findings could lead to drug therapies that help hold off the aging process by regulating gene expression.

“Agging is a major factor for the development of most adult-onset diseases,” says Nir Barzilai, M.D. “If we are able to understand the biology of aging, then we can look for ways to protect against it and increase our ‘health span’—the ability to live disease-free even into advanced old age.”

In recognition of its contributions to aging research, Einstein was recently named by the NIH as one of five Nathan Shock Centers of Excellence in the Basic Biology of Aging. The honor comes with a $3.1 million, five-year grant that funds three core areas of research unique to Einstein. Three members of Einstein’s Institute for Aging Research help lead the new center: Dr. Barzilai, Jan Vijg, Ph.D., and Ana Maria Cuervo, M.D., Ph.D.

Dr. Barzilai, professor of medicine and of genetics and the Ingeborg and Iras Leon Remennick Professor of Aging Research, will direct Einstein’s Nathan Shock Center and run the Healthy Aging Physiology Core at the center.

“I think it’s wonderful to get this old and have all your faculties.”

—IRMA DANIEL, 103 LONGENITY RESEARCH STUDY PARTICIPANT

Einstein scientists have found that centenarians usually possess versions of several different genes that help them live longer while remaining healthy, active and engaged.
Biology Meets Computers

When describing the allure of systems and computational biology, Aviv Bergman, Ph.D., paraphrases Victor Hugo: “Systems biology, like music, is complicated and beautiful, and, like music, it cannot remain silent.”

In 2008, Aviv Bergman, Ph.D., was named founding professor and university chair of the College of Medicine’s new systems & computational biology department. Like the Einstein department he heads, the field of systems and computational biology is itself freshly minted, arising mainly in response to the flood of data stemming from the human genome project.

Scientists in Einstein’s systems & computational biology department use computers, mathematics and state-of-the-art laboratory technologies to address problems of “systems evolutionary biology”—which sounds abstract but can have lifesaving uses.

For example, Dr. Bergman had a hunch that tumors “evolve” by degrading the genetic stability of healthy tissue. So he developed a computer model predicting that key genes involved in tumor progression will be expressed much more variably than nearby healthy tissue. In a collaborative study with the Head and Neck Research Group headed by Einstein’s Michael Prystowsky, M.D., researchers determined the gene-expression patterns in head-and-neck tumors and in the healthy tissue surrounding them.

“Comparing our computer model with the experimental data showed we could predict the aberrant expression of numerous key genes in these tumors,” says Dr. Bergman. “This brings us closer to ‘personalized’ cancer therapies in which targeted drugs would be used to normalize tumorlike gene expression patterns.”

Among the grants awarded to members of the department is the Ellison Medical Foundation Senior Scholar in Aging Research Award, given to Dr. Bergman for his research into epigenetic mechanisms involved in aging.

“Science should keep you a novice, a child, always asking questions,” says Dr. Bergman. “One of my favorite things is proving myself wrong. That’s how science moves ahead.”

Analyzing Living Systems

Andrew J. Yates, Ph.D., was a theoretical physicist who did postdoctoral work in cosmology before moving into immunology. He joined Einstein in December 2009 as an assistant professor in the departments of systems & computational biology and of microbiology & immunology. Dr. Yates combines mathematics and computation with experimental data to address topics related to infection: immunology, interactions between pathogen and host and the epidemiology of infectious disease. For example, his lab has developed a quantitative model for addressing the question of how many T cells are needed to provide immunity against a specific virus in a specific tissue. “The answers so far are very surprising and encouraging,” says Dr. Yates, a graduate of Oxford University.

Two recent recruits to the department of genetics are decoding genetic changes that contribute to diseases and aging. Zhengdong Zhang, Ph.D., below left, is developing computational methods to analyze how gene regulation and expression change during breast cancer metastasis. Aaron Golden, Ph.D., below right, is a former astrophysicist, will use computers for research into epigenetics, the study of the chemicals that attach to genes and turn them on or off.

Charting the Biological Universe

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Computers vs. Killer Proteins

Genes get a lot of attention. But arguably, the proteins made by genes are even more important, since proteins do all the things that make life possible, such as providing skeletal support and regulating cellular processes.

Over the past few years, proteomics—the study of the proteins expressed in a particular cell, tissue or organism—has finally been getting the respect it deserves. Gaining a better understanding of the structure and function of proteins and how they interact with each other is the job of Andras Fiser, Ph.D., associate professor in the departments of systems & computational biology and of biochemistry at Einstein.

For the past several years, Dr. Fiser has been investigating the protein makeup of disease-causing microbes that could be used in terrorist attacks.

Originally a response to the 9/11 attacks, this project has been supported by several NIH grants, among them a $10.9 million, five-year grant from the National Institute of Allergy and Infectious Diseases. Einstein scientists who have collaborated closely on the research include Louis M. Weiss, M.D., Kami Kim, M.D., and Andras Fiser, Ph.D.

Above left, Ruth Hogue Angeletti, Ph.D., Louis M. Weiss, M.D., M.P.H., Kami Kim, M.D., and Andras Fiser, Ph.D.; above right, Aviv Bergman, Ph.D.
EINSTEIN’S X FILES

A woman’s cells contain two X chromosomes, one from her mother, the other from her father—yet only one is active. Early in embryonic development, in a remarkable process called X inactivation, either her maternally or paternally derived X chromosome becomes inactivated, preventing a potentially toxic double dose of X-linked genes. Key to this process are small chemical changes made to histone proteins, which tightly regulate the expression of a chromosome’s genes.

“Research has already identified many of these proteins and how they are modified to inactivate X chromosomes,” says Matthew Levy, Ph.D., assistant professor of biochemistry. “But we don’t know the order in which some of these proteins interact with each other.” Scientists studying histone proteins must rely on conventional microscopy, which merely yields “snapshots” of a very dynamic and complicated process.

“If we could observe these proteins in living cells, we could see how they influence X chromosomes,” says Dr. Levy. He and his co-principal investigator, Dr. John Greally, associate professor of genetics, aim to do just that, using several novel technologies. RNA molecules known as aptamers are being specially constructed to bind to the various proteins. Then Dr. Levy will use an RNA imaging technology devised by his Einstein co-investigator, Dr. Robert Singer, to make videos of X inactivation in living cells.

“By learning how histones and their chemical modifications inactivate X chromosomes,” says Dr. Levy, “we may be able to reverse aberrant chemical changes that cause cancer and other diseases.”

MAKING CELLS GLOW

Einstein scientists use colorful fluorescent proteins to light up living cells and the proteins that carry out vital cell functions such as DNA replication and respiration. Two researchers in the department of anatomy and structural biology—associate professor Vladimir Varkhusha, Ph.D., above left, and assistant professor Erik Snapp, Ph.D.—have established the Fluorescent Protein Resource Center to help Einstein scientists choose the best fluorescent proteins for their experiments.

Late last year, Einstein researchers unveiled a new imaging technology called super-registration microscopy. “It can image two components in a living cell to a resolution ten times greater than has previously been achieved with light microscopy,” says Robert H. Singer, Ph.D., who helped to develop the technology and is professor and cochair of anatomy and structural biology, professor in the Dominick P. Purpura Department of Neuroscience and codirector of Einstein’s Gruss Lipper Biophotonics Center.

In a study published last year in Nature, Dr. Singer’s team used super-registration microscopy to observe the molecular interactions that occur during one of the most important “trips” in all of biology: the journey of individual messenger ribonucleic acid (RNA) molecules from the nucleus into the cytoplasm (the area between the nucleus and cell membrane) so proteins can be made. These findings may have important clinical implications. In previous research, Dr. Singer found that people with the neuromuscular disorder myotonic dystrophy have cells in which messenger RNA can’t escape the nucleus. “By understanding how messenger RNA exits the nucleus, we may be able to develop treatments for myotonic dystrophy and other disorders in which messenger RNA transport is blocked,” he says.

“DNA gets all the attention,” says Dr. Singer, “but it’s just a bunch of nucleic acid sequences. RNA does all the work, translating our genetic blueprint into proteins that drive cellular processes.” Or, as the sign in Dr. Singer’s office says, “It’s an RNA world; we just live in it.”

John S. Condeelis, Ph.D., is professor and cochair of anatomy and structural biology, codirector of the biophotonics center and holds the Judith and Burton P. Resnick Chair in Translational Research. He has pioneered intravital imaging, a technology for visualizing the behavior of cells in living animals. After cells or their structures are tagged with green fluorescent protein or other colored molecules, specially built microscopes follow those cells as they move, develop and grow within tissue.

Observations using intravital imaging have led to a tissue test for predicting whether breast cancer will spread, or metastasize. In a study published in 2009, Dr. Condeelis and his colleagues reported that the more often a specific trio of cell types is found in biopsied tumor tissue, the greater the likelihood that the tumor will spread. Based on the success of this test, Dr. Condeelis and colleagues at Einstein and two other institutions have licensed the patent rights to a biotech firm, which is developing the tissue test into a commercial product.

A test that could help doctors precisely identify which of their breast cancer patients need to undergo aggressive therapy and could spare those at low risk for metastatic disease from undergoing unnecessary and potentially harmful treatment.

The researchers are now working on a blood test for metastatic breast cancer that might be able to predict the risk of metastatic disease even before a tumor forms. “It could be part of a routine checkup, especially for women with a strong family history of breast cancer,” says Dr. Condeelis.

Journey to the Center of the Cell

Science historians may one day call this the golden age of microscopy. A new imaging method seems to come along each month, dramatically improving our view of cellular processes and enhancing our understanding of disease. Nowhere is this truer than at Einstein, a major incubator of cutting-edge imaging technologies.

Making Cells Glow

Einstein scientists use colorful fluorescent proteins to light up living cells and the proteins that carry out vital cell functions such as DNA replication and respiration. Two researchers in the department of anatomy and structural biology—associate professor Vladimir Varkhusha, Ph.D., above left, and assistant professor Erik Snapp, Ph.D.—have established the Fluorescent Protein Resource Center to help Einstein scientists choose the best fluorescent proteins for their experiments.

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Making Cells Glow

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“I love to look at a protein structure and see how cleverly nature has manufactured it to do its job,” says Dr. Nathenson.

The goal: drugs that manipulate the immune response to improve human health.

T cells, the key immune cells particularly interested in the intricate nature of the immune system, are the focus of research by Dr. Steven C. Almo. Their study of the intricate nature of the immune system, and how the immune response is affected by each one, is crucial for determining its function.

Dr. Almo, along with scientists from Einstein and several other institutions, received the $30 million PSI award to serve as one of four main centers that will develop and apply the technologies needed for carrying out this latest PSI initiative.

In the process, the researchers hope to uncover enzymes useful for catalyzing industrial reactions or that—in the case of enzymes unique to disease-causing microbes—might offer good targets for drugs. Einstein's second major protein grant is a five-year, $30 million NIH grant aimed at finding the structure and function of hundreds of medically important proteins. This research is part of the Protein Structure Initiative (PSI), an ongoing federal, university and industry effort that has dramatically reduced the cost and time for determining the three-dimensional structures of proteins. Over its first decade, the PSI has deciphered the structures of 5,000 different proteins.

Probing Proteins

2010 was a banner year for federal grants to Einstein and to Steven C. Almo, Ph.D., professor of biochemistry and of physiology & biophysics, in particular. The NIH awarded Dr. Almo and his colleagues two grants totaling more than $40 million to research the structure and function of proteins.

WHEN STRUCTURE REVEALS FUNCTION

An $11 million, five-year award is funding Einstein’s role in a multicenter study of enzymes—the proteins that catalyze the many chemical reactions required for life. The grant, known as the Enzyme Function Initiative, is one of the NIH’s prestigious “Glue Grants,” which provide resources for tackling important, complex problems that are beyond the means of any one research group.

In recent years, scientists have sequenced the genomes—the entire set of genes—for more than a thousand organisms: important information, since genes contain the blueprints for enzymes and other proteins. But it’s not always useful.

“Unfortunately, the specific functions of perhaps half of these genes and the proteins they make are either unknown or—worse still—mistakenly characterized, meaning the genes or the proteins they encode have been assigned the wrong function,” says Dr. Almo.

The Enzyme Function Initiative will help close this knowledge gap. In the process, the researchers hope to uncover enzymes useful for catalyzing industrial reactions or that—in the case of enzymes unique to disease-causing microbes—might offer good targets for drugs.

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The PSI has now shifted its focus to the study of proteins critical for normal biological processes as well as those directly responsible for infectious diseases, autoimmune diseases and cancer. Dr. Almo, along with scientists from Einstein and several other institutions, received the $30 million PSI award to serve as one of four main centers that will develop and apply the technologies needed for carrying out this latest PSI initiative.

Einstein and its partners will first choose the biologically important proteins they want to investigate. Then begins the major work of purifying the proteins, determining their three-dimensional structures and, ultimately, defining their functions.

Dr. Almo’s research specialty, X-ray crystallography, forms the basis for much of this research. X-ray crystallography involves striking proteins with a beam of X-rays to reveal the complex three-dimensional structure, or shape, of their folded atomic chains. This information is crucial for determining the function of proteins and how they interact with other proteins.

“I like to say that protein is power,” says Dr. Almo. “Proteins play central roles in immunity and virtually all diseases, including cancer. Protein knowledge will lead directly to new biological understanding and new therapies for the clinic.”
Whether they pursue M.D.s, Ph.D.s or both degrees, Einstein students gain an educational experience that few other medical schools can match. Thanks to their Einstein education, these students enter the real world prepared to make contributions as researchers, as healers and as teachers.

**Deb Aronson**

Deb Aronson, a Ph.D. candidate in anatomy and structural biology, credits “a fantastic high school biology teacher” for turning her on to research. Deb studies fluorescent proteins—the glowing “tags” that reveal molecules within living cells. This year, in the laboratory of Dr. Erik Snapp, she and fellow Ph.D. student Lindsey Costantini discovered how to keep fluorescent proteins viable when deployed to “hostile” intracellular compartments that normally inactivate them.

Deb recently won the Sue Golding Graduate Division Student Service Award, is on the Quality of Life and Curriculum Committees and is a peer mentor. Her future “grand scheme” involves a research career and teaching.

**Lucien Alexandre**

Haiti-born Lucien Alexandre says that carrying on philosophical conversations about the mind with his dad helped propel him into neuroscience. “In college, I was asking questions about the central nervous system that I felt weren’t addressed in my textbooks,” he says. An M.D./Ph.D. student, he focuses on Alzheimer’s disease because it has baffled physicians and the public: “and so many people have a loved one affected by it.”

Lucien is carrying out his Alzheimer’s research in the laboratory of Mark Mehler, M.D. ’80, and hopes his work will lead to therapies for staving off the disease.

**Thalia Segal**

Before enrolling in the College of Medicine, fourth-year student Thalia Segal knew about Einstein. The New Jersey native studied at the Bronx campus as a college junior, part of a summer program for talented undergraduates interested in science. She recalls the thrill of working in a neuroscience laboratory: “That’s when I became hooked on medicine,” she says.

Thalia focuses on women’s health—an interest fueled by working in a maternity clinic in Quito, Ecuador, between her first and second years. She is now applying for residency programs in obstetrics and gynecology and this spring will study how the brain influences reproduction.
CERC AND THE CAMPUS MASTER PLAN
The Children’s Evaluation and Rehabilitation Center (CERC), with offices scattered among four locations, will soon have a centralized home in the Van Etten building. CERC at last has its own research facility—a development that has excited many of its students. "We wanted a warm, welcoming, educational feel to the facility," says Felise Beth Milan, M.D. ’88, who directs the Clinical Skills Assessment Program and also teaches the Introduction to Clinical Medicine course. The amenities include the elegant Harry H. Beren Conference Room, made possible by the generous support of the Beren family, who also endowed the Harry H. Beren Study Center in the D. Samuel Gottesman Library.

While helping Einstein students hone their skills, the center has also opened its doors to others. It’s the place where Einstein’s department of obstetrics & gynecology and women’s health has taught its residents and faculty high-risk delivery procedures. In addition, nearby SUNY-Downstate and New York Medical College have used it for student training.

ENHANCING CLINICAL SKILLS
The Ruth L. Gottesman Clinical Skills Center is Einstein’s first campus facility devoted to teaching students the skills involved in examining and interacting with patients. Since the clinical skills center opened in September 2009, more than 500 first-, second- and third-year medical students have trained or been assessed in 23 realistic examination suites/classrooms in two refurbished wings of the Van Etten building. The Einstein students who most appreciate their new state-of-the-art facility are the ones who experienced clinical skills training in makeshift classrooms in the Belfer building. The difference is “dramatic,” says Amanda Curylink, student facilitator in the Introduction to Clinical Medicine course and a fourth-year student. “The new equipment is great,” she says, “and the course has changed from being a requirement that you had to get through to a fun, interactive experience where students want to be here more and stay to learn.”

The design of the clinical skills center was carefully thought out. Attractive carpeting, for example, helps muffle sounds throughout the long corridors. “We wanted a warm, welcoming, educational feel to the facility,” says Felise Beth Milan, M.D. ’88, who directs the Clinical Skills Assessment Program and also teaches the Introduction to Clinical Medicine course. The amenities include the elegant Harry H. Beren Conference Room, made possible by the generous support of the Beren family, who also endowed the Harry H. Beren Study Center in the D. Samuel Gottesman Library.

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MEDICAL EDUCATION: NEW AND IMPROVED
Martha S. Grayson, M.D. ’79, has spent a busy first year as a senior associate dean for medical education. Her top priority was to meet with many key faculty, students and administrators—both here and at affiliated hospitals—to learn how Einstein’s M.D. program is delivered. Those meetings have already led to several major innovations.

A new education committee structure—the Medical Education Council (MEC)—has been created, so that the M.D. program can be centralized. This streamlined structure gives committees clear goals and objectives and more closely integrates the basic and clinical science sides of the curriculum. Students now play a greater role in the educational process and are elected by their peers to serve on major MEC committees.

The course and clerkship evaluation system is undergoing a complete overhaul, with all students now required to participate. “These evaluations used to be voluntary but will now be considered part of the students’ professional responsibilities as soon-to-be physicians,” says Dr. Grayson. “This will help us to spot the areas where improvements in the curriculum are needed.” The evaluation process is overseen by a new evaluation subcommittee, part of the MEC structure.

A new task force is integrating history taking, communication skills, physical exam skills and ethics to improve the teaching of these skills across all four years of medical school. With Dr. Grayson’s encouragement, the annual clerkship retreat focused on developing a new and improved set of standardized sessions in which students practice their clinical skills on actors playing the roles of patients.

BUILDING A BIOETHICS PROGRAM
Tia Powell, M.D., professor of clinical epidemiology & population health, directs Einstein’s new master’s degree program in bioethics. The Einstein-Cardozo Masters of Science in Bioethics brings a diverse group of students together with bioethics experts, Cardozo law professors and researchers and clinicians from Einstein and Montefiore. Students include mid-career professionals as well as current and future law and medical students.

“Our curriculum covers bioethics from different angles,” says Dr. Powell. “We look at how laws and court decisions influence cutting-edge medical science, research and treatment. We also explore emotional aspects of the medical experience and its effect on patients and clinicians.”

Dr. Powell notes that bioethics goes beyond law and medicine. “It’s about integrity, communica-

tion—and being just,” she says. Topics include ethical issues in clinical trials, how brain death is defined and the right to refuse medical treatment.

Dr. Powell directs the Montefiore-Einstein Center for Bioethics, which has offered a bioethics certificate program for the last 15 years. She was previously executive director of the New York State Task Force on Life and the Law and has shared her bioethics expertise with the Institute of Medicine, the Empire State Stem Cell Ethics Committee and the Federal Secretary’s Advisory Committee for Human Research Protections.

Two Einstein alumnae—Felise Beth Milan, M.D. ’88, left, and Martha S. Grayson, M.D. ’79—are giving back to their alma mater in important ways. Both are working with today’s Einstein students to provide an even better medical education than they themselves experienced.
Einstein students don’t have to choose between research and clinical work, or between classroom and community. A variety of programs let students try on every experience for size and find the best fit.

THE MEN’S DIVISION RESEARCH SCHOLARS PROGRAM

Can Alzheimer’s disease be eradicated? Joshua R. Steinerman, M.D. (facing page, left), assistant professor in the Saul R. Korey Department of Neurology and codirector of the Center for Healthy Brain Aging, wants to eliminate the disease he describes as one of the 21st century’s great challenges.

Dr. Steinerman came to Einstein in 2008, attracted by the College of Medicine’s reputation as a major center for aging research. Since then, he has made his own contributions. “We’ve learned that activities that make you think or involve interacting with others can help protect against Alzheimer’s or delay the onset of symptoms,” he says.

Dr. Steinerman, the Louis and Gertrude Feil Faculty Scholar in Neurology, was recently named a Men’s Division Research Scholar. The program, an initiative of the Einstein Men’s Division, helps fund the professional development of talented M.D.s interested in speeding laboratory findings into new treatments.

This year’s other Men’s Division Research Scholars and their areas of study are Irene Blanco, M.D., M.S., who looks for biomarkers for kidney damage caused by lupus; Sean Lucan, M.D., M.P.H., M.S., who develops community-based nutrition programs to reduce childhood obesity; Deepa Rastogi, M.D., M.S., who studies the connection between childhood obesity and asthma; and Susan Rubin, M.D., M.P.H., who explores the use of long-acting, reversible contraceptives to prevent teen pregnancy. For more on the Einstein Men’s Division, see page 59.

THE CLINICAL RESEARCH TRAINING PROGRAM

For would-be clinical scientists, Einstein’s Clinical Research Training Program (CRTP) is a career-transforming two-year program that leads to a master’s degree in clinical research methods. For Jean Claude Dusingize, M.D. (facing page, left), who comes from Rwanda, the program has offered the opportunity to conduct clinical AIDS research in his home country. This work includes comparing insulin resistance in HIV-infected and uninfected women.

Dr. Dusingize’s research in Rwanda is supported by a five-year AIDS International Training Program grant awarded by the National Institutes of Health to Vinayaka Prasad, Ph.D., professor of microbiology & immunology. After completing the CRTP at Einstein, Dr. Dusingize plans to return to Rwanda to help train the country’s healthcare workers. “I want to help develop skilled AIDS investigators and research leaders there,” he says.

Einstein’s CRTP admits up to 15 scholars each year from across the clinical spectrum. Most who enroll are physicians, with two slots reserved for medical students.

HANDS-ON EXPERIENCE: THE ECHO CLINIC

Second-year medical student Jesse Laufer (facing page, center) picked up some useful skills en route to Einstein. A stint on Wall Street strengthened his talent for crunching numbers. Jobs as an EMT and an anesthesia technician deepened his medical knowledge and taught him how to interact with a broad range of people.

To that toolkit he has added skills acquired at Einstein and now uses them to help others. Last summer Jesse participated in an outreach program, organized by Doctors for Global Health, aimed at reducing maternal mortality in Uganda. And he volunteers at the Einstein Community Health Outreach (ECHO) clinic, the health service staffed by Einstein students.

“At ECHO, I have to integrate all my scientific knowledge and interviewing skills,” he says. “And it will always be the place where I saw my first patient.” ECHO provides free, high-quality, comprehensive healthcare to uninsured people in the Bronx and nearby communities. Students at all levels of medical education can volunteer.

THE MEDICAL SCIENTIST TRAINING PROGRAM

In contrast to M.D./Ph.D. programs at other schools, where students follow two separate curricula, Einstein’s program concentrates on blending the two. That’s exemplified by George Han’s work in the lab of Joel Friedman, M.D., Ph.D., professor in the departments of physiology & biophysics and of medicine, where George (facing page, right) is helping develop a novel drug-delivery system in which nanoparticles release therapeutic nitric oxide gas. In animal studies, the system has already successfully treated wound infections and abscesses caused by antibiotic-resistant staph bacteria and has many other potential therapeutics applications as well.

The Einstein program, says George, allows him “to combine patient care with science and technology so that I can help not just individuals, but many people at once.” George’s nanoparticle work has earned him a Julius Mamur Research Award, and he has presented his research findings in 10 publications and at meetings of the American Academy of Dermatology and Stockholm’s Karolinska Institute.

RUDIN SCHOLARS

Each year, the Rudin Family Foundations offer scholarships to several outstanding Einstein students. One awardee is third-year medical student Lily Chattopadhyay, left, who has excelled at helping people—most recently as a public health clinic volunteer in Thailand.

“In Thailand I learned that, even in the humblest settings, you can establish significant relationships with people in the community and ultimately improve their health,” she says. After graduation, Lily plans to serve as a physician in underserved areas and to promote sustainable healthcare and lifestyle practices. For more on the Rudin scholarships, see page 52.
Educational Milestones

Medical students at Einstein must overcome multiple challenges: tough courses such as Histology & Cell Structure, the daunting Introduction to Clinical Medicine, immersion in specialties from pediatrics to geriatrics, and clinical clerkships. It’s a trial by fire that, in the end, forges outstanding physicians. Several events mark their rites of passage.

The White Coat Ceremony. This “On Becoming a Physician” ceremony, held each year in August, symbolizes the start of a first-year student’s journey.

This year’s keynote speaker was Stephan L. Kamholz, M.D., chair of medicine for the North Bronx Healthcare Network and assistant dean at Einstein, where he is also vice chair and professor of medicine. He spoke about the Class of 2014’s challenges and opportunities, and he invited students to view Einstein faculty members “as elder brothers and sisters to whom you can come confidently and fearlessly for advice in any trouble or difficulty.”

The students then filed onstage, white coats provided by the Einstein Alumni Association folded over their arms, and each was cloaked by one of 13 Einstein alumni. The transformation was visible and the smiles broad. This year, at the suggestion of director of boethics education Elizabeth A. Kriets, M.D., the class for the first time wrote their own oath, reflecting their hopes, wishes and highest aspirations. The closing line: “I will dedicate myself to innovation in the art of medicine for the benefit of humanity.”

Scrubs Day. Six weeks later, the Class of 2014 took part in Scrubs Day, marking the start of the gross anatomy course. Several alumni, including Harris Goldstein, M.D. ’80, who initiated Scrubs Day and serves as assistant dean for scientific resources, joined Todd R. Olson, Ph.D., professor of anatomy and structural biology, and Allen M. Spiegel, M.D., chair of medicine for the North Bronx Healthcare Network and assistant dean at Einstein, where he is also vice chair and professor of medicine. He spoke about the Class of 2014’s challenges and opportunities, and he invited students to view Einstein faculty members “as elder brothers and sisters to whom you can come confidently and fearlessly for advice in any trouble or difficulty.”

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MATCH DAY: THE BRONX AND BEYOND

At high noon on March 18, 2010, Nadine Katz, M.D., senior associate dean for student academic affairs, and Stephen Baum, M.D., senior associate dean for students, sounded a gong—the signal for 180 fourth-year medical students to open their envelopes. Inside were the names of the hospitals where they would be residents for the next few years. The happy faces, hugs and high-fives showed how pleased they were to meet their matches. Below, Jonathan Peled and Alishya Mayfield celebrate the happy news.

“Our results this year are among the best ever and include placements at some of the most prestigious hospitals around the country,” said Dean Spiegel. Einstein’s newest M.D.s will step into residencies in Chicago (Northwestern Memorial Hospital), Houston (University of Texas Health Science Center), Boston (Massachusetts General Hospital), Los Angeles (the University of California Los Angeles Medical Center), Baltimore (Johns Hopkins Hospital) and New Haven (Yale-New Haven Hospital), among others.

Closer to home, nearly two dozen Einstein graduates matched at nearby Montefiore Medical Center, the University Hospital and Academic Medical Center for Einstein. Internal medicine was the top residency category, followed by pediatrics, emergency medicine and diagnostic radiology.

Match Day has been run for more than 50 years by the National Residency Matching Program, which weighs applicants’ achievements, backgrounds, interests and geographic preferences against the requirements and needs of participating hospitals.
Practicing medicine means more than just diagnosing and treating patients. "Medicine arose out of the primal sympathy of man with man," wrote the eminent physician Sir William Osler about a century ago. At Einstein, patients are regarded not merely as bodies in need of fixing but as people in need of care—and students learn about compassion as well as cures.

ALICIA PITTARD
Third-year student Alicia Pittard got her first taste of public service after college, on a two-week medical missionary trip to Zambia. "It made me realize the importance of public health work," she says. "It opened my eyes to thinking about systemic ways to improve the health of a population."

Alicia spent four months this year in India focusing on diabetes and has also done outreach work with an HIV clinic in Guatemala.

"Partnerships allow parties to solve problems together and to use the wisdom of the people on the ground," says Alicia. After her graduation next year, she hopes to keep working in countries where the need is greatest.

JUAN ROBLES
Fourth-year student Juan Robles’ Bronx roots inspired him to pursue family medicine. "The vision I had of doctors when I came to med school involved the family doctor who takes care of everyone," he says. "They have an essential role in the community."

Juan has already become active. He directs Einstein’s ECHO clinic, where he supervises students as they meet with patients, and hopes to work as a resident in a Bronx hospital next summer.

"Primary care doctors have more responsibility, and the Bronx has a shortage. I’m going to take advantage of the opportunity to help," says Juan, who was one of 18 students elected by his fellow students as a winner of a Gold Humanism Honor Society Award last fall.

HELEN NISSIM
Third-year medical student Helen Nissim was also a winner of a Gold Humanism Honor Society Award. It’s no surprise why.

In all of her medical rotations, Helen takes time to chat with patients about matters other than their diagnoses. "I enter every patient interaction with the thought that this person may be someone’s mother or grandmother," explains Helen. "When a situation is difficult, I try to envision how I’d want someone to relay information or interact with my family members. That’s what I use as my compass."
Children’s Health

The pediatric practitioners on these two pages specialize in healing and in kindness, hopefulness and patience—you can see it in their faces. They want today’s sick children to grow into tomorrow’s healthy adults.

ACTIVITY VS. OBESITY

“Let’s jog in place and name the months of the year!”

“What’s your favorite animal? Say it out loud as we keep marching!” Kids in classrooms all over the Bronx are hopping and jumping—and smiling—to an audio exercise program created by a team led by Philip O. Ozuah, M.D., Ph.D., above left, professor of pediatrics at Einstein and chair of pediatrics at Einstein and Montefiore Medical Center.

The 10-minute CHAM-JAM (Children’s Hospital at Montefiore Joining Academics in Movement) CD brings physical activity to children in city schools, many of which have no playground, no gym, no physical education.

“All the classroom teacher has to do is press ‘play’ on the computer or the boom box,” says Dr. Ozuah. The program also dishes up tips on healthy eating.

Formerly a private-practice pediatrician in the Bronx—where nearly half of all children are obese or overweight—Dr. Ozuah is dedicated to fighting obesity and its frequent consequence, type 2 diabetes. Some 16,000 Bronx kids have already bounced to the beat of his miniworkout. With help from a $1.22 million NIH grant, Dr. Ozuah and his colleagues are now assessing its impact on physical activity levels and fitness, and they expect early results by December 2011.

AUTISM: THEORY AND THERAPY

Parents and doctors alike have suspected for decades that children with autism spectrum disorders (ASD) suffer from sensory overload—difficulty processing sensory information such as sound, touch and vision. But evidence was lacking, so it was hard to know whether to intervene.

In 2010, John Foxe, Ph.D., (facing page, below left), professor in the department of pediatrics and in the Dominick P. Purpura Department of Neuroscience, and colleagues published much-needed evidence in the journal Autism Research. Their research showed that children with ASD process multisensory stimuli (in this study, simultaneous noise and vibration) much more slowly than typically developing children do. The findings could lead to objective measures for evaluating the effectiveness of autism therapies.

“There’s a thriving industry offering multisensory integration therapies for autism,” says Dr. Foxe, who is also the research director at the Children’s Evaluation and Rehabilitation Center (CERC). “Parents’ hard-earned cash goes into these interventions, all without empirical evidence that there is anything wrong with their kids’ sensory integration or that these therapies do any good.”

Dr. Foxe is fostering collaborations between clinical researchers at CERC and basic scientists throughout Einstein. He aims to bring the full range of investigational resources to bear on autism, dyslexia, childhood obesity, mental retardation and other developmental disorders.

KIDS AND KIDNEYS

The pediatric kidney program at Montefiore’s Ira Greifer Children’s Kidney Center is among the country’s top 10, according to U.S. News and World Report. The program, directed by Frederick J. Kaskel, M.D., Ph.D., sees about 4,000 children each year, some of them referred from other countries. They have a wide range of conditions, including infections, injuries, congenital anomalies, transplant-related problems and childhood nephrotic syndrome (a dangerous swelling of the kidneys), and the kidney program offers them dialysis, transplants and other treatments.

Dr. Kaskel (facing page, left), who is also chief of nephrology at Einstein and Montefiore, hopes not only to deliver the best possible care to his young patients but also to prevent kidney disease and its bodywide effects. “Hypertension is an important complication of today’s obesity epidemic, and it can lead to kidney failure,” he says. An NIH grant is supporting his research into new ways to help hypertensive kids attain lower blood pressure.

Every summer, Dr. Kaskel interacts with a special group of young kidney patients. He is medical director of the Ruth Gottschalk Children’s Kidney Program at Frost Valley YMCA Camp in the Catskills, which has its own dialysis center. “Even kids with kidney disease can have a great summer camp experience,” he says.

RELATIONSHIP REPAIR

Einstein’s Early Childhood Center is a national leader in aiding children with developmental delays and disabilities. The center recently started the Infant-Parent Court-Affiliated Intervention Project, which helps when mistreated children are removed from families.

“We intervene as early as possible, with the goal of reuniting parents and children,” says the center’s director, Susan Chinitz, Psy.D., associate professor of clinical pediatrics and the Patrica T. and Charles S. Raizen Distinguished Scholar in Pediatrics. The project gives attorneys and judges reports describing parents’ and children’s strengths and vulnerabilities and how they respond to the program.

“When my older son was acting out, everyone around me would say he needs a beating,” said one parent participant. “You guys gave me ways of handling things that aren’t so negative. Now I have both my kids with me.”

In 2010, the Robin Hood Foundation awarded a renewal grant to support Dr. Chinitz’ work. For more on Robin Hood, see page 52.

TYPE 1 DIABETES: DOING THE MATH

When parents can’t do basic math, their children with diabetes have worse blood sugar control.

“Parents with lower skills have trouble calculating medication doses and food serving sizes,” says Rubina A. Heptulla, M.D., division chief of pediatric endocrinology. Newly arrived from Texas Children’s Hospital in Houston, she’ll now work to improve caregiver literacy in the Bronx.

She’ll also continue with her work on an artificial pancreas to keep blood sugar in check. Dr. Heptulla ultimately plans to bring the device to young patients at the Children’s Hospital at Montefiore.

Dr. Heptulla was inspired by her father, who had type 1 diabetes.
PERSONALIZED CANCER TREATMENT

For women diagnosed with early-stage breast cancer, an urgent question is which ones really benefit from chemotherapy treatment intended to prevent recurrence. Joseph A. Sparano, M.D. (facing page, far left), professor of medicine and of obstetrics & gynecology and women's health, and coleader of the Breast Cancer Working Group of the Albert Einstein Cancer Center (AECC), is directing a nationwide clinical trial sponsored by the National Cancer Institute (NCI) to help answer that question.

In the trial, called TAILORx (Trial Assigning Individualized Options for Treatment), tumor samples from more than 11,000 breast cancer patients undergo a molecular diagnostic test that assesses gene expression and yields a “recurrence score.”

“We already know that women with very low recurrence scores can safely receive hormonal therapy alone [e.g., tamoxifen],” says Dr. Sparano. “And for women with very high recurrence scores, combining chemotherapy with hormonal therapy will substantially reduce their risk of relapse compared with hormonal therapy alone. But for women with midrange scores, we’re still unsure whether chemotherapy helps. TAILORx is designed to answer this question.

“If the trial meets the objectives, it may spare up to 40,000 women in the United States from chemotherapy treatment intended to prevent recurrence compared with hormonal therapy alone,” says Dr. Sparano. Results will be known in four to five years.

Christine Pellegrino, M.D. (facing page, center), assistant professor of medicine at Einstein, collaborates with Dr. Sparano on developing better chemotherapy regimens for shrinking breast tumors prior to surgery (so-called neoadjuvant treatment). The two researchers are also seeking more effective treatments for breast cancer that has spread, or metastasized.

“It’s exciting to work with new drugs that will make a huge difference in the survival of women with metastatic disease,” says Dr. Pellegrino. “Years ago the survival of women with metastatic disease was only a year or two, and that’s not true anymore.”

Nearly all cases of cervical cancer are caused by the sexually transmitted human papillomavirus (HPV). Mark Einstein, M.D. (facing page, right), is leading a study testing whether the microbicide Carraguard®—a gel made from the seaweed derivative carrageenan—can curb cervical cancer by preventing new HPV infections. The research is funded by a $4.1 million award from the NCI. “If Carraguard is successful, it would be an innovative strategy allowing women to protect themselves from cervical cancer, because they control how this prevention strategy is used,” says Dr. Einstein, associate professor in the departments of obstetrics & gynecology and women’s health and of epidemiology & population health.

Cancer center scientists who research breast, uterine, cervical and ovarian cancers receive significant support from the Einstein National Women’s Division. See page S8 to learn about their fundraising initiative.

EASING ACCESS TO CANCER CARE

Leslie L. Montgomery, M.D. (facing page, left), chief of the new breast surgery division in the department of surgery, comes to Einstein from Memorial Sloan-Kettering Cancer Center, where she was a clinical researcher and director of the breast surgery fellowship program.

“Women with breast cancer often have many doctors—a medical oncologist, surgical oncologist, radiation oncologist and plastic surgeon,” says Dr. Montgomery, who is also chief of breast surgery at Montefiore. “We’re instituting a multidisciplinary team approach that will help women navigate through the system efficiently so they can see all their doctors on one day and have a plan of action before they leave.”

Joining Dr. Montgomery from Memorial Sloan-Kettering is Lisa S. Wiechmann, M.D. (facing page, right), assistant professor of surgery, whose interest in health disparities spurred her move to the Bronx.

“The cancer patients we encounter every day have been historically understudied, and are burdened by limited support and poor outcomes,” she says. “These patients present a unique challenge. Through clinical and basic science research, we plan to lead the way to a better understanding of cancer in populations such as ours.”

A WIN-WIN PARTNERSHIP

Many of the studies and projects in these pages reflect a partnership dating to the 1960s: the affiliation of Albert Einstein College of Medicine with Montefiore Medical Center, the University Hospital and Academic Medical Center for Einstein.

In July 2009, Allen M. Spiegel, M.D., Einstein’s Marilyn and Stanley M. Katz Dean, and Steven M. Safyer, M.D. ’82, president and chief executive officer of Montefiore, committed once again to join Einstein’s research strength with Montefiore’s stellar reputation for patient care. The two institutions have jointly embarked on new clinical trials in areas such as heart disease, cancer, neuroscience and pediatrics, with the goal of advancing health in the communities they serve.

Women’s Health

Research into women’s cancers is a high priority at the Albert Einstein Cancer Center. Researchers are seeking the factors that set cancer in motion, working on therapies that inhibit tumor growth, personalizing treatments to spare women unnecessary chemotherapy—and more.

Joining Dr. Montgomery from Memorial Sloan-Kettering is Lisa S. Wiechmann, M.D. (facing page, right), assistant professor of surgery, whose interest in health disparities spurred her move to the Bronx. “The cancer patients we encounter every day have been historically understudied, and are burdened by limited support and poor outcomes,” she says. “These patients present a unique challenge. Through clinical and basic science research, we plan to lead the way to a better understanding of cancer in populations such as ours.”

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Global Health

Einstein’s mission is improving human health overseas as well as in our own back yard. The College of Medicine is carrying out programs in 10 countries. Particularly in outreach efforts in Africa, Einstein teams are taking on some of medicine’s most urgent challenges.

TB AND HIV: A GLOBAL HEALTH EMERGENCY

Tuberculosis is blessedly rare in the United States. But in the Third World, TB is an everyday fact of life—and death, taking more lives than malaria, AIDS and all tropical diseases combined. Worse, several developing nations now face a growing epidemic of drug-resistant TB. For those with immune systems already weakened by HIV/AIDS, confection with TB all too often proves lethal.

Dozens of Einstein researchers have stepped up to meet this global health emergency. One of them is William Jacobs Jr., Ph.D., professor of microbiology & immunology, and of genetics and of a Howard Hughes Medical Institute (HHMI) investigator.

“tb is an extraordinary opportunity to work closely with clinicians, students and other researchers with the goal of developing faster diagnostic tools and better chemotherapies and vaccines for TB, drug-resistant TB and HIV,” says Dr. Jacobs.

The international team is already evaluating a quick, onsite test, developed by Dr. Jacobs, for diagnosing active infections of TB and drug-resistant TB. In addition, clinical trials in South Africa will soon evaluate a novel two-drug regimen for TB that was devised by John S. Blanchard, Ph.D., the Dan Danziger Professor of Biochemistry at Einstein. The drug combination has shown great promise against the most deadly forms of the disease.

Neel Gandhi, M.D., and Sarita Shah, M.D., M.P.H., husband and wife and assistant professors of medicine and of epidemiology & population health, are targeting South Africa’s TB-HIV coepidemic in separate studies. In a project funded by the NIH, Dr. Shah is studying how extensively drug-resistant TB (XDR-TB) is transmitted in KwaZulu-Natal. “Most cases of XDR-TB are thought to arise when people infected with susceptible strains of TB don’t take their medications correctly or are prescribed the wrong medications, which encourages the growth of drug-resistant bacteria,” says Dr. Shah. However, she suspects that most cases of XDR-TB actually stem from person-to-person transmission. If the study confirms her hunch, public health officials in developing nations will need to rethink strategies for controlling XDR-TB.

In 2006, Dr. Gandhi published a paper that brought South Africa’s alarming epidemic of drug-resistant TB to the world’s attention. He recently won a major NIH grant to conduct the first study in which people coinfected with HIV and multidrug-resistant TB (MDR-TB) will be treated with both antiretroviral therapy and TB therapy and then followed to see if the treatment helps. The study will be carried out in KwaZulu-Natal.

“No one has looked at how best to treat HIV/MDR-TB coinfected patients,” says Dr. Gandhi. Antiretroviral therapy has markedly improved survival for people with HIV who are infected with drug-susceptible TB, but it is not known how well the therapy will work for those infected with drug-resistant TB. “The goal here is to gather evidence that will guide clinical practice and public health policy for HIV/MDR-TB disease worldwide,” he says.
Einstein’s supporters are role models of modern philanthropy: inquisitive, passionate, dedicated and—most of all—visionary.

“It is the responsibility of every human being to make the world a better place than the one we found.” —Albert Einstein
Muriel L. Block

Muriel Block was a generous and dedicated supporter of medical research at Einstein. She leaves behind an enduring legacy.

On this auspicious occasion, my heart swells with pride to be part of a research project established for the good of mankind. It makes a lasting impression.

MURIEL L. BLOCK
October 13, 2004, Groundbreaking Ceremony
Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion

The Einstein community was deeply saddened by the passing in September of our distinguished Benefactor and dear friend Muriel L. Block. Mrs. Block was a prominent member of Einstein’s National Women’s Division, serving on its national board and on the New York chapter executive board; she was joined in her support by her late husband Harold. After his death, Mrs. Block established the Muriel and Harold Block Faculty Scholar in Mental Illness in 1990.

In 2003, Mrs. Block’s gift of nearly $22 million to Einstein helped advance biomedical research through construction of the state-of-the-art Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion. The building is the largest medical research facility constructed in the Bronx since the College of Medicine opened in 1955. Today, the Price Center/Block Research Pavilion is home to about 400 of the world’s leading investigators in cancer, diabetes, heart disease and other major areas of biomedical research.

At its 2004 Hanukkah Dinner and Convocation, Yeshiva University awarded Mrs. Block an honorary doctorate in humane letters to recognize her exceptional vision and generosity to the College of Medicine. That same year, Einstein honored her with a dinner at the Plaza Hotel. But perhaps the best thank-you of all was when hundreds of members of the Einstein community turned out to celebrate with Mrs. Block and Einstein Overseer Michael F. Price at the June 2008 dedication of the magnificent research facility named in their honor.

“I am extremely proud of the researchers at the College of Medicine, who have done so much good for humanity,” Mrs. Block said at the dedication ceremony.

Just months before her passing, Allen M. Spiegel, M.D., Einstein’s Marilyn and Stanley M. Katz Dean, made his most recent visit to Mrs. Block and her husband, Honorary Overseer Irving P. Baumrind, at their Palm Beach home. “Muriel always felt great satisfaction in helping to provide a site for scientific discoveries that could help ease human suffering,” Dean Spiegel notes. “It would be impossible to overstate what she has helped Einstein to accomplish, both during her lifetime and beyond it.”

Muriel Block leaves an extraordinary legacy that will enhance medical research at Einstein for generations to come. Her vivacious and elegant presence and generosity of spirit will be greatly missed.
LINDA AND EARLE ALTMAN
As Einstein Benefactors and leading members of the Einstein philanthropic community, Linda and Earle Altman (facing page, left), share a deep commitment to the College of Medicine. In 2007, the couple established the position of the Linda and Earle Altman Faculty Scholar in Cancer Research. The current holder of this position is Gary L. Goldberg, M.B., Ch.B., whose research focuses on treatment for cancers of the female reproductive system.

“Linda and Earle Altman are among Einstein’s most ardent supporters,” says Ruth L. Gottesman, Ed.D., chair of the Einstein Board of Overseers. “They are tremendous advocates for our research and education programs.”

The couple’s generosity and devotion to Einstein continued this year with a new pledge of $1,250,000 that will help support the work of Steven Libutti, M.D., an internationally recognized leader in cancer research and surgery (see page 18). In the laboratory, Dr. Libutti focuses on developing new agents for the targeted treatment of cancer.

“Linda and Earle Altman’s gift will greatly enhance the effort to develop the kind of cancer therapies that could potentially transform cancer care,” says Dean Allen M. Spiegel.

Earle Altman is Chairman of ABS Partners Real Estate, a New York-based real estate and investment, leasing and management firm. Linda Altman was elected to the Einstein Board of Overseers in 2006; she currently serves on its executive committee and chairs its communications committee. She is also a past president and current leading member of the Einstein National Women’s Division. In 2005, Linda Altman received an honorary doctorate in humane letters from Yeshiva University in recognition of her outstanding service and philanthropic leadership.

JAY AND MARY GOLDBERG
Jay Goldberg and Mary Cirillo-Goldberg (facing page, right) are valued members of the Einstein family and longtime investors in research and education. This year, the Goldbergs’ advocacy of Einstein will again greatly benefit the medical school with a new commitment of $250,000 designated for the Albert Einstein Cancer Center. Jay and Mary are founding members of the Center’s Cancer Research Advisory Board.

“With the updating of the College of Medicine’s strategic research plan this year and its implications for clinical and translational research, Einstein scientists are continuing to make important contributions to the nation’s cancer research efforts,” says I. David Goldman, M.D., the Susan Resnick Fisher Professor and director of the Albert Einstein Cancer Center. “The Goldbergs’ commitment will support the efforts underway at the center as we add new personnel and technologies to further those goals.”

“Einstein has been a part of my life for a long time,” Mr. Goldberg said. “Mary and I love the people there. The scientists we’ve met have all been first-rate, and we’re confident their findings will have a terrific impact.”

“We’re especially pleased to be involved with the Einstein Cancer Center. Dr. Goldman is a wonderful leader, the researchers are brilliant and we’re very excited about the work they’re doing,” says Mary Cirillo-Goldberg.

Jay Goldberg was elected to Einstein’s Board of Overseers in 1998. He is a member of the biotechnology and hospital affiliations committees. Mr. Goldberg is also a past chair of the Einstein Men’s Division and a current member of its executive board.

To recognize his many contributions to the medical school, Jay Goldberg was honored by the Men’s Division in 1990 with the Albert Einstein Humanitarian Award. Mary Cirillo-Goldberg is a respected business leader who serves on numerous corporate and nonprofit boards.

THE G. HAROLD & LEILA Y. MATHERS CHARITABLE FOUNDATION
The G. Harold and Leila Y. Mathers Charitable Foundation, which supports basic research in the life sciences at leading American universities and independent research institutions, has made a new, multiyear commitment of $822,460 to support a research project titled “Connectomics of the Nematode Nervous System,” being conducted by Scott W. Emmons, Ph.D., Einstein’s Siegfried Ullmann Chair in Molecular Genetics.

With the help of previous support from the Mathers Foundation, research by Dr. Emmons and his colleagues over the past three years has yielded important insights into the nervous system’s function and development. Specifically, Dr. Emmons’ lab is looking at the neural connections formed in the nervous system of a small worm, the nematode Caenorhabditis elegans, one of the most important model systems for basic science research.
ROBIN HOOD FOUNDATION

The Robin Hood Foundation finds and funds the most-effective programs for alleviating poverty in New York City. Robin Hood began supporting Einstein in 2006. In 2010, the foundation renewed their investment with a commitment of $465,000 to a division of the Early Childhood Center at Einstein’s Children’s Evaluation and Rehabilitation Center (CERC).

The Center for Babies, Toddlers and Families is directed by Susan Chinitz, Psy.D., associate professor of clinical pediatrics and the Patricia T. and Charles S. Raizen Distinguished Scholar in Pediatrics. It addresses the causes of emotional distress in children, such as domestic or community violence, parental substance abuse, physical or sexual abuse, maternal depression, loss and bereavement. Treatment is geared to children ages three and under and their parents.

With this new commitment, the Robin Hood Foundation attained Benefactor status, an honored designation given to Einstein donors whose cumulative support has reached $1 million. "The Center for Babies, Toddlers and Families offers the youngest and most vulnerable residents of the Bronx the tools they need to lead healthier, happier lives," said David Saltzman, executive director of the Bronx the tools they need to lead healthier, happier lives," said David Saltzman, executive director of the Robin Hood Foundation. "We are proud that our partnership with Einstein is helping make it possible for this outstanding program to continue doing its important work."

THE RUDIN FAMILY FOUNDATIONS

Nearly 1,000 Einstein alumni and current students can say “thank you” to Jack Rudin, chair of the Louis and Rachel Rudin Foundation and the May and Samuel Rudin Family Foundation, which support the medical education of Einstein students. “We love young people and we love medicine,” says Mr. Rudin. “The support we offer is an investment in the future.” For a profile of a Rudin scholar, see page 35.

JANE AND MYLES P. DEMPSEY, SR.

Jane and Myles P. Dempsey, Sr., made a $500,000 gift to support innovative pilot projects and specialized technical facilities in support of breast cancer research at the Albert Einstein Cancer Center (AECC). The Breast Cancer Working Group is co-led by Joseph A. Sparano, M.D., professor in the departments of medicine (oncology) and of obstetrics & gynecology and women’s health, and John S. Condéelis, Ph.D., the Judith and Burton P. Resnick Chair in Translational Research. The group’s research is focused on identifying novel tumor markers that provide information that will guide treatment decisions, reserving potent therapies only for patients with aggressive disease.

Mr. Dempsey is founder and chairman of Tech Air, a leading regional provider of industrial, medical, and specialty gases. The Dempseys’ children, Myles P. Dempsey, Jr., Rose Dahlman, Katy Haley, Kelly Connolly and Jennifer Torre and their families share their parents’ enthusiasm for Einstein and the work being done at the Einstein Cancer Center.

In May 2010, Mr. and Mrs. Dempsey and members of their family were guests at the cancer center’s annual Advances meeting. “The investment of Jane and Myles Dempsey in breast cancer research at our center has been enormously helpful,” says AECC Director I. David Goldman, M.D. “We were delighted that the Dempsey family was able to attend the 2010 Cancer Center Advances meeting, where they had the opportunity to learn about our latest research achievements and meet several of our scientists.”

ARTHUR AND JANET HERSHAFT

A generous commitment of $500,000 from Arthur and Janet Hershaft will help establish an shRNA genomics facility at Einstein. shRNA stands for “small hairpin RNA,” a sequence of RNA that makes a tight hairpin turn that can be used to turn off the expression of specific genes. Their gift exemplifies the Hershafts’ philanthropic vision and continuing commitment to research and establishes them as Benefactors of the College of Medicine. In 2006, they helped fund a new cancer center program focusing on epigenetic changes that lead to leukemia and lymphomas.

“Janet and I were interested in the cancer field, but we didn’t want to make just a general contribution,” says Mr. Hershaft. “We’ve learned a lot about the cutting-edge research of epigenetics, and we knew our contribution would make a real difference.” Dean Allen M. Spiegel and other faculty members had recently identified such a facility as a high priority in strategic planning.

“The Hershafts’ investment is very important,” says Dean Spiegel. “By helping to enhance our technological infrastructure, it will allow investigators to take their work to another level, placing Einstein among the ranks of a select group of medical research centers.”

Einstein has been the beneficiary of Janet Hershaft’s time, energy and expertise for many years. A vice president of Einstein’s National Women’s Division, she was its New York chapter president from 2006 to 2008, and urged Arthur to become an Overseer in 2000 when he was proposed for membership.

Mr. Hershaft now chairs the Board’s nominating committee and serves on the executive, budget & finance, and facilities & planning committees. At Yeshiva University’s 2010 Hanukkah Dinner and Convocation in December, President Richard Joel presented him with an honorary doctorate in humane letters in recognition of his dedicated service to Einstein.

“Janet and I both have a real interest in medical research,” says Mr. Hershaft. “The College of Medicine is doing very interesting, important work with some incredibly bright people. Once you get to know what the school is all about and you get to know the people, you realize how important it really is. We stay committed because we love what’s happening at Einstein, and we feel we’re really making a difference.”
**Einstein in Florida**

In March 2010, the College of Medicine traveled south to Palm Beach, FL, to meet and greet its philanthropic community and friends.

Two events in Florida last spring focused on new directions in cancer research and treatment at the Albert Einstein Cancer Center.

Einstein Overseer Marilyn Katz, founding chair of Einstein’s Cancer Research Advisory Board, and her husband, Einstein Overseer Stanley M. Katz, hosted a “Lunch and Learn” program at the Palm Beach Country Club. Roni and Stuart Doppelt and David J. Klein, members of the Cancer Research Advisory Board, cohosted a similar luncheon program at High Ridge Country Club.

Guest speakers were Allen M. Spiegel, M.D., the Marilyn and Stanley M. Katz Dean, and I. David Goldman, M.D., the Susan Rechnick Fisher Professor and director of the Albert Einstein Cancer Center.

Dr. Ruth L. Gottesman, chair of the Einstein Board of Overseers, hosted a reception in the Frenchman’s Creek community of Palm Beach Gardens. Dean Spiegel conducted an interactive session with a fully engaged audience on Alzheimer’s disease, autism, cancer, stem cell research and more.

Encouraged by the enthusiastic response to these events, the College of Medicine is planning future programs in the Palm Beach area in 2011.

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**STAND UP TO CANCER**

Einstein’s Matthew Levy, Ph.D., assistant professor of biochemistry, is one of 13 young scientists nationwide to be awarded a Stand Up To Cancer Innovative Grant in 2010. Dr. Levy’s grant, for $712,866, is part of a program created to support the next generation of cancer research leaders.

Stand Up To Cancer is the Entertainment Industry Foundation’s charitable initiative supporting groundbreaking research aimed at speeding new cancer treatments to patients. The American Association for Cancer Research, Stand Up To Cancer’s scientific partner, is the world’s oldest and largest scientific organization focusing on innovative cancer research from bench to bedside.

Dr. Levy’s work involves aptamers, molecules that are designed to bind to particular proteins on the surface of cancer cells. One of his aptamers targets a receptor protein found only on prostate cancer cells. Combining the aptamer with a toxic drug creates “aptamer-toxin" molecules that will bind to prostate cancer cells and release the toxin directly into the cells, minimizing damage to surrounding healthy tissue. It’s a strategy that could potentially work against almost any type of cancer.

THE JOHN D. AND CATHERINE T. MACARTHUR FOUNDATION

The John D. and Catherine T. MacArthur Foundation has awarded a multiyear grant totaling $750,000 to support a research project led by Earle Chambers, Ph.D., assistant professor in the departments of family and social medicine and of epidemiology & population health. The study will examine the influence of subsidized housing on the health of Latino youth in the Bronx. Previous research has found that people living in poor neighborhoods are at risk for cardiovascular problems. Dr. Chambers’ research may influence housing policy and help reduce racial and ethnic health disparities.

THE BREAST CANCER RESEARCH FOUNDATION

This past year, The Breast Cancer Research Foundation (BCRF) made its newest commitment to Einstein: three grants totaling $669,000 to support studies by Rachel Hazan, Ph.D., associate professor, department of pathology; Susan Band Horwitz, Ph.D., the Rose C. Falkenstein Chair in Cancer Research and distinguished professor, departments of molecular pharmacology and of cell biology; and Hayley McDavid, Ph.D., assistant professor, department of medicine; and Thomas Rohan, M.D., Ph.D., professor and chair, department of epidemiology & population health.

BCRF has now awarded a total of $2,881,231 to Einstein researchers since 2006.

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**ROBERT M. BEREN**

Robert M. Beren and his children, Nancy T. Beren, Amy Beren Bressman, Julie Beren Platt and Adam E. Beren, committed $360,000 to support Einstein’s newest facility, the Ruth L. Gottesman Clinical Skills Center. In recognition of their generosity, the center’s conference room has been named for Harry H. Beren, Mr. Beren’s late uncle. The Berens’ previous gifts to Einstein include $1 million to endow the Harry H. Beren Study Center in the D. Samuel Gottesman Library and $500,000 to benefit the study center.

In April, Dean Allen M. Spiegel hosted a dedication ceremony and luncheon for the Beren family at the clinical skills center. Mr. Beren, his daughter Julie and three of her five children were joined by Einstein’s chair, Ruth Gottesman, Ed.D., who is a friend of the Berens. A group of her five children were joined by Einstein’s chair, Ruth L. Gottesman, Ed.D., who is a friend of the Berens. A group of her five children were joined by Einstein’s chair, Ruth Gottesman, Ed.D., who is a friend of the Berens. A group of her five children were joined by Einstein’s chair, Ruth L. Gottesman, Ed.D., who is a friend of the Berens. A group of her five children were joined by Einstein’s chair, Ruth L. Gottesman, Ed.D., who is a friend of the Berens. A group of her five children were joined by Einstein’s chair, Ruth L. Gottesman, Ed.D., who is a friend of the Berens.
Einstein Alumni: Moving Forward, Giving Back

Many Einstein alumni took time out from their busy careers this year to remember their alma mater.

Alumni participated in the college calendar throughout the academic year, and contributed a total of $1,125,912 this year to support scholarships, research and other worthwhile programs at Einstein.

In May, Dean Allen M. Spiegel hosted Einstein’s annual Alumni Leadership Brunch at the Price Center/Block Research Pavilion. Alumni whose lifetime giving to Einstein reached the Dean’s Club level ($25,000 or more) were celebrated; alumni who recently reached giving levels of $25,000, $50,000 and $100,000 received special leadership awards. Also recognized were alumni who made gifts of $1,000 or more this year.

In June, Reunion 2010 brought alumni from the classes with graduation years ending in 0s and 5s back to celebrate. This year’s festivities featured the milestone 50th Anniversary Reunion of the Class of 1960.

In October, alumni returned to campus to provide career advice to second- and third-year students at the annual Career Speed Networking brunch, cosponsored by the Einstein Alumni Association and the Office of Student Affairs.

In September and October, three Alumni Association events supported Einstein medical students: the White Coat Ceremony, Scrubs Day and the Stethoscope Ceremony. For more details, see pages 36 and 37.

1. Alumni Association president-elect Jack Stern, Ph.D. ’73, M.D. ’74, center, with Elizabeth Stoner, M.D. ’77, and her husband, David Cowburn, Ph.D., Alumni Leadership Brunch.
2. Ronald Ross, M.D. ’60, left, and Robert Bernstein, M.D. ’60, Commencement, Avery Fisher Hall, New York City.
3. Richard Hansen, M.D. ’74, counsels a medical student, Career Speed Networking Brunch.
4. Members of the Class of 1960 celebrate their 50th Reunion, Grand Hyatt Hotel, New York City.

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ROSelyn AND LESLIE GOLDS ITEIN

Einstein Overseer Roslyn Goldstein and her husband, Leslie Goldstein, have made a gift of $1 million to help fund the stem cell research of Mark Mehler, M.D. ’80, the Alpern Family Foundation Professor of Cerebral Palsy Research, chair of the Saul R. Korey Department of Neurology, and professor of neuroscience and of psychiatry and behavioral sciences. The Goldsteins previously donated more than $2 million to support this work.

Dr. Mehler, founding director of Einstein’s Institute for Brain Disorders and Neural Regeneration, conducts stem cell research that may lead to therapies for neurodegenerative diseases such as Alzheimer’s and Parkinson’s. The impetus for the Goldsteins’ generosity was the federal government’s 2001 announcement that it would drastically limit its support for stem cell research.

“My husband and I are very excited about the stem cell research at Einstein,” says Mrs. Goldstein, “and we’re determined to do whatever we can to help it continue. For my children and grandchildren—and for everyone’s—we must find cures.”

“We’re extremely proud of Einstein’s outstanding programs in stem cell research and regenerative medicine, a key component of our strategic research plan,” says Allen M. Spiegel, M.D., the Marilyn and Stanley M. Katz Dean. “The efforts of investigators like Dr. Mehler and his colleagues are greatly enhanced by the generosity and vision of friends like Roz and Les Goldstein.”

In 2008, Yeshiva University recognized Roslyn Goldstein for her extraordinary commitment to cutting-edge biomedical research and humanitarian endeavors with an honorary doctorate in humane letters.

THE CHARLES H. RErSON FAUnATION

The Charles H. Revson Foundation has awarded a two-year grant of $170,619 to Lee Tremblay, Ph.D., a research fellow in the department of biochemistry. Dr. Tremblay has been named a fellow in the foundation’s Senior Fellows in the Life Sciences program, which helps fund the work of highly promising young investigators. The grant supports Dr. Tremblay’s research on beta-lactamase, an enzyme that helps tuberculosis bacteria resist antibiotic therapy. Studies already suggest that shutting down beta-lactamase can lead to effective treatment against multidrug-resistant and extensively drug-resistant strains of tuberculosis.

Phyllis AnD JoHN D’ADDARIO, M.D. ’75

John D’Addario, M.D. ’75, credits many factors with helping him become a doctor. They include the work ethic of his parents, who ran a restaurant, and the discipline of his football coaches, who demanded excellence. But most important for his successful 30-year medical career was the stellar education he received at Einstein.

“I don’t know what I would have done with my life had it not been for my teachers at Einstein,” Dr. D’Addario says. “With their tremendous brainpower and dedication, they showed me how meaningful and fulfilling a career in medicine could be.”

Dr. D’Addario recalls being exposed to top-tier professors—Nobel laureates among them—and to opportunities to work in community clinics, where he learned to treat a very wide range of conditions. “There is nothing better than dealing with the real thing,” he says.

Dr. D’Addario’s appreciation for his Einstein education helped form his career as an anesthesiologist concentrating in cardiac and vascular anesthesia and respiratory care at St. Joseph’s Hospital/Health Care Center in Syracuse, NY. Recently, acting on his strong desire to give back to the medical school, he established the Phyllis S. and John A. D’Addario Scholarship for Students Studying the Biomedical Sciences. Dr. D’Addario’s generous gift will also support global health fellowships in developing countries.
Einstein National Women’s Division & Men’s Division

Since its early days, Einstein has benefited from the steadfast support of two dynamic groups with a shared passion for helping to advance its medical research and education programs.

THE NATIONAL WOMEN’S DIVISION: COMBATING WOMEN’S CANCERS

In 2009, the Einstein National Women’s Division launched its project to raise $3 million to support research at the Albert Einstein Cancer Center (AECC) aimed at breast, ovarian, cervical and uterine cancers.

Thanks to several fundraising events sponsored by the division’s New York City and Westchester/Fairfield chapters, including the popular annual Spirit of Achievement Luncheon and Hamptons Family Day, division members are closing in on their goal. (The 57th Annual Spirit of Achievement Luncheon and Hamptons Family Day, division members are closing in on their goal. (The 57th Annual Spirit of Achievement Luncheon is slated for May 5, 2011, at the Plaza Hotel in New York City.)

“The Einstein National Women’s Division is proud to partner with the brilliant researchers at the Albert Einstein Cancer Center to help ensure a healthier future for all women and girls,” says Kathy K. Weinberg, president of the Einstein National Women’s Division. “It’s very gratifying to know that we are truly making a difference.” See pages 42 and 43 for details on cancer research at the AECC supported by the National Women’s Division.

4 2010 Einstein Humanitarian Award recipient Martin Luskin, center, with Dean Spiegel and executive board member Neil Clark.
5 Raymond S. Cohen, Chairman, Einstein Men’s Division.
6 Bronx Night at Yankee Stadium, hosted by the Einstein Men’s Division, November 9, 2010; Yankee great and National Baseball Hall of Fame member Richard “Goose” Gossage, fourth from right, with, from left: event vice chair Peter Bernstein; event cochairs Greg Gonzalez and Jeffrey A. Friedler; and event vice chair Marlon Bustos, Andrew Weinberg and Harry Cercone.

THE MEN’S DIVISION: SUPPORTING EINSTEIN PHYSICIAN-SCIENTISTS

The Einstein Men’s Division has successfully completed another year of its current project: the Men’s Division Research Scholars Program. The $3 million fundraising initiative supports the professional development of Einstein physician-scientists.

These physicians with specialized research training collaborate with Einstein basic scientists to translate important laboratory findings into new treatments for diseases such as Alzheimer’s, diabetes and heart disease.

Harry Shamoony, M.D., associate dean and director of Einstein’s Institute for Clinical and Translational Research, serves as the projects faculty advisor.

The Men’s Division hosts several fundraising events throughout the year, including Bronx Night and the annual Golf & Tennis Tournament and Dinner. At this year’s dinner, Martin Luskin received the Einstein Humanitarian Award.

“The physician-scientists at Einstein are dedicated to uncovering answers to tough questions,” says Raymond S. Cohen, the Men’s Division chair. “They inspire all of us in the Men’s Division to give back by helping them achieve their goals.” See page 34 for more about this year’s Men’s Division Research Scholars and a profile of one recipient.

1 Kathy K. Weinberg, president, National Women’s Division, right, Tara Stein, president, Westchester/Fairfield chapter.
2 2010 Spirit of Achievement Luncheon, Pierre Hotel, New York City. From left: event cochairs Renée Steinberg, Ashley Stark, Andrea Stark, Alileen Murstein, Amie Murstein Hadden, Nicki Harris, Jackie Harris Hochberg, president, New York chapter, National Women’s Division.
3 2010 Hamptons Family Day, Ross School, Bridgehampton, NY. Honorary Event Cochair Christie Brinkley, fourth from right, with event cochairs, from left: Mindy Feinberg, Bari Katz, Tasha Ganait, Erica Karish, Jackie Harris Hochberg, Roxanne Palin and Lauren Anmut.

Philip and Rita Rosen, longtime Einstein Overseers, Founders and Benefactors, became involved with Einstein more than 50 years ago. “In 1959, my mother, the late Anna Rosen, endowed a cancer research laboratory in memory of my father, Isadore Rosen,” says Mr. Rosen, a Life Overseer of the College of Medicine.

“Though we’re involved in many worthy causes, Einstein is the philanthropy that is most meaningful to us.”

Mrs. Rosen recently won a Women in Communications Clarion Award for Hope for the Future, a video she produced for the National Women’s Division’s Spirit of Achievement Luncheon describing Einstein’s Children’s Evaluation and Rehabilitation Center.

Over the years, Mrs. Rosen has produced 18 films for Einstein. “I want to continue to tell the Einstein story and to stress the importance of medical research,” she says. “Einstein does wonderful work, which benefits children and adults locally and throughout the world.”

In addition to serving on Einstein’s Board of Overseers, Mrs. Rosen is a past president of the National Women’s Division, a board member of the division’s New York chapter and board chair of its Westchester/Fairfield chapter.

The second-floor lounge in the Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion has been named in honor of the Rosens in appreciation of their support of this facility.
ROBERT WOOD JOHNSON FOUNDATION

The Robert Wood Johnson Foundation awarded a total of $164,827, as part of two multiyear grants, to Karina Berg, M.D., M.S., assistant professor of medicine and of psychiatry and behavioral sciences, and Genevieve Neal-Perry, M.D., Ph.D., assistant professor of obstetrics & gynecology and women’s health and of neuroscience. Dr. Berg is developing better methods for measuring adherence to antiretroviral therapy, to improve clinical care of patients with HIV. Dr. Neal-Perry’s research may pave the way for nonhormonal therapies for delaying menopause. Dr. Berg and Dr. Neal-Perry are alumni of the Robert Wood Johnson Foundation Physician Faculty Scholars Program and the Harold Amos Medical Faculty Development Program of the Robert Wood Johnson Foundation.

DANA’S ANGELS RESEARCH TRUST

Dana’s Angels Research Trust (DART) has awarded four grants totaling $150,000 to Steven U. Walkley, D.V.M., Ph.D., a professor in the Dominick P. Purpura Department of Neuroscience, the Saul R. Korey Department of Neurology and the department of pathology at Einstein. DART supports Dr. Walkley’s work in Niemann-Pick Type C disease (NPC), a fatal neurodegenerative genetic condition that affects the liver, lungs, brain and other organs in children. DART is a member of the Support Of Accelerated Research for NPC (SOAR-NPC) collaborative. As part of SOAR-NPC’s efforts, Dr. Walkley is working to develop an effective drug cocktail for treating NPC and eventually, it is hoped, a cure for NPC.

ESTHER M. PISTREICH NEWMAN

Esther M. Pistreich Newman has committed $60,000 over the next six years to provide scholarships to outstanding Einstein medical students who graduate from Stern College or Yeshiva College. These Lillie and Harry Pistreich Memorial Scholarships will be given in memory of her parents and will provide support for the students’ first two years of study at Einstein.

Mrs. Pistreich Newman is a retired schoolteacher who grew up in the Bronx. Her gifts are intended to help economically disadvantaged students obtain a first-rate medical education and to honor her parents, who had little education themselves but always appreciated that Orthodox Jewish students could attend Einstein at a time when most medical schools had strict quotas that severely limited the admittance of Jewish students.

Planned Giving

Generosity can take many forms, and throughout Einstein’s 55-year history, philanthropic support has come in every way imaginable—cash, checks and securities, life insurance, trusts, and even real estate and other property.

• Dr. Verghese studies aging’s effects on the brain and body. The estate of Harriet Saporta has provided Einstein with approximately $400,000 for scholarships, in memory of Mrs. Saporta and her late sons Alan and Gary.

• Einstein received an unrestricted bequest of $750,000 from the estate of Felicia Nadel. Such undesignated funds are extremely helpful since they can be applied to areas where the need is greatest.

• The Irma T. Hirschl Trust recently awarded $325,000 to Einstein for scholarships and medical research. When Irma Hirschl was planning her estate, her heart condition and her parents’ deaths from cancer motivated her to devote the major portion of her assets to basic medical research. Since the Trust was established, Einstein has received research grants totaling more than $7 million and scholarship support totaling more than $1.8 million.

• In 2009, an anonymous Einstein supporter left assets to the medical school, including his Manhattan apartment, that are expected to total $3 million. This generous friend also left the use of the funds unrestricted.

• Einstein received one of the largest bequests in its history in the summer of 2008, when $10.2 million from the estate of Gertrude E. Reicher, in memory of Eleazar and Feige Reicher, was received. That investment helped renovate the Gruss Magnetic Resonance Research Center, and created the Eleazar and Feige Reicher Chair in Translational Medicine (named for the parents of the late Jacob Reicher, M.D.). The inaugural holder of the Reicher Chair is Sangeeta Gupta, M.D.

• Miller remarked that “the top priority of every one of these amazing people was the advancement of Einstein’s mission, and we’re humbled by their foresight and generosity.”

Anyone interested in this topic can contact Mr. Miller directly and confidentially at 718.430.2411, and should consult with their accountant or tax professional. Specific vehicles for giving may provide income or estate tax benefits, or perhaps help a donor’s heirs to a greater extent even while providing for Einstein.

Einstein is grateful for the generosity of everyone who has remembered the College of Medicine in their will or through a planned gift.

Convocation

Celebrating our distinguished faculty and supporters

Every two years, Einstein holds a formal academic convocation and investiture ceremony. The Einstein academic community, philanthropic supporters, alumni and friends gather to honor faculty members named as new occupants of endowed professorial chairs, endowed faculty scholar positions and program directorships, while celebrating the donors who have established these prestigious positions and whose generosity helps advance the work of these exceptional faculty members. Also recognized are faculty members who have recently secured tenure. Einstein’s next convocation will be held in the fall of 2011.

Michael Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion

According to Einstein’s office of institutional advancement, donors appear to be using bequests and other deferred giving vehicles on a more frequent basis, in addition to gifts made during their lifetime.

“In recent years, we’ve benefited from some remarkable gifts that were designed to advance medical research and educational programs at Einstein after the life of the donor,” said Glenn Miller, Einstein’s associate dean for institutional advancement.

“Donors will often inform us that they’d like to create a lasting legacy for Einstein,” said Mr. Miller, “and we collaborate with them on structuring a gift that will be gratifying to the individual while helping to address our institutional priorities.”

Some recent notable planned gifts and bequests to Einstein have included:

• Distributions totaling nearly $3.7 million were received from the Max Berger Trust and the estate of Mr. Berger’s wife, Jean Berger. All of the funds were designated for research related to the human eye, and were made in memory of Charles Berger, Mr. Berger’s father.

• In keeping with the donor’s wishes, a disbursement of approximately $1 million from the Marc Kolber Marital Trust will be used to help construct new research laboratories or expand existing laboratory facilities at Einstein.

• More than $2.9 million from the estate of Yolaine G. Randall has established the Murray D. Gross Memorial Faculty Scholar in Gerontology at Einstein. Joe Verghese, M.D., M.S., associate professor in the Saul R. Korey Department of Neurology, is the first holder of this position. Dr. Verghese studies aging’s effects on the brain and body.

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Einstein is grateful for the generosity of everyone who has remembered the College of Medicine in their will or through a planned gift.
Our new Benefactors are in blue type on the list below:

Estate of Irma Adler
Dr. Andre Asienstadt
Bernard E., Jacob J. and Lloyd J. Alpern
Barbara and Philip Althoen
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Honorary Roll
Albert Einstein College of Medicine gratefully acknowledges all contributions to its medical education and research programs from alumni, families, individuals, corporations, foundations, trusts and estates. The following list recognizes cash gifts received during the fiscal year ended June 30, 2010, and includes payments toward pledges made in prior years.

Bold type reflects an Einstein alumnus or alumnna
+ Deceased

1,000,000 - 2,499,999
Roslind and Leslie Goldstein
David S. and Pauline Green
The Gross Lipper Family Foundation
Raymond and Bettie Haas
Margaret and Sol Berger

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Every effort has been made to ensure the accuracy of the information provided. We very much regret any errors or omissions that may nevertheless have occurred.
During fiscal year 2010, NIH grant awards to the College of Medicine hit a milestone—nearly $200 million, or a 32 percent increase over 2009 funding. This record level of NIH funding confirms Einstein’s entry into the ranks of America’s elite research institutions.

The NIH awards spanned diverse scientific fields, including two grants totaling more than $40 million to study the structure and function of proteins; $10 million for diabetes research; $10 million to expand Einstein’s stem cell research facilities; and $3.9 million to study the transmission of drug-resistant tuberculosis in rural South Africa.

Notably, one-time ARRA (stimulus) funds of $41.7 million made up a relatively modest portion of the total NIH awards—an indication that the significant gains in NIH awards during FY2010 should be sustainable in future years.

In addition to reaching new heights in NIH support this past year, Einstein continued to make major strides in implementing its strategic research plan and campus master plan, thanks to new gifts and payments for existing pledges. Philanthropic income for the fiscal year ending June 30, 2010, reached $33.8 million, exceeding the $30 million mark for the fourth consecutive year, with $8.5 million of that total enriching Einstein’s endowment—a new high.

These strong returns during a challenging economy, along with the new commitments and pledges highlighted throughout this report, indicate that Einstein’s faith in the continued support of its dedicated community of donors is well founded.
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