

SUMMER/FALL 2015

EINSTEIN

THE MAGAZINE FOR ALUMNI AND FRIENDS OF ALBERT EINSTEIN COLLEGE OF MEDICINE

SOLVING RETT SYNDROME

Scientists at Einstein and Montefiore are seeking ways to treat this rare disease and help locked-in patients communicate with the outside world



SPECIAL COVERAGE
Historic Agreement
page 3



Rett Syndrome and the Children's Hospital at Montefiore

Each year, thousands of children and their families travel the curved walkway of the Children's Hospital at Montefiore (CHAM). The Tri-State Rett Syndrome Center is one of CHAM's many noteworthy programs. The center provides care for Rett patients of all ages and conducts research aimed at finding effective treatments.

SUMMER/FALL 2015

in this issue

FEATURES

2 A MESSAGE FROM THE DEAN

3 SPECIAL COVERAGE:
HISTORIC AGREEMENT

A Message from the Board Chair

Einstein and Montefiore: A New Era

A Conversation with Dean Spiegel and Dr. Safyer

Profile: Steven M. Safyer, M.D. '82

26 SOLVING RETT SYNDROME

Scientists at Einstein and Montefiore are seeking ways to treat this rare disease and help locked-in patients communicate with the outside world

36 WIELDING A POWERFUL WEAPON

Turning up or tamping down immunity offers hope against major diseases

42 COMMENCEMENT 2015

44 REUNION 2015

Honoring the Class of 1965

55 ALUMNI PROFILE

Louis M. Aledort, M.D. '59, M.A.C.P.

DEPARTMENTS

10 Upfront: Collegial Life

18 Upfront: Lab Dish

48 Making a Difference

53 Our DNA:
Alumni News & Class Notes

62 Passionate Pursuits

64 A Look Back

ON THE COVER:

Aleksandra Djukic, M.D., Ph.D.,
director of Montefiore's
Tri-State Rett Syndrome Center,
with patient Dominique Estep.



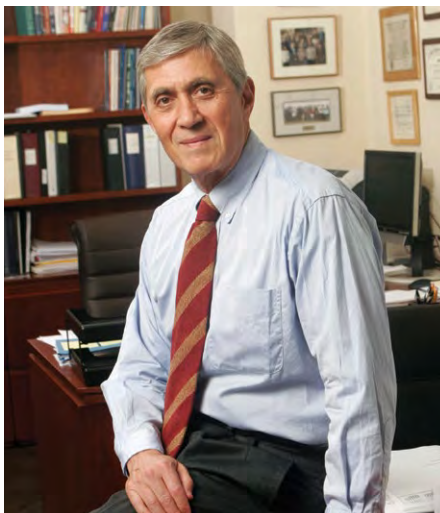
A Message from the Dean

This issue of *Einstein* magazine highlights important changes coming to the College of Medicine.

In February, I announced that the Boards of Yeshiva University and Montefiore Health System had voted unanimously to approve the terms of an agreement that will ensure a bright and sustainable future for Einstein. I'm pleased to say that the agreement was finalized in September 2015.

The new agreement will substantially bolster the College of Medicine's financial health. Einstein students will continue to attend a highly competitive medical school that offers tremendous benefits for all its students—medical, M.D./Ph.D. and graduate—many of whom train at Montefiore. And this realignment allows for additional investments in basic and clinical research—areas where Einstein and Montefiore already excel. I'm especially pleased to be working more closely with my colleague and friend Dr. Steven Safyer, president and CEO of Montefiore and an Einstein alumnus.

Articles in this issue of *Einstein* magazine exemplify the new relationship between our two institutions. "Solving Rett Syndrome" shows how clinicians at the Rett Syndrome Center at the Children's Hospital at Montefiore are working closely with Einstein investigators and our Rose F. Kennedy Intellectual and Developmental Disabilities Research Center to offer novel diagnostic and therapeutic options to patients, mostly girls, who suffer from this rare but



tragic genetic disease. Likewise, Einstein scientists such as Drs. Steven Almo and Xingxing Zang are striving to make immunotherapy an effective and less toxic option for several forms of cancer (see "Wielding a Powerful Weapon"). This work will be brought to the clinic with industry partners such as Pfizer's Center for Therapeutic Innovation, and Montefiore will be in a powerful position to conduct key human trials involving immunotherapies.

These examples illustrate how the dynamic new relationship between Einstein and Montefiore—through collaborations in education, research, clinical care and community service—will improve the health of our Bronx community, our city, our country and the world.

ALLEN M. SPIEGEL, M.D.
The Marilyn and Stanley M. Katz Dean

EINSTEIN

Summer/Fall 2015

The magazine for alumni, faculty, students, friends and supporters of Albert Einstein College of Medicine

Published by

The Philip and Rita Rosen Department of Communications and Public Affairs
Gordon Earle, Associate Dean

Department of Institutional Advancement

Science and Publications Editor
Larry Katzenstein

Managing Editor
Joan Lippert

Senior Writer
Lora Friedman

Contributors
Karen Gardner
Gary Goldenberg
Nelly Edmondson

Creative Director
Peter Dama

Art Director
Lorene Tapellini

Associate Art Director
Jeneffer Gonçalves Lee

Illustration
Tatyana Starikova Harris
Margaret Nielsen

Digital Imaging
Donna Bruno

Photography
New York Vintage Camera Works/
Lindsay Farkas, Photography
Victor Vanzo, East Coast Productions, Inc.

Video Production
Paul Moniz, Executive Producer
Sunita Reed, Video Producer
Charles Young, Videographer

Address correspondence to:
Editor, *Einstein* Magazine
Jack and Pearl Resnick Campus
1300 Morris Park Avenue, Belfer 905
Bronx, NY 10461

E-mail: letters@einstein.yu.edu
Website: www.einstein.yu.edu

Copyright © 2015
Albert Einstein College of Medicine
All rights reserved

Albert Einstein College of Medicine is a part of Montefiore

A Message from the Board Chair

Dear Friends:

When I was invited to join the Board of Overseers nearly a decade ago, I welcomed the opportunity to help guide Einstein's future. The College of Medicine had already been part of my life for many years: My parents were early supporters who helped me appreciate Einstein's exceptional medical research and education programs—and their potential to change the world. As a Board member, I've been privileged to work with Dr. Ruth Gottesman and Ira Millstein, each of whom set a high

bar as Board chair and whose vision and energy continue to inspire us all.

The historic agreement between Montefiore and Yeshiva University, which you'll read about in the following pages, will continue to formalize our deep and productive long-standing relationship with Montefiore and ensure Einstein's continued excellence in scientific, clinical and educational innovation. It is designed to meet the challenges—and embrace the many opportunities—of today's healthcare environment.

Allen M. Spiegel, M.D., Einstein's Marilyn and Stanley M. Katz Dean, and

Steven M. Safyer, M.D., president and CEO of Montefiore, are superb leaders of a formidable team. My colleagues on the Board and I look forward to working with them as we embark on an exciting new chapter in the shared history of our two great institutions.



ROGER W. EINIGER

Chair, Einstein Board of Trustees

Historic Agreement Signals a New Era in the Einstein-Montefiore Relationship



For more than 50 years, Albert Einstein College of Medicine of Yeshiva University (YU) has benefited from its close relationship with Montefiore, its University Hospital and academic medical center (see timeline on the next pages). For over 20 years, Einstein clinical faculty have been employed by Montefiore, forming the basis of a strong partnership. Now, under an agreement between Yeshiva and Montefiore Health System, the bonds between Einstein and Montefiore

(Continued on next page)

“The new agreement strengthens the decades-long synergy among our educational, research and clinical enterprises.”

— Dean Allen M. Spiegel, M.D.

have become even stronger. Upon the closing of the new arrangement in September 2015, Einstein becomes its own legal entity, with Montefiore having operational and financial responsibility and Yeshiva remaining the academic degree-granting institution until Einstein grants its own degrees.

“This is truly a historic moment in the evolution of the Einstein-Montefiore relationship,” notes Allen M. Spiegel, M.D., Einstein’s Marilyn and Stanley M. Katz Dean. “The new agreement fully integrates the complementary strengths of both institutions. It builds on the decades-long synergy among our educational, research and clinical enterprises and will solidify our shared, strong foundation in translational medicine.”

Meeting the Challenges of a New Era

In 2006, shortly after becoming Einstein’s dean, Dr. Spiegel worked



The new agreement builds upon the longtime collaboration between Steven M. Safyer, M.D. ’82, president and CEO of Montefiore, and Einstein’s Dean Allen M. Spiegel, M.D.

with Einstein’s senior faculty to develop a strategic research plan. The plan identified the need to reinvigorate Einstein’s longtime partnership with Montefiore. After his appointment as president and CEO, Steven M. Safyer, M.D. ’82, led Montefiore’s strategic planning process that identified the need to strengthen its partnership with Einstein. Both institutions sought to

Einstein and Montefiore: An Evolving Relationship

1955



Two years after scientist and humanitarian Albert Einstein agrees to lend his name to a new medical school, the College of Medicine welcomes its first class of students (pictured here on graduation day, 1959).

1963



Einstein affiliates with Montefiore. Seated, from left: Jacob W. Schwab, president, Montefiore Hospital; Samuel Belkin, Ph.D., president, Yeshiva University. Standing, from left: Marcus D. Kogel, M.D., dean, Albert Einstein College of Medicine; Martin Cherkasky, M.D., director, Montefiore.

“The agreement will open up exciting new opportunities for us to generate discoveries and improve the health of humanity.”

— Steven M. Safyer, M.D. '82, president and CEO of Montefiore

strengthen ties in clinical care, medical research and teaching and streamline collaborations. In 2009, the two leaders signed an updated affiliation agreement that yielded the following results:

- outstanding new clinical department chairs and other key clinical faculty;
- the prestigious National Institutes of Health Clinical and Translational Science Award given to Einstein and Montefiore and renewed in 2013;

- a National Cancer Institute grant awarded to the Montefiore Einstein Center for Cancer Care to conduct clinical trials and research focused on reducing healthcare disparities in cancer care;
- combining separate Montefiore and Einstein Institutional Review Boards into a single unified board;
- creation of Montefiore-Einstein Centers of Excellence in transplant, cancer care, children’s health and heart and vascular care; and
- coordinating all NIH grants through Einstein.

Realigning and Unifying

“The agreement is probably the most significant step in the life of the College of Medicine since its founding,” says Dean Spiegel. “By providing for a strong Einstein, the new framework will greatly enhance our core missions of research excellence, outstanding medical education and improved human health.”

“The agreement will open up exciting new opportunities for us to generate discoveries and improve the health of humanity, as we work together pioneering new treatments and models of care,” says Dr. Safyer.

On February 4, 2015, Dean Spiegel, Dr. Safyer and President Richard M. Joel announced that the Boards of Yeshiva University and Montefiore Health System had voted unanimously to approve the comprehensive terms of the agreement, under which Einstein will seek the authority to grant degrees. Now come the efforts needed to transition to the “New Einstein.”

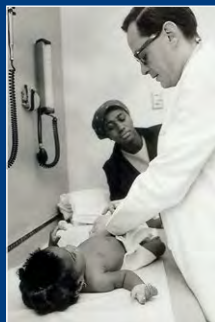
1969

Montefiore assumes operational responsibility for Einstein’s Jack D. Weiler Hospital.



1980

The Einstein and Montefiore departments of medicine merge, combining the strengths of both campuses. Louis Sherwood, M.D., becomes the first unified chair of medicine.



Looking to the Future: A Conversation with Dean Spiegel and Dr. Safyer

The editors of *Einstein* magazine asked Allen M. Spiegel, M.D., Einstein's Marilyn and Stanley M. Katz Dean, and Steven M. Safyer, M.D. '82, president and CEO of Montefiore, to talk about the agreement and what it means for Einstein's future.

Why is the new arrangement between Einstein and Montefiore considered a win for both institutions?

Dean Spiegel: The nation's health-care system has changed over the past half century. Competition for research funds is fiercer than ever. Sharp cuts in government funding have worsened the problem by putting tremendous financial pressure on most research-intensive medical schools. Our agreement with Montefiore addresses this harsh economic reality by more closely aligning Einstein with a strong clinical

and operational partner as we enter the age of personalized medicine.

Dr. Safyer: During his tenure as dean, Allen has done an exceptional job of reinvigorating Einstein as a center for robust research. The new agreement will allow us to preserve and strengthen this research in significant ways to benefit patients, communities and all humanity.

What comes next?

Dean Spiegel: With the closing of the YU-Montefiore agreement, we will take the Einstein-Montefiore relationship to

a new level. Einstein's research in basic science and translational medicine and Montefiore's dual mission of clinical research and patient care are already combined—for example, in diabetes, in liver disease and, as demonstrated in this issue of *Einstein* magazine, in Rett syndrome. Montefiore has employed Einstein clinical faculty since the early 1990s. Our clinical departments such as pediatrics, urology, ophthalmology, and obstetrics & gynecology and women's health are headed by a "university chair," a position that spans both institutions. We'll continue to knit together our two institutions until we become a single culture.

Dr. Safyer: I hope the phrase "Einstein and Montefiore," in the sense of two separate entities, will

Einstein and Montefiore: An Evolving Relationship

1990



Montefiore employs joint Einstein-Montefiore faculty.

2009



Dean Allen M. Spiegel, M.D., and Steven M. Safyer, M.D., president and CEO of Montefiore, sign a renewal agreement reaffirming the partnership between Einstein and Montefiore. The two institutions agree that Einstein will administer research grants awarded to Montefiore.

soon be obsolete. There is now a clear path for us to be one organization. The agreement gives Montefiore the authority and responsibility to invest its resources and expertise in Einstein. We're going to be prudent and strategic, while building on traditions of excellence and success.

Will there be a Board of Trustees?

Dr. Safyer: Einstein will be its own 501c3, which means that it will be its own entity and will have a true Board of Trustees that will reside under the Montefiore umbrella.

Dean Spiegel: The newly reconfigured Board of Trustees will include a significant number of individuals who served as Einstein Overseers. Einstein's new Board chair, Roger Einiger, will play a pivotal role, as will former chair Ruth Gottesman; both have had an enormously positive influence on shaping Einstein's future. As chair of the Board's Finance and Executive Committees for the past several years,

"We'll continue to knit together our two institutions until we become a single culture."

— Dean Allen M. Spiegel, M.D.

Roger has brought a wealth of expertise to College of Medicine financial matters. Ruth is a great leader whose tangible legacies include Einstein's Stem Cell Institute and Center for Epigenomics, our Clinical Skills Center and the new Education Center—all of which have helped Einstein maintain its reputation as a leading research and educational institution.

Your close working relationship has helped lay the groundwork for this new agreement. Are you optimistic that your successors can keep the relationship healthy?

Dean Spiegel: The new agreement

transcends the skills and personalities of individual leaders. I suspect there will be many positive future developments that will build on each other to ensure that the Einstein-Montefiore relationship prospers and thrives for many years to come.

Dr. Safyer: We've worked together for nearly a decade to renew and strengthen the close ties that have long existed between Einstein and Montefiore. We share core values, including a deeply held commitment to social justice. Both institutions have historically welcomed people who were turned away elsewhere. As we pursue our mission of improving health in the Bronx and beyond, our combined strength makes for an extraordinary down payment on the future.

2012–14

2015



Continuing the effort begun in 1977 to develop unified departments, each headed by a single chair, Einstein and Montefiore jointly recruit Judy L. Aschner, M.D. (pediatrics), left; Mark P. Schoenberg, M.D. (urology); Matthew N. Bartels, M.D. (physical medicine and rehabilitation); and Sharmila K. Makhija, M.D. (obstetrics & gynecology and women's health).



The YU-Montefiore agreement is finalized. Montefiore has operational and financial responsibility for Einstein, and Einstein becomes its own legal entity. Transfer to Montefiore of Einstein clinical programs (e.g., the Division of Substance Abuse, the Children's Evaluation and Rehabilitation Center) is complete.



PROFILE: STEVEN M. SAFYER, M.D. '82
CEO and President, Montefiore Health System
Leading the Way in Transforming Community Healthcare

Dr. Steven Safyer has long viewed the world through the eyes of a social activist. In his youth, he campaigned for civil rights and protested the Vietnam War. As a student at Einstein and after graduation in 1982, he served in Montefiore's Rikers Island Health Services.

Dr. Safyer completed his internship and residency in social medicine at Montefiore, became board certified in internal medicine—and continued his work at Rikers “because the health needs were staggering and I felt the opportunity to make a difference,” he says. His leadership ability already evident, by

1990 he was executive director of the Rikers Island Health Services, a position he held through 1993. In that capacity he helped develop a program to treat prisoners who had drug-resistant tuberculosis, fought for a state-of-the-art TB hospital and led efforts to stem the HIV/AIDS epidemic.

Dr. Safyer's own experience helps him relate to medical center staffers who deliver healthcare to vulnerable populations.

From Activist to Health Leader

Dr. Safyer now heads the Montefiore Health System, one of America's largest not-for-profit healthcare systems. During his 33 years at Montefiore, Dr. Safyer has worked to ensure that the community has ample healthcare access and that Montefiore patients receive the highest standard of excellence in care, regardless of their ability to pay. He has led Montefiore to become an Accountable Care Organization, integrating care and reimbursements so that Montefiore does

better when its patients do better. His efforts have landed him for five consecutive years on *Modern Healthcare/Modern Physician* magazine's list of America's 50 most influential healthcare executives.

Since 2008, when Dr. Safyer became president and chief executive officer of Montefiore, the medical center has grown more quickly than at any time in its history. It recently acquired several hospitals in the Bronx and lower Westchester, as well as a nursing home. A 280,000-square-foot ambulatory care facility at the Bronx's Hutchinson Metro Center opened in fall 2014, and now Montefiore is in nearly 200 locations across the Bronx and Westchester.

Promoting Preventive Healthcare

Dr. Safyer has long believed that access to quality healthcare is a human right—but he's also a pragmatist who leads an organization with over \$4 billion in annual revenue.

"Montefiore takes full responsibility for its patients," he says. "We provide patient-centered care focused on exceptional quality and improved outcomes that ultimately result in well-coordinated, cost-effective healthcare across all areas of our health system." He views the Affordable Care Act—with its emphasis on expanding healthcare insurance and strengthening preventive care—as critical to achieving those ends.

The obesity, diabetes and cardiovascular disease epidemics affecting many of the Bronx's 1.4 million residents are of particular concern to him. Montefiore's efforts focus on helping people change a few core behaviors with targeted interventions that can affect outcomes for these chronic diseases.

In 2012, Dr. Safyer had candy- and soda-vending machines removed from

Dr. Safyer has long believed that access to quality healthcare is a human right.

Montefiore, and he has championed healthier food options for patients and employees at Montefiore's sites in the Bronx and Westchester. "We can start losing weight together," he says. "We've got to walk the walk."

Einstein Connections

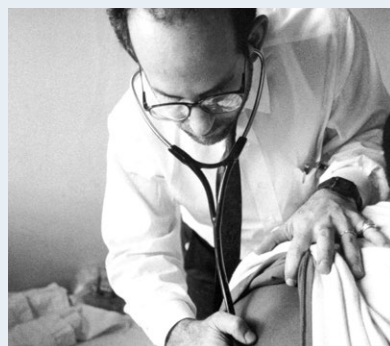
Dr. Safyer's relationship with his alma mater has come full circle. As the speaker at Einstein's Commencement in 2010, he spoke about his medical education and the opportunities it gave him to make a difference. At last year's Commencement, the Einstein Alumni Association recognized his outstanding accomplishments with its 2014 Lifetime Achievement Award.

Dr. Safyer has one other important



Dean Spiegel confers upon Dr. Safyer the Alumni Association's 2014 Lifetime Achievement Award.

Einstein connection: his wife, Paula Marcus, M.D. '82. The couple met in the Max L. and Sadie Friedman Student Faculty Lounge on their first day at Einstein and married during medical school. Dr. Marcus is now an associate professor of clinical psychiatry and behavioral sciences on the Einstein faculty and director of transplant psychiatry at Montefiore, where she helps address the mental health needs of transplant patients and donors. **E**



Above, Dr. Safyer in earlier days. Right, the 2014 opening of the Montefiore Hutchinson Campus. From left, Assemblyman Michael Benedetto; Susan Solometo, vice president of clinical services, Montefiore; Joseph Simone, president, Simone Development Companies; Dr. Safyer; Senator Ruth Hassell-Thompson; and Melissa Cebollero, Bronx borough president's office.



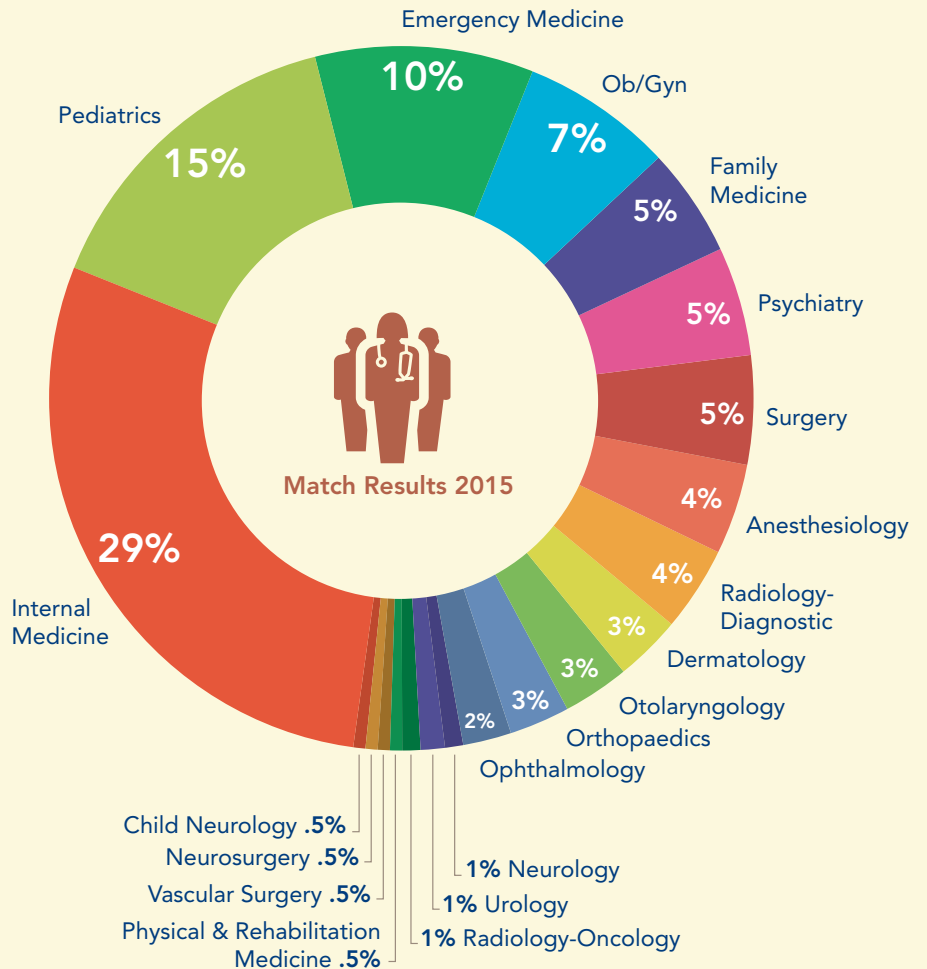


Match Day 2015

At medical schools around the country in March, members of the class of 2015 opened their personalized envelopes and learned where they would launch their careers as doctors and in what specialties they would conduct their residency training. “Match Day is one of the most exciting days in the life of a medical student,” says Stephen G. Baum, M.D., senior associate dean for students.

Most Einstein graduates were overjoyed with their matches. Montefiore was the most popular choice, with 25 students matching there. Of the 191 Einstein students who matched, 96 will enter the three primary care medical specialties: 56 matched to internal medicine residencies, 30 to pediatrics and 10 to family medicine. Other top matches were: emergency medicine (19), obstetrics & gynecology (13), psychiatry (9), surgery (9), diagnostic radiology (7) and anesthesiology (7).

Spikes in popularity occurred for family medicine (5.2 percent of matches, up from 2.8 percent last year) and emergency medicine (9.9 percent, up from 6.8 percent).



On Becoming a Scientist

Two “nanocourses” for Ph.D. students are the brainchildren of Erik L. Snapp, Ph.D., an associate professor of anatomy and structural biology. “I’d heard colleagues comment that students entering their courses had differing skills,” says Dr. Snapp. He designed a weeklong program to fill the gaps. (Only a handful of other science-oriented schools, Harvard Medical School among them, offer such a program.) This fall during orientation, 22 Einstein Ph.D. students took part in the mandatory program, now in its second year.

“In the mornings it was ‘Experimental Design and Interpretation’: What questions should I ask? What controls do I need? Do the results make sense?” says Dr. Snapp. After lunch, which included philosophical discussions with faculty members, came “Modern Methods of Biomedical Science.” Topics included choosing a journal for publication and “big science” versus lab research. One addition since the program’s debut last fall was an emphasis on practical skills, such as working with data and getting the most out of a lab notebook.

Students enjoyed referring to the intensive course as Dr. Snapp’s “boot camp.” At the end of the program, one student described the course as “a must-have for incoming students! I got to learn loads of new stuff about academic research apart from science itself.” Another student said, “This course ended up really helping me to ease into graduate school.”

Population Health and the Practice of Medicine

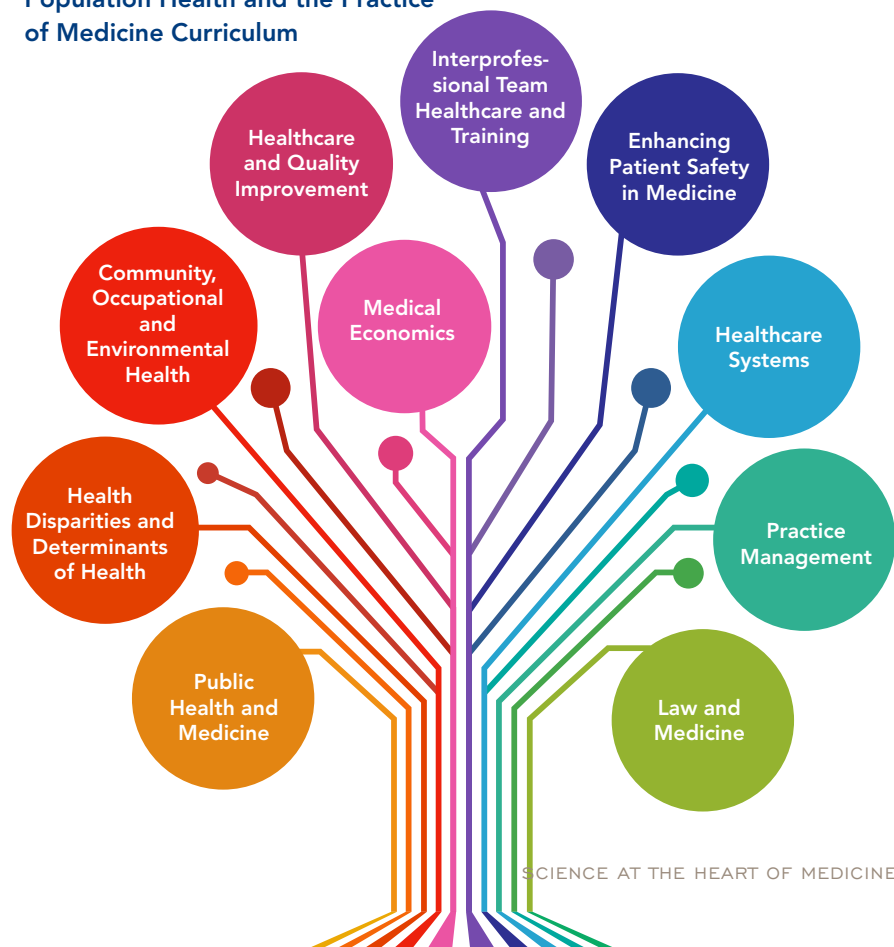
To help patients and families navigate the U.S. healthcare system, physicians need to understand the system’s intricacies and medical economics,” says Pablo A. Joo, M.D., assistant dean for medical education. To that end, Dr. Joo chaired an Einstein working group of faculty, students and experts that developed a Population Health and the Practice of Medicine curriculum with content and learning objectives in 10 areas—see diagram below.

Einstein professors have incorporated aspects of the new curriculum into their courses. In the family medicine clerkship, for example, Einstein medical students and Columbia nurse practitioner students do team-based learning exercises to solve problems involving primary care patients.

Microbiology students receive hands-on experience with Montefiore quality improvement officers in reducing hospital-acquired infections. In the pediatrics clerkship, students practice informing families about medical errors. Ambulatory-care students learn about health policy, financial reimbursements to providers and institutions, health insurance, drug formularies and prior authorizations, and issues around medical malpractice.

Einstein students appreciate the interdisciplinary effort to strengthen their education. Says Dr. Joo, “This new curriculum promotes many of Einstein’s educational competencies, especially ‘physician as advocate and colleague.’ We are producing physicians who can fully meet the needs of patients and society.”

Population Health and the Practice of Medicine Curriculum



Einstein Ranks Higher

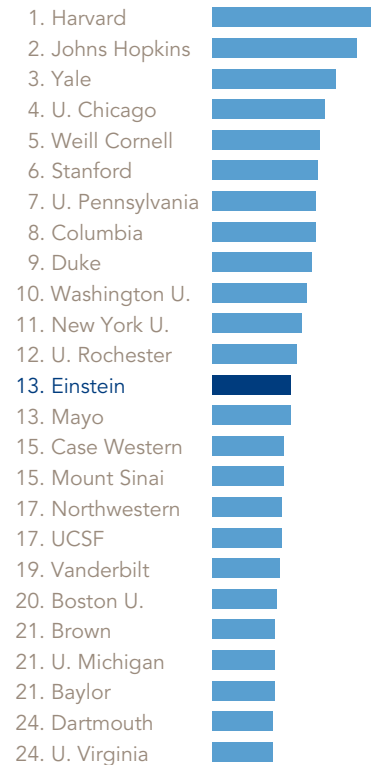
A new method for assessing research-intensive medical schools puts Einstein in 13th place—in the top 10 percent of American medical schools and above its current place in the 2014 *U.S. News & World Report (USN&WR)* ranking. Physicians at Brigham and Women’s Hospital and the University of California, San Francisco, and the research director of Doximity, the largest medical professional network in the United States, developed the evaluation method. Their study appeared in the May issue of *Academic Medicine*.

While *USN&WR* evaluates the quality of entering students, the new model assesses medical education. The authors collected data on more than 600,000 physicians and 127 medical schools they attended, rating each

physician on publications, grants, clinical trials and awards/honors. Noting “important differences” between their ranking system and *USN&WR*’s, the authors singled out Einstein, whose graduates “excelled at obtaining awards and NIH grants.” The authors concluded, “The backbone of our academic medical system is physicians’ contribution to knowledge creation through research. We believe our rankings model can help identify institutions with a track record of success in producing such physicians.”

A proposed method for evaluating research-intensive medical schools rates school graduates on publications, grants, clinical trials and awards/honors. The new method ranked Einstein 13th out of 127 medical schools—in the top 10 percent.

Medical Schools Ranked by Graduates’ Accomplishments



Give to the Einstein Alumni Association Annual Fund



A SCHOLARSHIP CAN EMPOWER A GIFTED EINSTEIN STUDENT TO BECOME

- A world-class investigator
- A caring and curing physician

“It’s a relief to know I’ll be able to choose my future career based on my passions and interests, without the burden of enormous student debt.”

– Joy Goldstein, Class of 2016, Alumni Scholarship recipient



Albert Einstein College of Medicine

To donate, visit us online at www.einstein.yu.edu/alumni.
Designate your gift or pledge to Albert Einstein College of Medicine.
For more information: 718.430.2013 or alumni@einstein.yu.edu.

Welcome



Ulrich P. Jorde, M.D.

Einstein welcomes Dr. Jorde as vice chief of the division of cardiology at Einstein and Montefiore, and as an attending physician and section head of heart failure, cardiac transplantation and mechanical circulatory support at Montefiore.

Dr. Jorde comes to us from Columbia University, where he was an attending physician and medical director of the mechanical circulatory support program at New York–Presbyterian Hospital/Columbia University Medical Center and a professor of medicine at the Columbia University College of Physicians and Surgeons. He is already familiar with Einstein, having completed his cardiology fellowship here in the late 1990s.



Theodore A. Kastner, M.D.

Einstein and Montefiore have named Dr. Kastner co-director (with Steven U. Walkley, D.V.M., Ph.D.) of the Rose F. Kennedy Center and director of its clinical arm, the Children's Evaluation and Rehabilitation Center (CERC). He was also appointed associate professor of clinical pediatrics and the Ruth L. Gottesman Chair in Developmental Pediatrics at Einstein and director of the division of developmental medicine in the department of pediatrics at Einstein and the Children's Hospital at Montefiore.

For the past 18 years, Dr. Kastner has served as president of Developmental Disabilities Health Alliance, Inc., the largest provider of healthcare services to intellectually and developmentally disabled persons in New Jersey. He currently directs a grant awarded to CERC to improve access to services for people with developmental disabilities in the Bronx and Westchester.

Dr. Kastner has also served as a consultant to the U.S. Department of Justice and other organizations and agencies.



Sharmila K. Makhija, M.D., M.B.A.

Dr. Makhija has joined Einstein and Montefiore as professor and chair of obstetrics & gynecology and women's health and the Chella and Moise Safra Chair in Obstetrics & Gynecology and Women's Health. An internationally recognized expert in cancer prevention, Dr. Makhija was previously chair and professor of obstetrics and gynecology at the University of Louisville School of Medicine.

Her clinical and research focus is on gynecologic cancers, particularly ovarian and uterine cancers. She has participated in numerous clinical trials and translational research projects centered on developing targeted therapeutics and gene therapies and improving cancer guidelines and management. She has also championed the extension of cervical cancer clinical trials to underserved women.

Dr. Makhija is an alumna of the Executive Leadership in Academic Medicine Program for Women and has been included in *U.S. News and World Report's* Top Doctors list since 2008.



Mark P. Schoenberg, M.D.

Dr. Schoenberg has joined Einstein and Montefiore as professor and university chair of urology. He was previously at the Johns Hopkins University School of Medicine, where his clinical practice centered on caring for patients with all forms of bladder cancer. He has researched urinary markers for the early detection of cancer; regenerative medicine solutions to challenges of lower urinary tract reconstruction after surgery; and minimally invasive therapies for urologic malignancies.

Dr. Schoenberg is the author of *The Guide to Living with Bladder Cancer* and co-editor of *The Textbook of Bladder Cancer*. He is the past chair of the Medical Advisory Board of the Bladder Cancer Advocacy Network.

Lab Chat

Erik L. Snapp, Ph.D., studies the cell biology of chaperones—specialized proteins that fold newly synthesized proteins into their final three-dimensional structures. Using fluorescent tags and advanced imaging techniques, the researchers in his lab observe how chaperones interact with their partner proteins in living cells. Chaperones also recognize and help eliminate misfolded proteins from cells; failure of chaperones to control misfolded proteins underlies diseases such as Huntington's.

Dr. Snapp is an associate professor of anatomy and structural biology at Einstein.

Where are you from?

I was born and raised in Coos Bay, OR, the largest lumber shipping port on the West Coast. My dad was an avid outdoorsman and took me along from an early age. We'd wake up at 4 a.m. to fish for bass, steelhead or salmon or hunt for deer, elk or ducks.

What was your favorite outdoor experience?

Hiking the 500-mile Oregon section of the Pacific Coast Trail with a friend. It was a college graduation present from my parents, who mailed all our food to various drop points. We hiked the Cascade Range over two months, taking it slowly so we could climb a bunch of mountains—a total blast.

Could you describe your path from Oregon to Einstein?

I came East to attend Harvard undergrad and went hiking with the Harvard Outing Club. Then I returned to Oregon and attended Oregon Health & Science University, where I met my wife. I earned my Ph.D. studying the *Leishmania* parasite. During my Ph.D. work, green fluorescent protein (GFP) was cloned, and doing live-cell imaging using GFP-labeled proteins captured my imagination. I found my dream post-doc position at the National Institutes of Health, working with Dr. Jennifer Lippincott-Schwartz to exploit GFP to study protein dynamics in cells. In 2004, I was recruited to Einstein's new biophotonics center.

What inspired you to be a scientist?

Mrs. Hill's science table in first grade. There were fossils, crystals, skulls, a microscope and a terrarium with chameleons. For a class experiment, I did the classic vinegar-and-baking-soda reaction and thought it was so cool. I knew then that I wanted to understand how the world worked.

What do you like best about research?

Those moments when I look through the microscope and suddenly know something new that no one else on the planet has ever known.

Do you enjoy teaching?

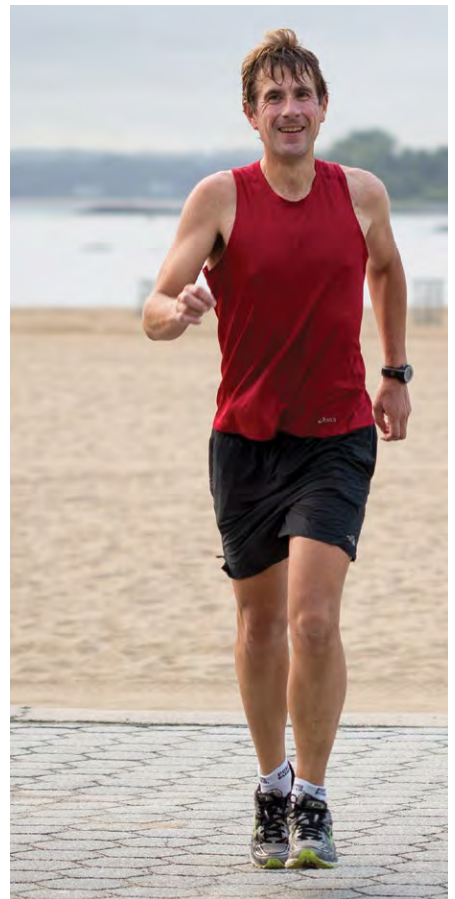
I love it. I developed a microscopy class and teach in the cell biology course. For the graduate ethics course, I developed a lecture on the ethics of imaging, explaining the difference between appropriate and inappropriate image manipulation.

Do you have any obsessions?

Running. I started about four years ago, as part of a lifestyle change to lose weight. I changed my diet, walked daily and lost 60 pounds, then started running when walking got boring. A nice thing about living on City Island is the many nearby running paths. I wake up at 6 and run six mornings a week. I'll be running in the Marine Corps Marathon in October in Washington, D.C.

Any other interests?

I love cooking and do a lot of barbecuing. I'm an avid gardener and recently started growing hops for beer-making. I also love to read, especially books by the Oregon writer Barry Lopez. My favorites are *Arctic Dreams* and *Desert Notes*.





Learning Critical Skills to Save Sight

Over the years, many medical schools in the United States have stopped teaching medical students how to use ophthalmoscopes for eye examinations. But the ophthalmoscope may one day make a comeback, taking its place alongside the stethoscope and blood pressure cuff as a basic tool in routine checkups.

Eye exams can help enormously in picking up health problems early—and not only problems involving the eye, such as retinopathy and glaucoma, says Roy S. Chuck, M.D., Ph.D., professor and chair of ophthalmology and visual sciences at Einstein and Montefiore, and the Paul Henkind Chair in Ophthalmology at Einstein.

Diseases such as diabetes, hypertension and increased intracranial pressure can visibly affect the eye. But when primary care physicians don't perform eye exams, patients must visit specialists such as ophthalmologists, which they frequently don't do, says Jamie B. Rosenberg, M.D., an assistant professor of ophthalmology and visual sciences and of pediatrics at Einstein and director of medical student education

in ophthalmology and visual sciences at Montefiore. "Often, by the time a patient visits an eye specialist, it can be too late," she says.

In her role at Montefiore, Dr. Rosenberg has developed a curriculum for ophthalmoscope training. The new curriculum evolved from a summer research project by third-year medical student Russell Levine, under Dr. Rosenberg's supervision. The study was designed to evaluate students' comfort with using the ophthalmoscope. "The exam typically takes less than one minute, and the information gleaned can be very meaningful," notes Mr. Levine.

The new program, geared to third-year medical students during their internal medicine rotation at Montefiore, consists of a half-day curriculum that includes simulation sessions, followed by practice on patients in the eye clinic and on each other. Thanks to a \$10,000 donation from the Bronx Lions Club, Dr. Rosenberg was able to purchase 50 low-cost ophthalmoscopes for the program.



The ophthalmoscope may one day make a comeback, taking its place alongside the stethoscope and blood pressure cuff as a basic tool in routine checkups.



Top, Jamie Rosenberg, M.D., with medical student Russ Levine.

Above, eye exams can reveal not only early signs of eye disease, such as retinopathy and glaucoma, but complications of diabetes, hypertension, increased intracranial pressure and other conditions, says Roy S. Chuck, M.D., Ph.D.

Einstein Blog Wins Award

Einstein’s blog, *The Doctor’s Tablet*, has been named the best nonprofit blog for 2015 by PR Daily, an influential outlet run by Ragan Communications. Its write-up called the blog a “clear winner” and “beautifully executed.”

The blog invites Einstein faculty,

students and guest posters to share their perspectives on news and issues in medicine, medical education, biomedical research and health policy. But it’s more than just a way to see and be seen. According to PR Daily, the blog humanizes the Einstein brand “by

giving a voice and a face to the people behind the brand and elevates the school’s reputation as a valuable source of information.”

New content is posted twice a week. The blog resides at <http://blogs.einstein.yu.edu/>.

Among the most-read *Doctor’s Tablet* posts in three key areas have been:



Education

- Seeking Mental Health Services as a Medical Student
- Medical Students as Patient Advocates



Health

- Parental Identity and an Autism Diagnosis
- How Loneliness Affects the Mind and Body



Research

- Shedding the Stigma of Miscarriage
- Study of Latinos (SOL): Advancing Science, Improving Lives

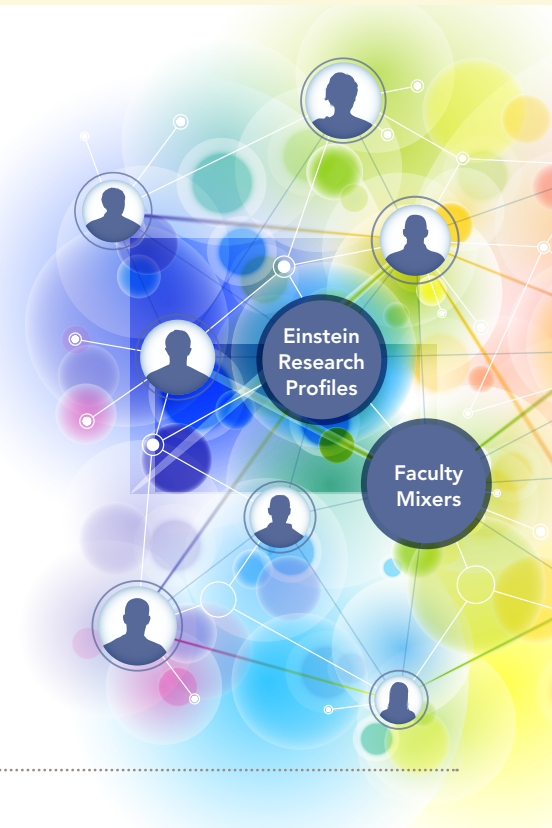
Getting to Know You

The Einstein community—especially the faculty—has two great ways of keeping up with developments and encouraging collaborations.

Einstein Research Profiles. “To find out who is working on what, Einstein Research Profiles is the easy way to go,” says Harry Shamoon, M.D., associate dean for clinical and translational research and a professor of medicine at Einstein, director of the Harold and Muriel Block Institute for Clinical and Translational Research at Einstein and Montefiore, and an attending physician in medicine at Montefiore. Enter via

www.einstein.yu.edu/erp and search by name to view a researcher’s profile, showing areas of expertise, publications, National Institutes of Health grants and more. Or search by scientific terms to get a longer list of faculty members.

Faculty Mixers. For face-to-face networking, Einstein’s faculty interactions committee sponsors a monthly “Seeds for Collaboration” mixer in the Max L. and Sadie Friedman Student Faculty Lounge, complete with refreshments and five-minute researcher presentations.



Social Media: Einstein Online



Einstein magazine is also online at magazine.einstein.yu.edu

In Memoriam

Stephen A. Udem, Ph.D. '71, M.D. '72

Dr. Stephen Udem died of lymphoma on January 11, 2014. He was 69.

Dr. Udem was a renowned physician-scientist whose research focused on RNA viruses that cause human respiratory diseases. He made major contributions to vaccine design and development.

He earned a Ph.D. in genetics and cell biology and an M.D. degree in Einstein's Medical Scientist Training Program. In 1976, he joined the Einstein faculty in the departments of medicine, of cell biology and of microbiology & immunology, and rose to the rank of full professor. He later helped lead the International AIDS Vaccine Initiative.

Dr. Udem published many scientific papers, held several patents and was elected to Einstein's Leo M. Davidoff Society for teaching excellence.

Stanley F. Altman, M.D.

Dr. Stanley Altman passed away on July 18, 2014, at the age of 91.

Dr. Altman was a member of the Einstein faculty from 1958 to 1987. He started as a clinical instructor of surgery and rose to the rank of associate professor of surgery. He also served as surgical director of emergency services at Jacobi Medical Center (then known as Jacobi Hospital) and practiced vascular and general surgery at Montefiore for nearly 20 years. Dr. Altman wrote several articles on groundbreaking surgical techniques. His son Mark P. Altman, an orthopedic surgeon, is a member of Einstein's Class of 1982.

Dhananjay K. Kaul, Ph.D.

Dr. Dhananjay Kaul, a professor of medicine (hematology), died on November 17, 2013.

Dr. Kaul's research laboratory focused on the mechanisms of vascular dysfunction in hemolytic disorders such as sickle cell disease and thalassemia. His studies were directed toward understanding mechanisms that contribute to endothelial abnormalities, altered microvascular regulation and abnormal blood cell-endothelium interactions in these hemolytic disorders. Another major research goal was to understand how sickle red cells lead to vascular endothelial damage, apoptosis, platelet activation and vaso-occlusion. His laboratory was at the forefront in defining mechanisms involved in pathologic cell adhesion.

Adrienne Asch, Ph.D.

Dr. Adrienne Asch, a professor of epidemiology & population health and of family and social medicine at Einstein for 10 years, passed away on November 19, 2013.

Dr. Asch also taught at the Wurzeiler School of Social Work and the Cardozo School of Law, and was director of the Center for Ethics at Yeshiva University.

Her work focused on bioethics, reproductive rights, professional ethics and disability. She was an engaged activist; her passion for her subject was partly informed by her blindness.

Also a prolific scholar, Dr. Asch wrote numerous articles and book chapters and was the co-editor of *Prenatal Testing and Disability Rights* and *The Double-Edged Helix: Social Implications of Genetics in a Diverse Society*.

Anne B. Johnson, M.D.

Dr. Anne Johnson, an associate professor emerita of pathology and of neuroscience, passed away on February 16 at age 87.

Dr. Johnson's Einstein career spanned

43 years, from 1959 until 2002. She studied genetic childhood diseases and was one of 10 Einstein faculty members who collaborated on groundbreaking research that identified a group of rare inherited metabolic disorders known as peroxisomal diseases. In addition, she studied lysosomal storage diseases together with Isabelle Rapin, M.D., a professor emerita in the Saul R. Korey Department of Neurology and the department of pediatrics. Dr. Johnson also did pioneering work on Alexander disease, caused by a mutation affecting glial fibrillary acidic protein.

Ronald M. Burde, M.D.

Dr. Ronald Burde died on February 23 from complications of Parkinson's disease. He was an emeritus university professor in the department of ophthalmology, in the department of neurology and in the Leo M. Davidoff Department of Neurological Surgery at Einstein and Montefiore.

Dr. Burde chaired the ophthalmology department from 1988 until he retired in 2000. He wrote 200 scientific papers and brought a deep understanding of experimental science to the study of neuro-ophthalmology. His colleagues and students admired him as a compassionate physician and inspirational leader who approached clinical issues with intensity and keen logic.

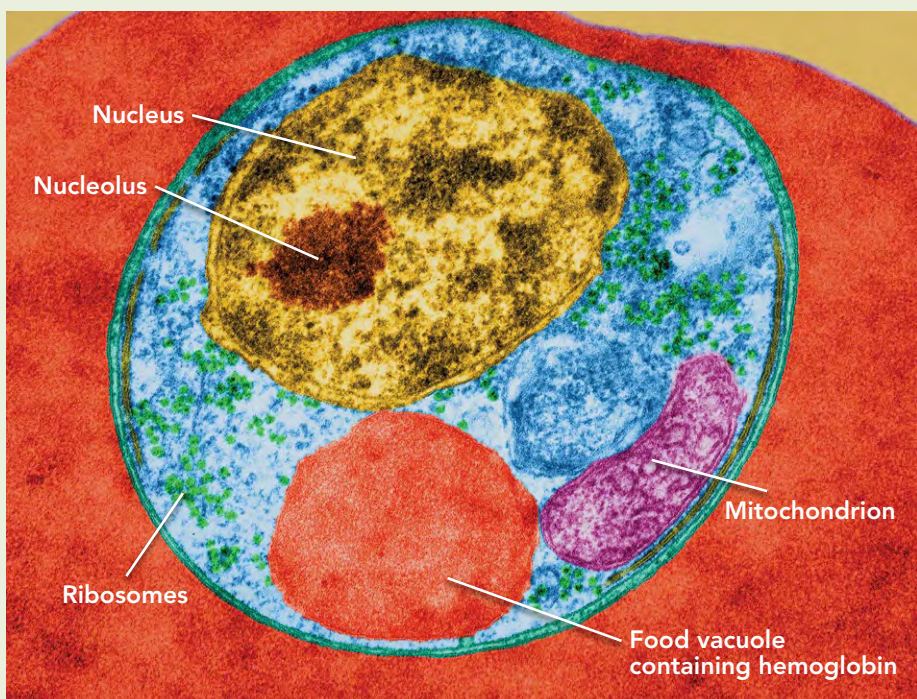
He received numerous academic honors and served on the editorial boards of many scientific journals. Dr. Burde counted his work with the many fellows and residents he trained among his proudest accomplishments.

Finding Drugs to Combat Malaria

Each year nearly 600,000 people—mostly children under age 5 and pregnant women in sub-Saharan Africa—die from malaria, caused by single-celled parasites that grow inside red blood cells. The most deadly malarial species—*Plasmodium falciparum*—has proven notoriously resistant to treatment. But thanks to a novel approach developed by Einstein scientists and described earlier this year in *ACS Chemical Biology*, researchers can readily screen thousands of compounds to find those potentially able to kill *P. falciparum*.

Scientists have known for more than a decade that malaria parasites have an Achilles' heel: Like all cells, they require two key building blocks—purines and pyrimidines—to synthesize their DNA and RNA. But malaria parasites can't synthesize purines on their own. Instead, they must import purines from the host red blood cells that they invade. A parasite protein called PfENT1 transports purines from the blood cells into the parasites. So drugs that block PfENT1 could conceivably kill the parasites by depriving them of purines they need—but an experimental approach for identifying PfENT1 inhibitors didn't exist, until now.

Einstein's Myles Akabas, M.D., Ph.D., developed a novel yeast-based high-throughput assay for identifying inhibitors of the PfENT1 transporter. Dr. Akabas worked with two Medical Scientist Training Program students in his lab (I. J. Frame and Roman Deniskin) as well as colleagues at Einstein (Ian M. Willis, Ph.D., a professor of biochemistry and of systems & computational biology, and Robyn D. Moir, Ph.D., an instructor in the department of biochemistry)



This colorized photomicrograph (x22,275) shows the young trophozoite stage of a single-celled *Plasmodium falciparum* parasite that has infected a red blood cell. Malaria is spread to humans by species of the *Anopheles* mosquito. *P. falciparum* initially multiplies in liver cells and later spreads to the blood. Trophozoites such as this one reproduce asexually, forming 8 to 32 new parasites in each infected red cell within 48 hours. These red cells ultimately burst and release the parasites, causing malarial symptoms, including shaking, chills and fever.

Scientists have known for more than a decade that malaria parasites have an Achilles' heel.

and at Columbia University (Donald W. Landry, M.D., Ph.D., and David A. Fidock, Ph.D.). The researchers used their technique to screen 64,560 different compounds and identified 171 compounds that showed antimalarial potential. Studies of nine of the most potent compounds showed that they kill *P. falciparum* parasites in laboratory culture.

“We've shown that the PfENT1 transporter is a potential drug target for

developing novel antimalarial drugs,” says Dr. Akabas, senior author of the *ACS Chemical Biology* paper and a professor of physiology & biophysics, of medicine and in the Dominick P. Purpura Department of Neuroscience at Einstein. “By using our rather simple approach, scientists could create similar high-throughput screens to identify inhibitors for killing other parasites that rely on transporters to import essential nutrients.”

The National Institutes of Health recently awarded Dr. Akabas and his Columbia University collaborators a five-year, \$3.45 million grant to use his high-throughput assay to find and develop antimalarial drugs. Einstein has applied for patents to cover this assay.

Joint Grant for Cancer Clinical Trials

The Montefiore Einstein Center for Cancer Care (MECCC) and the Albert Einstein Cancer Center (AECC) were awarded a \$3.4 million grant from the National Cancer Institute (NCI) to conduct multisite cancer clinical trials and research focused on reducing healthcare disparities in cancer care.

The five-year award comes through the newly established NCI Community Oncology Research Program (NCORP), a national network of investigators, cancer-care providers, academic institutions and other organizations that will conduct research to improve cancer diagnosis, treatment and management, particularly in minority and underserved communities. Montefiore and Einstein were chosen as one of 12 NCORP Minority/Underserved Clinical Sites.

The program will be conducted at the MECCC and directed by three investigators: Joseph A. Sparano, M.D., a professor of medicine (oncology) and of obstetrics & gynecology and women's health at Einstein, vice chair of medical oncology at the MECCC and associate director of clinical research at the AECC, will lead efforts in cancer therapeutics; Mark H. Einstein, M.D., M.S. '05, a professor and director of oncology research in the department of obstetrics & gynecology and women's health at Einstein and vice chair of research for the department at the MECCC, will oversee cancer prevention; and Bruce D. Rapkin, Ph.D., a professor of epidemiology & population health and of family and social medicine at Einstein and the MECCC, will focus on cancer control and delivery.

"The burden of cancer is not equally distributed in this country," says Dr.

Einstein, also a professor of epidemiology & population health. "Men and women of color have the highest incidence and death rates from cancer of any group. They tend to be diagnosed later in the course of their disease and have less access to well-established preventive and treatment measures. We will help change that." Dr. Einstein's research focus is on the prevention of cervical cancer due to human papillomavirus infection and the treatment of gynecologic malignancies.

In addition to leading cancer clinical research at Montefiore and Einstein, Dr. Sparano has helped minority populations gain access to cancer clinical trials as an essential part of cancer care. "Cancer mortality rates are declining rapidly as a result of improved treatment, screening and prevention, but improvements have lagged in minority

populations," says Dr. Sparano. "Clinical trials have provided a foundation for much of this improvement. The NCORP mechanism will allow us to integrate new approaches that may address this disparity."

Dr. Rapkin is a psychologist whose research focuses on developing community interventions for cancer and improving the quality of life of medically underserved individuals and communities. "Not only should quality cancer care be available to minority and underserved groups, but we need to remove other barriers to access, such as by improving health literacy and knowledge of preventive measures," says Dr. Rapkin. "We will continue to tap into our existing partnerships in the Bronx, Harlem and Queens to tease out the issues and develop ways to address them."



Mark H. Einstein, M.D., M.S. '05.

Healing Wounds With Nanoparticles

An experimental therapy developed by Einstein researchers has cut in half the time it takes to heal wounds compared to using no treatment at all. Details of the therapy, which was successfully tested in mice, were published in the *Journal of Investigative Dermatology*.

“Our nanoparticle therapy could be used to speed the healing of all sorts of wounds, including everyday cuts and burns, surgical incisions and chronic skin ulcers, which are a particular problem in the elderly and people with diabetes,” says study co-leader David J. Sharp, Ph.D., a professor of physiology & biophysics at Einstein.

Dr. Sharp and his colleagues had earlier discovered that an enzyme called fidgetin-like 2 (FL2) puts the brakes on skin cells as they migrate toward wounds to heal them. The researchers reasoned that the healing cells could reach their destination faster if their FL2 levels could be reduced. So they developed a drug that inactivates the gene that makes FL2 and then put the drug in tiny gel capsules called nanoparticles and applied the nanoparticles to wounds on mice. The treated wounds healed much faster than untreated wounds.

FL2 belongs to the fidgetin family of enzymes, which play various roles in cellular development and function. To learn more about FL2’s role in humans, Dr. Sharp suppressed FL2 activity in human cells in tissue culture. When those cells were placed on a standard wound assay (for measuring properties such as cell migration and proliferation), they moved unusually fast. “This suggested that if we could find a way to target FL2 in humans, we might have

a new way to promote wound healing,” says Dr. Sharp.

Dr. Sharp and project co-leader Joshua D. Nosanchuk, M.D., a professor of medicine at Einstein and attending physician in infectious diseases at Montefiore, developed a wound-healing therapy that uses gene-silencing mol-

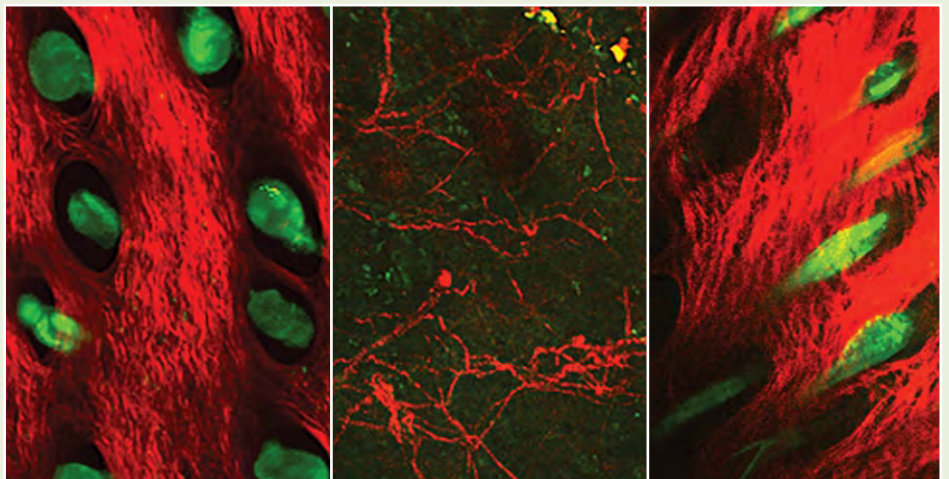
“We saw normal, well-orchestrated regeneration of tissue, including hair follicles and the skin’s supportive collagen network.”

ecules called silencing RNA (siRNAs) that are specific for FL2. They bind to a gene’s messenger RNA (mRNA), preventing the mRNA from being translated into proteins (in this case, the enzyme FL2). However, “siRNAs on their own won’t be effectively taken up by cells, particularly inside a living organism,” says Dr. Sharp. “They will

be quickly degraded unless put into some kind of delivery vehicle.”

To deliver siRNAs for curbing FL2, Dr. Sharp collaborated with Joel M. Friedman, M.D., Ph.D., a professor of physiology & biophysics and of medicine at Einstein, and study co-leader Adam Friedman, M.D., formerly director of dermatologic research at Einstein and Montefiore, who together had developed nanoparticles that protect molecules such as siRNA from being degraded as they ferry the molecules to their intended targets.

The nanoparticles with their siRNA cargoes were then tested by applying them topically to mice with either skin excisions or burns. In both cases, the wounds closed more than twice as fast as in untreated controls. “Not only did the cells move into the wounds faster, but they knew what to do when they got there,” says Dr. Sharp. “We saw normal, well-orchestrated regeneration of tissue, including hair follicles and the skin’s supportive collagen network.”



At left: Microscopy image of normal mouse skin showing collagen deposits (red) and hair follicles (green). The other two images show healed mouse skin 14 days after being burned. Center: Untreated wound contains disorganized collagen and few hair follicles. Right: Wound treated to deplete fidgetin-like 2 levels resembles normal mouse skin.

Brainwave Test for Autism

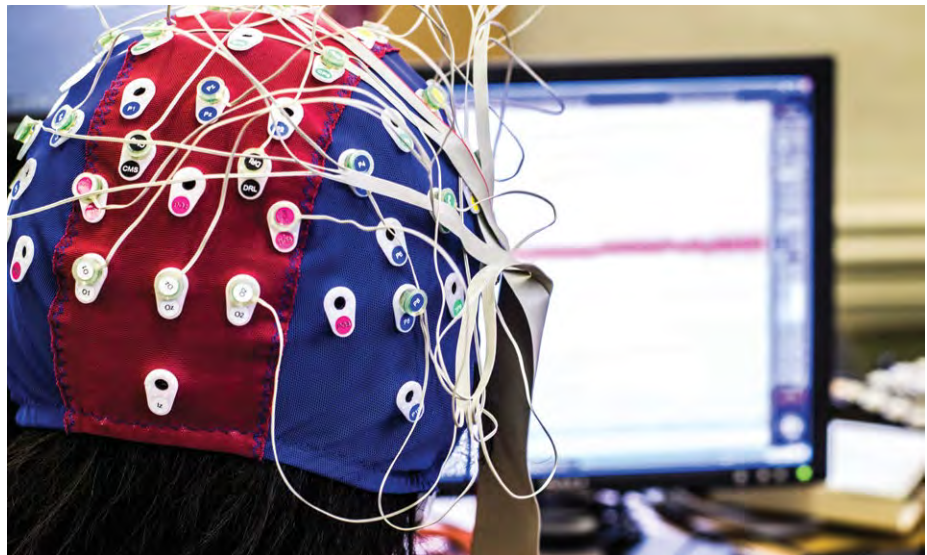
A study by Einstein researchers suggests that measuring how fast the brain responds to sights and sounds could help in objectively classifying people on the autism spectrum and may help in diagnosing the condition earlier. The paper was published in the *Journal of Autism and Developmental Disorders*.

The U.S. Centers for Disease Control and Prevention estimate that 1 in 68 children has been identified with an autism spectrum disorder (ASD). The signs and symptoms of ASD vary significantly from person to person, ranging from mild social and communication difficulties to profound cognitive impairments.

“One of the challenges in autism is that we don’t know how to classify patients into subgroups or even what those subgroups might be,” says study leader Sophie Molholm, Ph.D., an associate professor of neuroscience and of pediatrics and the Muriel and Harold Block Faculty Scholar in Mental Illness at Einstein. “This has greatly limited our understanding of the disorder and how to treat it.”

Autism is diagnosed based on a patient’s behavioral characteristics and symptoms. “These assessments can be highly subjective and require a tremendous amount of clinical expertise,” says Dr. Molholm, also the newly appointed director of the Sheryl and Daniel R. Tishman Cognitive Neurophysiology Laboratory. “We clearly need a more objective way to diagnose and classify this disorder.”

An earlier study by Dr. Molholm and colleagues suggested that brainwave electroencephalogram (EEG) recordings could potentially reveal how severely



ASD individuals are affected. That study found that children with ASD process sensory information—such as sound, touch and vision—less rapidly than typically developing children do.

The current study was intended to ascertain whether sensory processing varies along the autism spectrum. Forty-three ASD children, ages 6 to 17, were presented with either a simple auditory tone, a visual image (a red circle) or a tone combined with an image. They were instructed to press a button as soon as possible after hearing the tone, seeing the image or seeing and hearing the two stimuli together. Continuous EEG recordings were made via 70 scalp electrodes to determine how fast the children’s brains were processing the stimuli.

The speed with which the subjects processed auditory signals strongly correlated with the severity of their symptoms: the more time required for an ASD individual to process the auditory signals, the more severe that person’s autistic symptoms. “This finding is in line with studies showing that, in people with ASD, the microarchitecture in the brain’s auditory center differs from that

of typically developing children,” Dr. Molholm says.

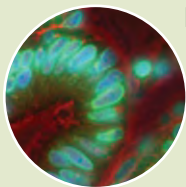
The study also found a significant though weaker correlation between the speed of processing combined audiovisual signals and ASD severity. No link was observed between visual processing and ASD severity.

“This is a first step toward developing a biomarker of autism severity—an objective way to assess someone’s place on the ASD spectrum,” says Dr. Molholm. “Using EEG recordings in this way might also prove useful for objectively evaluating the effectiveness of ASD therapies.”

In addition, EEG recordings might help diagnose ASD earlier. “Early diagnosis allows for earlier treatment—which we know increases the likelihood of a better outcome,” says Dr. Molholm. “But currently, fewer than 15 percent of children with ASD are diagnosed before age 4. We might be able to adapt this technology to allow for early ASD detection and therapy for a much larger percentage of children.”

Einstein Researchers Receive Grants

Every year, Einstein researchers garner millions of dollars in grants, primarily from the National Institutes of Health (NIH). (In 2014, the most recent federal fiscal year for which information is available, Einstein was awarded more than \$156 million in NIH grants, placing it 25th out of the 138 United States medical schools that receive NIH funding.) Other sources of research funding include pharmaceutical companies and organizations such as New York Stem Cell Science and the American Cancer Society. Described below are some of the larger grants that Einstein researchers have received over the past several months.



Diabetes Research

Einstein and the Icahn School of Medicine at Mount Sinai have received a \$10.5 million, five-year grant from the NIH to continue their Diabetes Research Center (DRC), which has been newly named the Einstein-Mount Sinai DRC. The regional collaborative combines Einstein's basic and clinical research strengths with Mount Sinai's beta cell and community outreach expertise. Researchers and clinicians at Montefiore Health System, Cornell University, Weill Cornell Medical College, Hunter College, Winthrop-University Hospital, Stony Brook University and NYU Langone Medical Center also participate. This new grant is part of an ongoing NIH effort to encourage multi-institution, regional research centers.

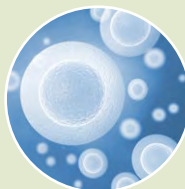
activation and inflammation. Research involving the brain's hypothalamus has shown that this pathway plays an important role in aging. Dr. Cai is studying hypothalamic astrocytes, a type of brain cell that supports neurons, and whether activation of the IKKb/NF- κ B pathway in astrocytes early in the aging process may cause these cells to produce inflammatory factors that damage neurons. Dr. Cai's lab will look at physiological, histological and molecular effects on mouse models in which individual components of the IKKb/NF- κ B pathway have been knocked out in particular cell types. These results could lead to better understanding of the precise cellular mediators of brain inflammation and may offer new targets for treating age-related illnesses in the brain. Dr. Cai is a professor of molecular pharmacology.

histone proteins to assemble chromatin, the physiological form of the genome containing epigenetic information. Epigenetics, information layered on top of the DNA in its histone packaging, is significant for its role in development and in cancer. The NIH grant supports his study of PRMT5-MEP50, a histone-modifying enzyme complex that is required for embryonic development but is overexpressed in many types of cancer. Dr. Shechter will investigate the biochemical mechanisms by which PRMT5-MEP50 targets the histone proteins essential for epigenetic regulation of embryonic development. Results from his work will be critical for new insight into cancer and for designing new drugs. Dr. Shechter is an associate professor of biochemistry.



The Brain and Aging

The National Institute of Aging has awarded Dongsheng Cai, M.D., Ph.D., a five-year, \$2.4 million grant to support his study of how aging processes may be affected by the IKKb/NF- κ B pathway involved in immune system



Enzymes, Embryos and Cancer

David Shechter, Ph.D., has been awarded a combined \$2.3 million in funding from the National Institute of General Medical Sciences of the NIH and the American Cancer Society (ACS). The ACS grant supports his study of regulation of the chaperones that escort



Focus on an Autoimmune Disease

Systemic lupus erythematosus (SLE) is an autoimmune disease that can involve neuropsychiatric symptoms that turn up early in the disease and can occur independently of non-neurologic SLE symptoms. Neuropsychiatric SLE is common and has a poor prognosis, yet its causes are not well understood

and there is no good therapy. Chaim Putterman, M.D., and colleagues have found evidence that a cytokine called TWEAK plays a major role in causing neuropsychiatric SLE in experimental animals, and that blocking TWEAK may be a novel treatment approach. Dr. Putterman has been awarded a five-year, \$2 million NIH grant to explore the role of TWEAK and its cell-surface receptor, Fn14, in causing neuropsychiatric SLE in a mouse model of the disease. Dr. Putterman is a professor of medicine and of microbiology & immunology at Einstein and chief of the division of rheumatology in the department of medicine at Einstein and Montefiore.



Studying Vertebral Defects

Embryonic structures called somites develop into vertebrae. The number of somites—and hence the number of vertebrae—varies widely among vertebrate species, from about 10 in frogs to 33 in humans to more than 300 in snakes. Ertugrul M. Ozbudak, Ph.D., and colleagues found evidence that all vertebrate species use a similar “vertebrate segmentation clock”—a gene-expression oscillator that paces rhythmic segmentation of the vertebral column during embryonic development. Dr. Ozbudak has received a five-year, \$1.9 million NIH grant in which he will use a model organism—the zebrafish—to find the genes involved in this oscillator mechanism. The genetic causes of many vertebral defects are unknown, and gene mutations involved in the oscillator mechanism are prime

candidates for causing many of the birth defects affecting the vertebral column. Dr. Ozbudak is an associate professor of genetics.



Renewed Support

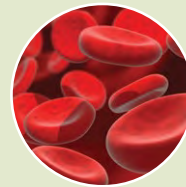
Pablo E. Castillo, M.D., Ph.D., has received two renewal grants from the NIH—one for \$1.83 million over four years and another for \$1.67 million over five years. The funds from each of these grants support Dr. Castillo’s continued studies exploring how information is transferred between particular nerve cells and how changes in these pathways can affect various neuropsychiatric conditions. He is a professor in the Dominick P. Purpura Department of Neuroscience and holds the Harold and Muriel Block Chair in Neuroscience.



Stem Cell Funding

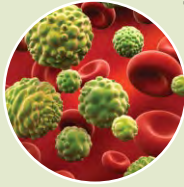
New York Stem Cell Science (NYSTEM) recently awarded the Ruth L. and David S. Gottesman Institute for Stem Cell and Regenerative Medicine Research, directed by Paul S. Frenette, M.D., an institutional training grant of \$1.8 million. The NYSTEM funding will support the institute in providing individual investigators and multidisciplinary teams with the resources needed to train the next generation of scientists in stem cell biology; advance scientific knowledge in stem cell biology and breakthroughs in regenerative medicine; foster collaboration and innovation; and

translate basic science discoveries into novel stem cell–based therapies that affect clinical care. In the five years since its inception, the institute has recruited new faculty members with fundamental research interests in stem cells; they have significantly strengthened the program. Dr. Frenette is also a professor of medicine (hematology) and of cell biology.



Novel Target for Blood Disease

Myelodysplastic syndromes (MDS) are a diverse group of incurable diseases that affect the bone marrow and are common among the elderly. MDS cause low blood counts, and 25 to 30 percent of MDS cases develop into an aggressive disease called acute myeloid leukemia. Amit K. Verma, M.B.B.S., and colleagues have shown that abnormally elevated levels of microRNA-21 (miR-21) in bone marrow may play a key role in causing MDS—and that miR-21 inhibitors have the potential for reversing the diseases. The NIH has awarded Dr. Verma a four-year, \$1.4 million NIH grant to carry out further research on miR-21’s role in MDS. For example, he will investigate why miR-21 is upregulated in MDS, and he will study the effectiveness of novel inhibitors of miR-21 in human MDS cell samples and in mouse models of bone marrow failure. Dr. Verma is a professor of medicine (oncology) and of developmental and molecular biology at Einstein and chief of the division of hemato-oncology at Montefiore.



Targeting a Cancer Pathway

Phosphoinositide (PI) 3-kinases (PI3Ks) are intracellular enzymes

that play an important role in cell proliferation, survival and metabolism. A particular form of PI3K called PI3KCB is unusual because it is regulated by G-protein coupled receptors (GPCRs). Importantly, PI3KCB has been implicated in the growth of tumors driven by mutations of the PTEN tumor-suppressor gene. Jonathan M. Backer, M.D., and Anne R. Bresnick, Ph.D., have received a four-year, \$1.2 million NIH grant to investigate the mechanisms that regulate the activity of PI3KCB in normal and malignant cells. This work may lead to the design of novel drugs that target PI3Ks that are regulated by GPCRs in human cancers. Dr. Backer is a professor of molecular pharmacology and of biochemistry, and Dr. Bresnick is a professor of biochemistry.

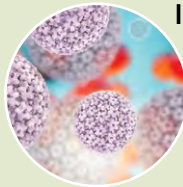


Improving Drug Therapy

The NIH has awarded \$1.1 million over three years to Thomas S. Leyh, Ph.D., to study

human sulfotransferases (SULTs)—a 13-member family of enzymes that modulate interactions between hundreds of small molecules and their respective receptors. Dr. Leyh and colleagues will try to better understand the role of this enzyme family in biology and disease. SULTs inactivate hundreds of FDA-approved drugs through a process called sulfation. One aim of the research is

to prevent sulfation by inserting side chains into FDA-approved drugs that will increase the concentration and half-lives of the active forms of these drugs in vivo. Ideally, this strategy will prevent sulfation without inhibiting the SULTs or reducing the drugs' effectiveness. Dr. Leyh is a professor of microbiology & immunology.



Innovative Teamwork to Develop Drugs

Under an agreement signed late last year between Pfizer, Inc.,

and Einstein, Pfizer will collaborate with **Xingxing Zang**, Ph.D., on cancer immunotherapy research. Pfizer's funding and other assistance for this project come through the pharmaceutical company's Centers for Therapeutic Innovation, one of Pfizer's research units that is focused on academic-industry collaborations and designed to transform innovative, early-stage scientific discoveries into new drugs. Dr. Zang's research focuses on immunotherapy, which involves modulating the immune system—to revving it up or slowing it down—to treat major diseases such as cancer and autoimmune diseases. The research will be carried out in Einstein's core facilities as well as at Pfizer. Dr. Zang is an associate professor of microbiology & immunology and of medicine (oncology) and the Miriam Mandel Faculty Scholar in Cancer Research.



New Chair for Microbiology & Immunology

Steven A. Porcelli, M.D., is the new chair of Einstein's department of

microbiology & immunology.

Dr. Porcelli is the Murray and Evelyne Weinstock Chair in Microbiology and Immunology and a professor of medicine at Einstein. He was recruited to Einstein as an associate professor of immunology in 1999. Since 2004 he has served as scientific director of Einstein's Flow Cytometry Core facility and of FACS (fluorescence-activated cell sorting) resources for the Einstein-Montefiore Center for AIDS Research.

Dr. Porcelli's work has helped reveal how the immune system responds to tuberculosis infection. His research is supported by four major NIH grants with current annual funding totaling approximately \$1.36 million. He is also supported by a \$113,000 grant from the Bill & Melinda Gates Foundation to help develop vaccines to prevent HIV infection.

Dr. Porcelli takes over from Arturo Casadevall, M.D., Ph.D., whose Einstein career spanned 26 years, beginning with his infectious-diseases fellowship in 1988 and culminating in his position as chair of the department of microbiology & immunology since 2006. Dr. Casadevall has accepted a position at the Johns Hopkins Bloomberg School of Public Health.

Miscarriage Widely Misunderstood

An Einstein-Montefiore survey of more than 1,000 U.S. adults has found widespread misperceptions about miscarriage and its causes. The findings were published in the journal *Obstetrics & Gynecology* last spring.

Nearly one million miscarriages occur in the United States each year. Miscarriages end one in every four pregnancies and are by far the most common of all pregnancy complications. Yet 55 percent of respondents to the Einstein-Montefiore survey believed that miscarriages are “uncommon” (defined in the survey as less than 6 percent of all pregnancies).

“Miscarriage is a traditionally taboo subject that is rarely discussed publicly,” says S. Zev Williams, M.D., Ph.D., director of the Program for Early and Recurrent Pregnancy Loss (PEARL) at Einstein and Montefiore. “We initiated this survey to assess what the general public knew about miscarriage and its causes and how miscarriage affects them emotionally.” Dr. Williams is also an assistant professor of obstetrics &

gynecology and women’s health, and of genetics, at Einstein.

Dr. Williams and his colleagues devised a 33-item survey to assess perceptions of miscarriage; 10 items were specifically directed to men or women reporting a history of miscarriage. Fifteen percent of participants reported that they or their partner had suffered a miscarriage.

Among other significant survey findings:

- Twenty-two percent of participants incorrectly believed that lifestyle choices during pregnancy (such as smoking or using drugs or alcohol) are the single most common cause of miscarriage, more common than genetic or medical causes. Actually, 60 percent of miscarriages are caused by a genetic problem: abnormal chromosomes.
- Twenty-eight percent of those suffering a miscarriage reported that celebrities’ disclosure of miscarriage had eased their feelings of isolation, and 46 percent said they felt less alone when friends disclosed their own miscarriages.

- Participants incorrectly believed that a stressful event (76 percent) or long-standing stress (74 percent) can cause miscarriage. Other incorrectly perceived causes of miscarriage included lifting heavy objects (64 percent) and having had a sexually transmitted disease (41 percent).
- Of men and women reporting that they or their partner had experienced a miscarriage, 47 percent reported feeling guilty, 41 percent felt they had done something wrong, 41 percent reported feeling alone and 28 percent reported feeling ashamed. Only 45 percent felt they had received adequate emotional support from the medical community.

“Our survey results indicate widespread misconceptions about the prevalence and causes of miscarriage,” says Dr. Williams. “Because miscarriage is very common but rarely discussed, many women and couples feel very isolated and alone after suffering a miscarriage.

“We need to better educate people about miscarriage, which could reduce the shame and stigma associated with it.”

Horwitz Prize Honors Dr. John Condeelis

The ninth Marshall S. Horwitz Prize Lecture drew nearly 300 members of the Einstein community to Robbins Auditorium on March 16. The prize recognizes excellence in faculty research and was awarded this year to John S. Condeelis, Ph.D., a professor and co-chair of anatomy and structural biology.

Dr. Condeelis’ innovative microscope technologies have led to fundamental discoveries involving the tumor microenvironment—the microscopic site where tumor cells interact with surrounding cells. His talk was titled “How Tumors Spread and How to Stop Them.”

Dr. Condeelis is also the Judith and Burton P. Resnick Chair in Translational Research, co-director of the Gruss Lipper Biophotonics Center, co-director of the EGL Charitable Foundation Integrated Imaging Program, scientific director of the Analytical Imaging Facility and director of the Tumor Microenvironment of Metastasis Program of the Albert Einstein Cancer Center.



Edward R. Burns, M.D. '76, Einstein's executive dean, and John S. Condeelis, Ph.D., who has found that the tumor microenvironment influences breast cancer metastasis.



Anna Estep and her daughter, Dominique, who has Rett syndrome.

Solving RETT SYNDROME

Scientists at Einstein and Montefiore are seeking ways to treat this rare disease and help locked-in patients communicate with the outside world

BY GARY GOLDENBERG



s there anybody in there?” That was her recurring thought when Aleksandra “Sasha” Djukic, M.D., Ph.D., started

seeing children with Rett syndrome, a rare genetic disorder that severely compromises muscle control early in life.

Since Rett girls (affected boys rarely survive infancy) are effectively “locked in”—unable to talk, gesture or communicate in any meaningful way—neurologists long thought they had little cognitive ability.

“But their eyes told a different story,” says Dr. Djukic, a professor of clinical neurology in the Saul R. Korey Department of Neurology and an associate professor of clinical pediatrics at Einstein. “These children had such a piercing gaze.” Many Rett parents agreed, insisting their children could follow conversations and even communicate using subtle eye movements. In truth, no one really knew what—if anything—these kids were thinking. Dr. Djukic was determined to find out.

Rare diseases such as Rett syndrome are defined as disorders or syndromes affecting fewer than 200,000 Americans. Most have no known treatments. At Einstein and Montefiore, researchers are collaborating on investigations into Rett syndrome and several other rare diseases, including Niemann-Pick C and 22q11.2 deletion syndrome.

Dr. Djukic set out to devise techniques to assess the Rett girls’ cognitive abilities and perhaps find ways to help them communicate. Rett syndrome impairs speech and hand control, rendering most neuropsychological testing useless. So Dr. Djukic focused on the girls’ eyes. If there was a touch of poetry to her approach—the eyes being

“windows to the soul”—there was also a healthy dose of science.

For several years, scientists had been studying human perception and cognition using computerized eye-tracking technology (which employs reflected infrared light to measure precisely where a person is looking). A few studies had tried this approach with Rett girls, but the results were inconclusive. Then, in 2011, Dr. Djukic, director of the Tri-State Rett Syndrome Center at the Children’s Hospital at Montefiore (CHAM), worked with neuropsychology colleagues at Einstein to design a study of Rett patients that combined eye-tracking technology with visual paired-comparison testing.

In visual paired-comparison testing, a patient is repeatedly shown two identical images (of a person’s face, for example) so that the patient becomes familiar with them. Next, one of the familiar images is paired with a novel one, and eye-tracking assesses where the patient gazes and for how long. Since our brains are hardwired to favor novelty, a test subject with normal attention and memory will tend to favor the new stimulus when it’s paired with a familiar one.

Tests were conducted on 27 girls with Rett syndrome and 30 age- and sex-matched controls. Results showed that Rett patients favored the novel stimuli at a rate greater than chance. Their performance was significantly poorer than that of the typically developing controls—not surprising given the nature of the disease. But more important, as Dr. Djukic had suspected, the study showed that there is somebody inside. “It’s a human tragedy,” she says. “Communication is a basic human need, and these girls have been robbed of that ability.”

Rett syndrome is a rare genetic disorder that severely compromises muscle control early in life.



Rett girls are effectively “locked in”—unable to talk, gesture or communicate in any meaningful way.

A Rett Specialist Is Born

Dr. Djukic, who joined the Einstein faculty in 2006, never intended to become a Rett syndrome specialist. Her clinical practice at CHAM initially focused on children with autism, epilepsy and other common neurologic disorders. A girl with Rett would come in for treatment every so often, but Dr. Djukic and her colleagues could do little except offer supportive care.

Progress against Rett syndrome has come in fits and starts. The syndrome was first described in 1966 by Austrian physician Andreas Rett. In 1999, after a 16-year search for a cause, Huda Zoghbi, M.D., of Baylor College of Medicine found that nearly all cases of Rett syndrome arise from mutations in a single gene known as methyl CpG binding protein 2, or *MECP2*.

The next major development came in 2007, when a University of Edinburgh team found that in an animal model of

Rett (mice with inactivated *MECP2*), most symptoms could be reversed by reactivating the *MECP2* gene. This stunning turnabout was achieved by genetic manipulations that would be impossible in humans, but it raised hopes for new therapies and perhaps even a cure.

In 2008, Dr. Djukic established the Tri-State Rett Syndrome Center at CHAM, just the third such center in the country. “Now that there was proof of principle that these children could get better, I felt an obligation to promote research and provide better care,” she says. In just six years, the center has evolved into the nation’s largest clinical site for people with Rett syndrome, serving about 350 patients, and has spurred a variety of research projects, ranging from basic studies to clinical trials.

A team found that in an animal model of Rett (mice with inactivated *MECP2*), most symptoms could be reversed, raising hopes for new therapies or even a cure.

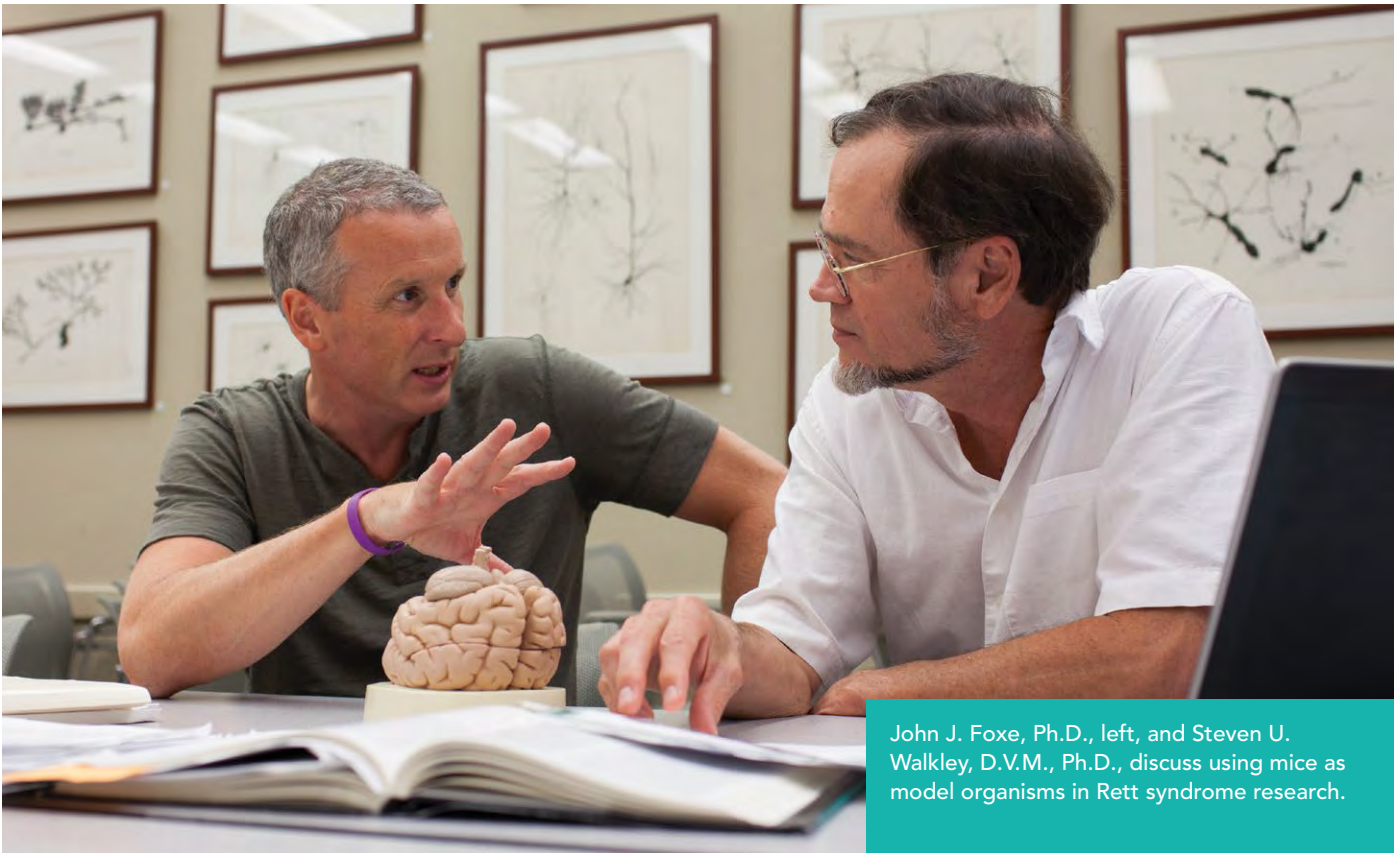


1 in 10,000
female births worldwide

About Rett Syndrome

Rett syndrome occurs in about one in every 10,000 female births worldwide. Most cases are caused by mutations to an X chromosome gene called *MECP2*, which synthesizes a protein that regulates genes involved in neuronal development. At about 6 to 18 months of age, girls who have been developing normally start to experience a host of symptoms that characterize Rett syndrome, including loss of speech; loss of motor abilities affecting the hands, arms and legs; seizures; and difficulties with learning, heart function, breathing, chewing, swallowing and digestion. The severity of the disabilities varies widely, depending on the underlying genetic mutations.

Rett syndrome is often misdiagnosed as autism, cerebral palsy or nonspecific developmental delay. Treatment is largely supportive, including medications for improving motor difficulties and anticonvulsants for controlling seizures. Occupational therapy can help patients develop skills for performing activities of daily living, while physical therapy and adaptive equipment can enhance mobility. Many Rett patients live into their 40s, although little is known about the potential longevity of people who have the syndrome.



John J. Foxe, Ph.D., left, and Steven U. Walkley, D.V.M., Ph.D., discuss using mice as model organisms in Rett syndrome research.

Damage to a Key Protein

The *MECP2* gene produces the protein MECP2, responsible for the normal functioning of many types of cells, including brain cells. “MECP2 may well be the most important protein for guiding normal development of the human brain,” says Steven U. Walkley, D.V.M., Ph.D., a professor in the Dominick P. Purpura Department of Neuroscience, in the Saul R. Korey Department of Neurology and in the department of pathology and director of Einstein’s Rose F. Kennedy Intellectual and Developmental Disabilities Research Center (IDDRC).

The MECP2 protein functions as a transcription factor, meaning it controls the expression of many genes. In the brain, this protein regulates genes important in forming neurons—silencing some genes and increasing the activity of others. *MECP2* mutations result in structurally abnormal forms of the MECP2 protein that presumably can’t properly

orchestrate gene expression in neurons.

Scientists don’t yet know how “normal” MECP2 protein does its job—“It affects the expression of so many genes in ways we don’t yet understand,” notes Dr. Walkley—nor why defective forms of the protein cause the intellectual disability and other problems associated with Rett syndrome. Much of the Rett research at Einstein and Montefiore is aimed at answering those two questions.

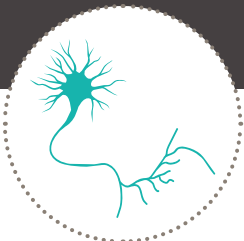
Mutations in the *MECP2* gene seem to have little impact until Rett girls reach 6 to 18 months of age, when affected neurons lose the ability to make new dendrites, the all-important branches essential for neuron-to-neuron communication. Patients then begin to regress, losing varying degrees of speech and movement, depending on the specific *MECP2* mutation. But what happens at the molecular level to cause this clinical tragedy?

Aristea S. Galanopoulou, M.D., Ph.D.,

a professor of neurology and of neuroscience at Einstein and an attending physician in neurology, neurophysiology and epilepsy at Montefiore, suspects that *MECP2* mutations severely disrupt signaling pathways that are controlled by gamma-aminobutyric acid (GABA)—the most important inhibitory neurotransmitter in the adult central nervous system. GABA molecules activate so-called inhibitory neurons that help keep overactive neurons in check.

Dr. Galanopoulou first got interested in GABA signaling because of its involvement in her primary research area: epilepsy, a condition in which clusters of neurons fire abnormally. Epileptic seizures are thought to reflect the nervous system’s failure to maintain balance between neuronal excitation and inhibition. Since epilepsy is a common characteristic of Rett syndrome, she wondered whether GABA irregularities might contribute to Rett as well.

Dr. Galanopoulou's lab is now using a mouse model of Rett syndrome to determine just how *MECP2* mutations interfere with GABA signaling.



In her epilepsy research, Dr. Galanopoulou had shown that seizures very early in life can change the way neurons respond to GABA; neurons that were inhibited by GABA may instead become excited. She had also found that seizures may deprive very young neurons of a key GABA function: helping neurons develop and mature normally. A similar sort of “GABA deprivation” may contribute to Rett syndrome.

Recent findings by Dr. Galanopoulou and other researchers suggest that *MECP2* mutations may cause the problems associated with Rett syndrome by interfering with neurons’ ability to produce GABA. GABA’s absence appears to have devastating consequences for neurons.

“During brain development, GABA activates a cascade of signals within nerve cells that are critical for normal neuronal differentiation and synapse

formation,” says Dr. Galanopoulou, research director of the Rett Syndrome Center and an attending physician at Montefiore’s Comprehensive Epilepsy Center. “We’ve found that if you stop this process in mice, the brain doesn’t fully develop, and you get something like Rett syndrome.”

Dr. Galanopoulou’s lab is now using a mouse model of Rett syndrome to determine just how *MECP2* mutations interfere with GABA signaling. She is focusing on the substantia nigra, a brain region involved in motor control, with the goal of restoring normal signaling and reversing symptoms such as repetitive motor movements and seizures.

Recent findings suggest that Rett syndrome begins well before the first signs and symptoms appear. So Dr. Galanopoulou’s team is also seeking biomarkers that might reveal the syndrome’s presence at the earliest possible stage. “The earlier you can intervene,”



Aristea S. Galanopoulou, M.D., Ph.D., and Michael D. Brenowitz, Ph.D., study whether shifts in ion level affect the function of defective *MECP2* protein during nerve development.

she says, “the better the chance that therapies might have some benefit.”

Dr. Galanopoulou does not believe that altered GABA signaling fully explains Rett syndrome. “It’s more likely that a combination of abnormalities leads to the final clinical presentation,” she says. “A further complication is that each patient will probably have a different set of abnormalities, depending on the underlying genetic mutations, and thus each will require a personalized therapy. Nonetheless, I’m optimistic. Rett is one of very few genetic diseases that can be reversed after disease onset, at least in an animal model. It means that we should never lose hope.”

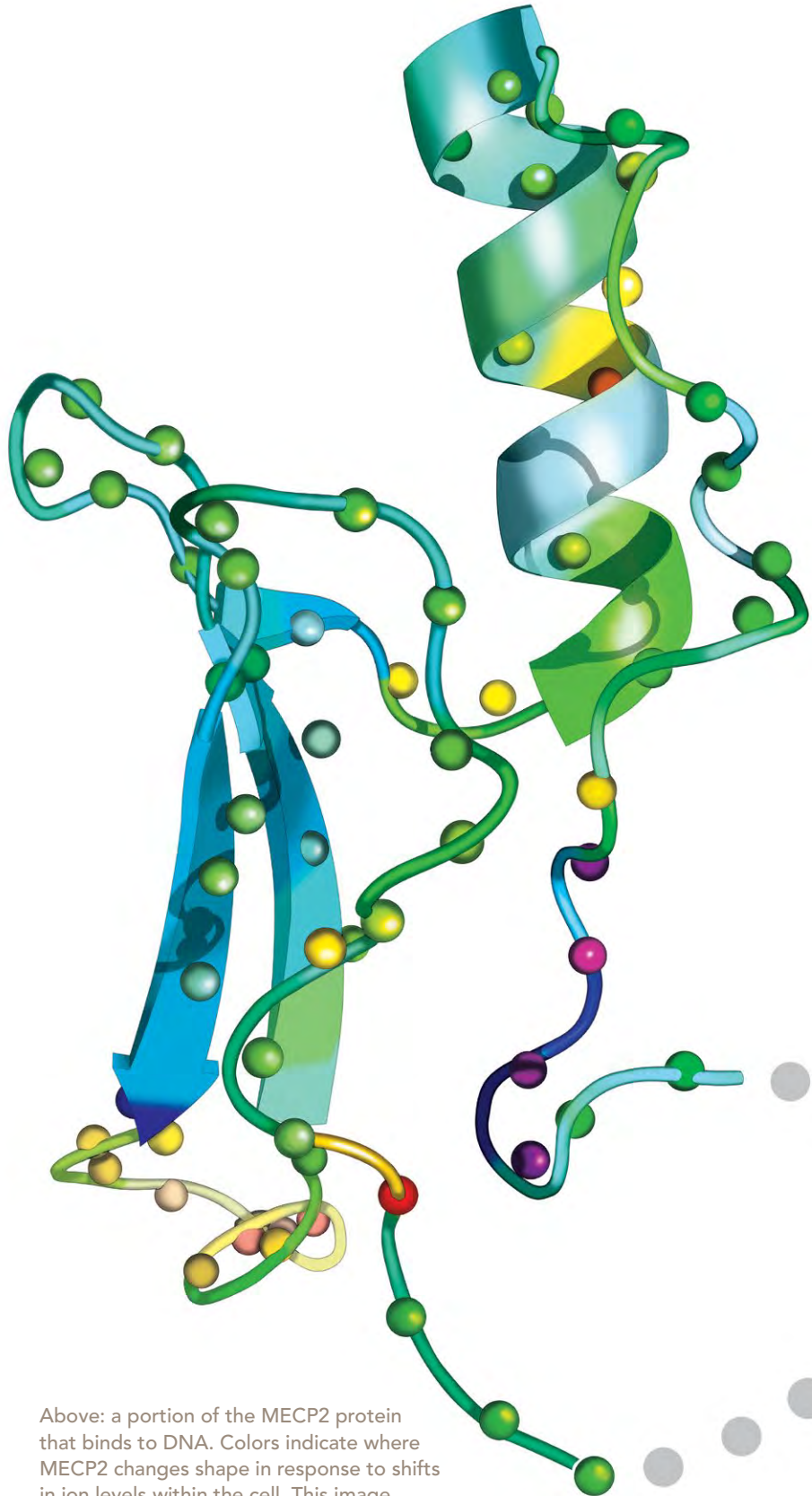
Ions and Dimers

Michael D. Brenowitz, Ph.D., a professor of biochemistry, is probing aspects of the *MECP2* gene that are even more fundamental. A biophysicist by training, Dr. Brenowitz studies the behaviors and interactions of large molecules engaged in phenomena such as protein folding and protein binding—the everyday stuff of life at the cellular level.

Three years ago, at the request of colleagues in Einstein’s Center for Epigenomics (where researchers study gene regulation), he tackled a question that had vexed molecular biologists: How does the *MECP2* protein (the product of the *MECP2* gene) recognize and bind to the DNA of the genes it regulates? This question is critically important in Rett syndrome. A number of the *MECP2* mutations that cause Rett do so by altering the *MECP2* protein’s binding domain—the “key” that fits into a particular gene’s “lock.”

The odd thing about the *MECP2* protein was how little specificity it showed for its targets. It was more like a skeleton key, able to fit into all sorts of DNA locks.

“This lack of specificity struck us as very unusual,” says Dr. Brenowitz.



Above: a portion of the *MECP2* protein that binds to DNA. Colors indicate where *MECP2* changes shape in response to shifts in ion levels within the cell. This image resulted from a nuclear magnetic resonance study conducted by Dr. Brenowitz and Mark E. Girvin, Ph.D., a professor of biochemistry and scientific director of Einstein’s Structural NMR Facility.

Einstein Hosts Rett Symposium



From left, Aleksandra Djukic, M.D., Ph.D.; Steven U. Walkley, D.V.M., Ph.D.; Huda Zoghbi, M.D.; and Monica Coenraads.

Rett syndrome was the focus of Einstein's third annual Isabelle Rapin Conference on Communication Disorders, held last December. Attendees packed the Ethel and Samuel J. LeFrak Auditorium to hear experts from Einstein and other medical institutions present the latest information about the devastating condition.

One of the speakers was Huda Zoghbi, M.D., of Baylor College of Medicine, who in 1999 discovered the genetic defect responsible for nearly all cases of Rett syndrome (see page 28). Many Einstein and Montefiore researchers mentioned in these pages also spoke, including Drs. Aleksandra Djukic, John Foxe, Michael Brenowitz and Aristeia Galanopoulou. The overall message: there is slow but steady progress toward better treatments and, ideally, a cure.

Monica Coenraads, co-founder and executive director of the Rett Syndrome Research Trust (RSRT), opened the program with a video about her daughter, Chelsea.

"The Rett research landscape was dismal when Chelsea was diagnosed in 1998," recalled Ms. Coenraads. "My conviction that treatments and a cure were possible came from intuition and a mother's love. Today that conviction is based on science." The RSRT and an earlier organization Ms. Coenraads co-founded have raised \$36 million to support Rett syndrome research at Einstein, Montefiore and other academic research centers.

People with Rett syndrome can't speak, so researchers have developed systems that allow them to communicate. Dr. Djukic taught Chelsea to "talk" with her eyes, and she can now express her thoughts, needs and feelings.

"Proteins that control gene transcription typically bind to their target DNA with up to a million times greater specificity than to nontarget DNA. We finally figured out that both the type and the concentration of ions, such as sodium chloride, seem to govern MECP2's specificity. The protein's binding domain shows little preference for its target gene at low concentrations, but it has high specificity at high ion concentrations."

This finding dovetails nicely with Dr. Galanopoulou's observation that ion types and levels change within neurons as animals develop and that Rett syndrome may be associated with these altered levels in developing neurons. The two researchers will soon team up to investigate whether these shifts in ion types and levels affect the ability of defective versions of the MECP2 protein to bind to genes during neuronal development.

Dr. Brenowitz may also have solved another puzzle associated with MECP2. Previous research had indicated that MECP2's DNA binding domain was in the form of a monomer, or single macromolecule. But his latest structural analyses suggest that the portion of MECP2 that binds to DNA is actually in the form of a dimer (two macromolecules). This finding suggests that some *MECP2* mutations alter MECP2's ability to form this dimer, thus impeding the expression of genes associated with the protein.

"The take-home message," he says, "is that disruption of any facet of *MECP2* activity can interfere with normal neuronal development and cause disease. We can potentially fix what we understand, so if we can understand the nature of MECP2-DNA binding, we may be able to identify drugs that stabilize this interaction and, we hope, help patients with Rett.

"It's amusing that I got into neuroscience at this point in my career," adds

If we can understand the nature of *MECP2*-DNA binding, we may be able to identify drugs that stabilize this interaction and help patients with Rett.



Dr. Brenowitz, a bench scientist for three decades. “I’ve never done anything remotely related to neuronal function, much less a neurologic disease.”

Today, however, he’s well versed in the intricacies of neurons as well as the clinical impact of *MECP2* mutations. Every month or so, he and seven other scientists and clinicians meet to compare notes and chart new avenues of research. They belong to Einstein’s Rett Syndrome Interest Group, which Dr. Walkley started in early 2013.

“As director of the IDDRC, one of my roles is to get clinicians and basic scientists together to work on issues related to intellectual disability,” says Dr. Walkley. “When I came here, I was surprised to learn we had a fair number of people at Einstein and Montefiore who were working on Rett, as well as a world-class Rett clinic. But they weren’t necessarily working together. I’m encouraged to see new collaborations emerging and plan to extend this model to other diseases.”

Beeps and Boops

One such collaboration involves Dr. Djukic and John J. Foxe, Ph.D. ’99, formerly a professor of pediatrics and of neuroscience and director of research

at the Children’s Evaluation and Rehabilitation Center, and now a visiting professor. Dr. Foxe studies the neural underpinnings of vision, hearing and cognition and how these processes are compromised in autism, schizophrenia and other diseases. Soon after joining the Einstein faculty in 2010, Dr. Foxe met with Dr. Djukic to learn more about Rett syndrome, which shares some characteristics with autism.

“Frankly, when I first heard Sasha talking about these girls and how she could see something in their eyes, I was deeply skeptical,” he says. “But seeing the girls myself, I thought, ‘Wait a minute—there may be something here.’ There was at least the possibility of a lot of cognitive function, but we needed some objective biomarker to tell us that information is indeed going in and

being understood.”

As it happened, Dr. Foxe and his colleagues were developing new EEG (electroencephalograph) recording techniques to assess the brain’s electrophysiological response to spoken language. Compared with conventional EEGs, the new techniques yield a higher signal-to-noise ratio and, therefore, more-useful data.

“We could use this as our biomarker for showing whether an individual is comprehending speech,” Dr. Foxe says. “It doesn’t involve asking the child to do anything at all. We’re just ‘asking’ the brain whether it can discern a difference in a set of auditory signals. For instance, if we present a series of beeps and then a boop, every time that boop happens, because it is rare, the brain kicks off a little EEG signal that says, ‘I heard a change.’ It’s called a mismatch negativity.”

In a study funded by a National Institutes of Health “exploratory”



Dr. Djukic, left, discusses new data on brain function in Rett syndrome with Sophie Molholm, Ph.D., associate professor of pediatrics and of neuroscience, the Muriel and Harold Block Faculty Scholar in Mental Illness and the newly appointed director of the Sheryl and Daniel R. Tishman Cognitive Neurophysiology Laboratory.

Dr. Djukic has quickly translated her research findings into clinical practice. Her Rett Syndrome Center launched a communication clinic offering Rett families a variety of services.



research grant, Drs. Foxe and Djukic demonstrated that Rett girls have relatively normal auditory capabilities, at least at the most basic level.

Ongoing studies are assessing their higher-order speech recognition. “For example,” Dr. Foxe explains, “we might present a Rett syndrome patient with the sentence, ‘I woke up this morning and poured myself a bowl of socks.’ Because that last word is out of place, the brain of a normal individual will produce a measurable electrical response, what we call the semantic incongruence response.”

Dr. Foxe’s EEG measurements could also be used to indicate early on whether experimental therapies are having any effect. At present, assessing whether a given intervention improves clinical outcomes can take years.

“It would speed things up to have a sensitive measure of a therapy’s impact at the neuronal level,” he says. “If, say, you get a 2 or 3 percent change in neurons over the course of the first few weeks of treatment, that therapy is highly unlikely to change the clinical picture in any measurable way. But that small percentage change says that you’re

on the right track and making fundamental changes in brain activity.”

Treating Rett

A physician as well as a scientist, Dr. Djukic has quickly translated her research findings into clinical practice. After her initial eye-gaze studies, for example, her Rett Syndrome Center launched a communication clinic offering Rett families a variety of services. They include training in use of assistive devices such as My Tobii, a commercially available product that tracks eye movements and the direction of gaze, allowing people with limited mobility to communicate via computer.

For some kids with Rett syndrome, the results are remarkable. “Through Tobii, the girls can tell us which music they like, what people they want to see, what parts of their body hurt,” says Dr. Djukic. “They even make jokes, for instance, saying dinner is ‘yucky.’ They

don’t elaborate, they don’t make metaphors, but they’re able to communicate their needs and immediate thoughts.”

One high-functioning Rett girl, Gaby Valner, uses the device to write e-mails and make blog posts.

“Think of yourself in a cage in a room full of people, and the cage is soundproof,” she wrote in one heart-wrenching post. “You feel uncomfortable, maybe thirsty, or hungry, in need of some assistance or wanting to ask a question. Think about how frustrated you are when nobody hears. No matter how loudly you shout your requests inside your cage, none of the people in the room with you can hear. Now imagine instead of a cage you are trapped in, it is your own body. That is my life—an intelligent mind imprisoned in my body.”

More interventions may be coming. Dr. Djukic and her team recently completed the first clinical trial of a drug for treating Rett syndrome. A second drug



Montefiore speech-language pathologist Elaine Williams, M.A., C.C.C.-S.L.P., helps Rett patients and family members communicate.

will soon be evaluated in a clinical trial.

The first trial, which is supported by the Rett Syndrome Research Trust, evaluated Copaxone—an injectable drug already approved for treating multiple sclerosis. It works by increasing levels of brain-derived neurotrophic factor (BDNF), which contributes to neuronal development. BDNF levels are typically low in Rett patients, presumably due to *MECP2* mutations. Animal studies have shown that raising BDNF levels can ameliorate Rett symptoms—and researchers hope that the same will prove true in humans.

Dr. Djukic tested Copaxone on 20 girls ages 10 and older who have at least some ability to walk. The yearlong study looked primarily for improvements in gait but is also assessing changes in respiratory function, visual attention, memory and overall quality of life. “We’re hoping for a 20 percent improvement,” says Dr. Djukic. It’s too early to release results, but a few girls have reportedly shown remarkable responses.

The second trial, also funded by the Rett Syndrome Research Trust, is testing the effects of Mevacor, a so-called statin drug that lowers serum cholesterol levels. A few years ago, researchers found that cholesterol metabolism is disrupted in mouse models of Rett syndrome. Symptoms improved when with mice were treated with a statin. A later analysis of more than 100 Rett patients at CHAM found that 54 percent had abnormally high lipid levels, unrelated to body mass index levels. Since too much cholesterol can contribute to neurologic problems, it seemed logical that Rett patients might benefit from statin treatment. In a trial that began this July, Mevacor is being tested on 20 Rett girls ages 19 and younger. **E**



Aiming for Blue Skies

On October 15, 2011, Dr. Djukic stood atop the steps of Tweed Courthouse in lower Manhattan to inaugurate the first Blue Sky Girls day, an annual international event she created to raise awareness of Rett syndrome.

“The sky is blue and that is why we are here, to reach the sky without clouds,” she said to the assembled crowd. Rett girls, she continued, “ask for very little: for recognition of the burden of isolation ... for their silence not to be mistaken for their lack of understanding, for strategies that can help them communicate not to remain underutilized. Our girls have thoughts, emotions and dreams ... [but are] trapped in their bodies. Today, I salute these brave girls, and I promise the day will come when this microphone will be theirs.”



“Today, I salute these brave girls, and I promise the day will come when this microphone will be theirs.”

Above: Constance and Christopher Steinon and daughter Ysolde climb the steps of Tweed Courthouse in New York City.



Wielding A POWERFUL WEAPON

Turning up or tamping down immunity
offers hope against major diseases

When it comes to biological systems, the human immune system surely ranks as one of the most remarkably complex and potent—able to detect and kill disease-causing microbes as well as cancer cells. Now, Einstein researchers are working to modulate the immune system as a way to overcome major diseases, a treatment approach known as immunotherapy.

Recent publicity has centered on using immunotherapy to combat cancer by revving up the immune system. According to a *New York Times* article published last year, the race among major pharmaceutical companies to develop cancer immunotherapies is potentially worth tens of billions of dollars a year in sales. Three such anticancer immunotherapies are now available (see sidebar on page 40). But scientists are also working to turn off the immune response to treat autoimmune diseases such as multiple sclerosis, type 1 diabetes and rheumatoid arthritis. Einstein researchers—all members of the Evolution of Immune Therapeutics Working Group—are involved in both immunotherapy approaches.

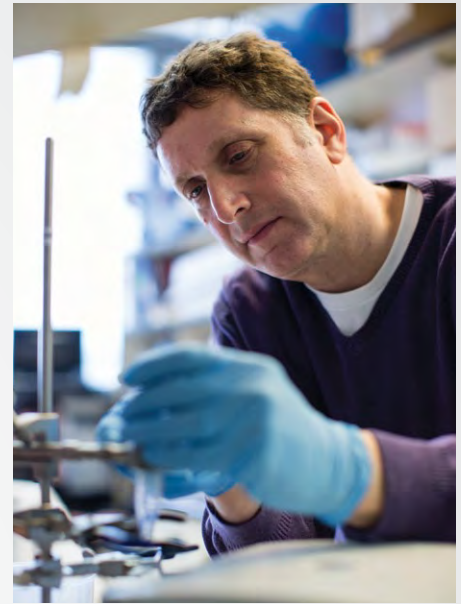
Tuning In to T Cells

Cancer immunotherapy doesn't usually target tumor cells directly. Instead, efforts focus mainly on manipulating T cells, a type of white blood cell that helps destroy invaders such as viruses and bacteria and can eliminate cancer cells as well.

"Optimal T-cell activity is crucially important," says Xingxing Zang, Ph.D., an associate professor of microbiology & immunology and of medicine (oncology). "Abnormally low T-cell activity makes people vulnerable to cancer or to chronic infections such as tuberculosis and herpes simplex. On the other hand, overly active T cells can trigger an immune attack on normal tissues, resulting in autoimmune diseases."

T-cell activity depends on the numerous proteins attached to the T-cell surface. Steven C. Almo, Ph.D., a professor of biochemistry and of physiology & biophysics, uses an automobile analogy to describe how these proteins, known as cell-surface receptors, govern T-cell activity.

"One protein on the T-cell surface can be thought of as the ignition, since it recognizes infected and malignant cells and turns on the T cell," says Dr. Almo, Einstein's Wollowick Family Foundation Chair. "And just as a car needs an accelerator to go somewhere, T cells have another set of proteins that, when stimulated, rev up T cells so they can actually kill the disease-causing cells they've recognized. But at some point you want to turn off the immune response so that T cells don't attack healthy tissues. So additional proteins on the T-cell surface act as brakes, working in opposition to the accelerator receptors to bring the whole system back to normal again."



Steven C. Almo, Ph.D.

Unfortunately, tumors have learned to evade the body's immune response by exploiting T cells' finely calibrated control system. Tumors express cell-surface proteins that stimulate the very receptors that put the brakes on T cells' attack, allowing the tumors to remain unscathed. Tumors are known to activate two "braking" receptors

"JUST AS A CAR NEEDS AN ACCELERATOR TO GO SOMEWHERE, T CELLS HAVE ANOTHER SET OF PROTEINS THAT REV UP T CELLS SO THEY CAN KILL DISEASE-CAUSING CELLS."

in particular: CTLA-4 (cytotoxic T-lymphocyte antigen-4) and PD-1 (programmed cell death protein-1). A considerable amount of immunotherapy research, at Einstein and elsewhere, is aimed at preventing cancers from turning on those T-cell receptors.

Cutting Brake Lines to Boost Immunity

“If we could remove the brakes on the immune response by inactivating CTLA-4 or PD-1, that would enable T cells to mount a much more robust immune response against these cells,” explains Dr. Almo. “Conversely, you could treat autoimmune diseases by boosting the activity of those two receptors, since that would tamp down T-cell activity.”

To attain those goals, Dr. Almo uses high-resolution X-ray crystallography—an imaging technique in which an X-ray beam is shot through purified, crystallized proteins. The beam is scattered, or diffracted, in many different directions, allowing scientists to construct a detailed, 3-D model of the crystallized protein’s molecular structure. Measuring the intensities and angles of the

diffracted beams reveals the position of each individual atom in the protein.

Dr. Almo and colleagues have used X-ray crystallography to determine the precise shape of key molecular complexes: those formed when PD-L1 and PD-L2 (proteins expressed on the surface of tumor cells) muffle the immune response by binding to PD-1 receptors on T cells. “Based on that structural analysis, our lab is engaged in an exciting project,” says Dr. Almo. “We’ve developed a range of molecular variants of the PD-1 receptor that have much higher affinity for tumors’ PD-L1 and PD-L2 proteins than the naturally occurring PD-1 protein does.”

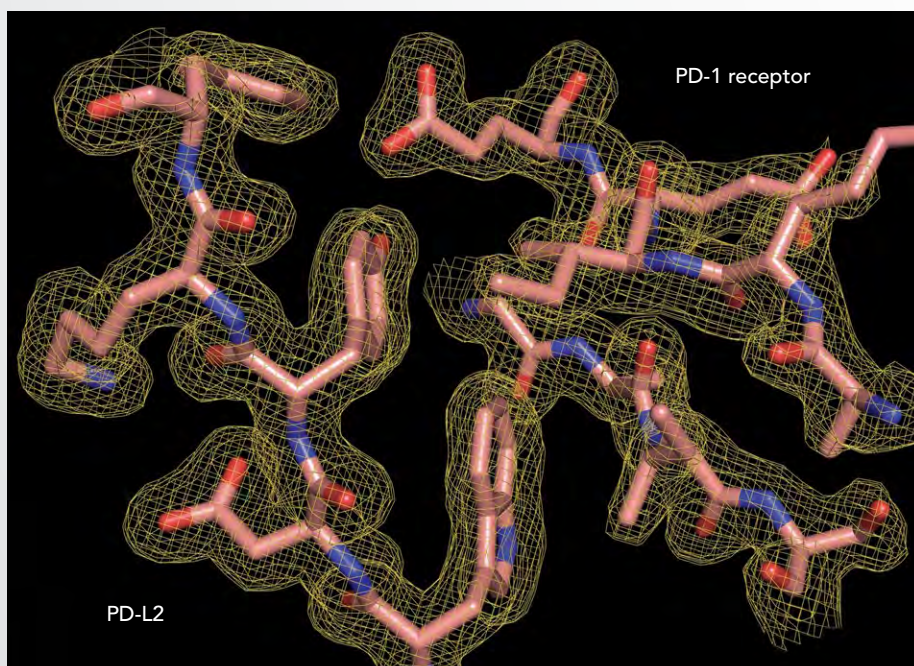
The goal, says Dr. Almo, is for these PD-1 receptor variants to bind strongly to the PD-L1 and PD-L2 proteins of the tumor, rendering them unable to bind PD-1 receptors on T cells. This would prevent the T cells’ brakes from being activated and greatly bolster the immune response. “We’re now testing these PD-1 variants in mouse models of malignant melanoma and metastatic cancers, with the aim of finding new and more-effective treatments,” he says.

Ideally, Dr. Almo’s research will lead

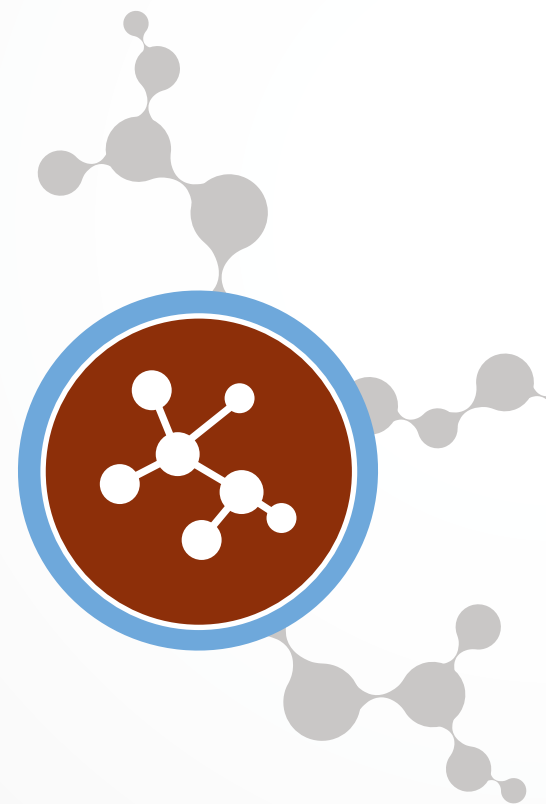
to new immunotherapies—not only against cancers but also for treating autoimmune diseases and infections caused by microbes resistant even to the most powerful antibiotics. This work will soon be occurring in Einstein’s Center for Experimental Therapeutics, intended specifically to speed the flow of therapies from laboratory to bedside.

A Pro-Cancer Protein Family

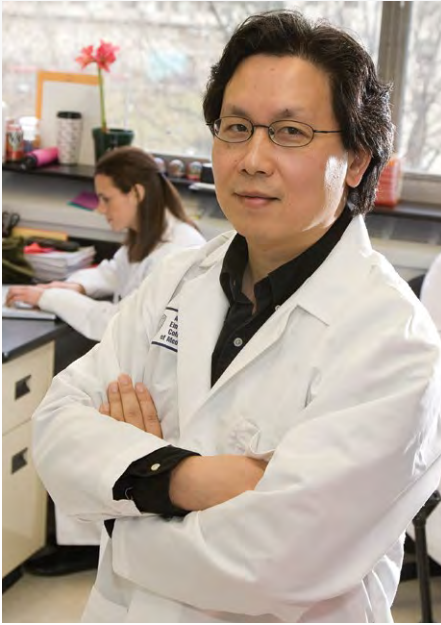
Dr. Zang is another Einstein researcher trying to “release the brakes” on T cells so they can assault cancer cells. One focus of his research is B7 proteins—a family of proteins that bind to T cells and can speed up or slow down T-cell activity.



Courtesy of Steven C. Almo, Ph.D.



This X-ray crystallography image shows PD-L2, a protein on the surface of tumor cells, that has bound to a T cell’s PD-1 receptor. To prevent PD-L1 and PD-L2 from muffling T-cell activity, Dr. Almo’s lab is developing soluble PD-1 receptor variants that will bind to those tumor proteins much more strongly than does the naturally occurring PD-1 receptor.



Xingxing Zang, Ph.D.

Dr. Zang discovered an important member of the B7 family, called B7x, that strongly inhibits T-cell activity by binding to an as-yet-unidentified T-cell receptor. The researchers found that B7x is present at high levels in almost all solid human cancers. The higher the level at which B7 is expressed in tumors, the worse the prognosis is for patients.

“B7x may be one of the most important proteins that human cancers use to hobble the immune system’s ability to combat them,” says Dr. Zang. “It both inactivates T cells and promotes myeloid-derived suppressor cells that help suppress the immune response.”

Dr. Zang has developed a screening system to find monoclonal antibodies that bind to B7x proteins, preventing them from sabotaging the immune response against cancer. (Monoclonal antibodies are designed to target specific proteins or other molecules.)

One of the monoclonal antibodies developed by Dr. Zang’s team, called 1H3, has successfully blocked the B7x protein expressed on tumors so that T cells can attack them. “The beauty of this approach,” says Dr. Zang, “is that it enables T cells to develop an

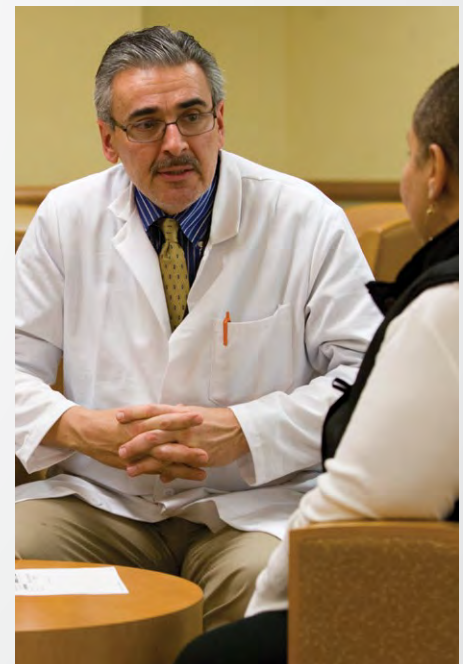
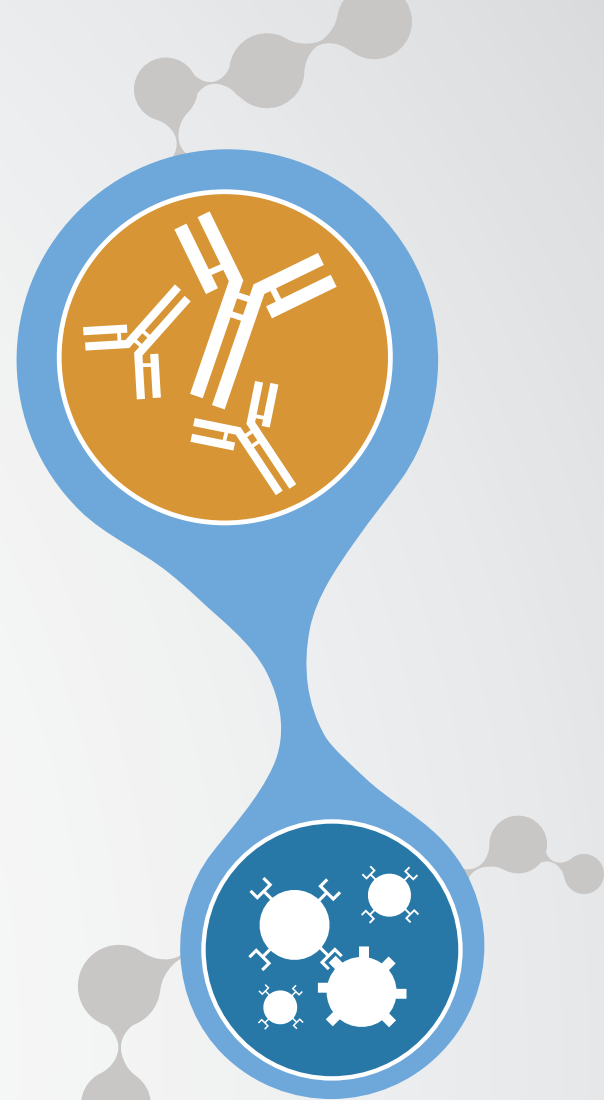
immunological ‘memory’ of the cancer cells, in the same way that vaccines prime the immune system to recognize and fight off disease-causing bacteria and viruses.” Einstein recently licensed Dr. Zang’s B7x technology to a pharmaceutical company for further development.

Recently, the Zang team discovered the newest member of the B7 family of proteins (HHLA2) as well as its T-cell receptor (TMIGD2). HHLA2 is not found on most normal human cells but occurs abundantly on many human cancers, including those of the lung, breast, thyroid, pancreas, prostate, colon and skin. The findings could lead to a novel immunotherapy effective against many different types of tumors.

New Strategy for a Nasty Cancer

Joseph A. Sparano, M.D., a professor of medicine (oncology) and of obstetrics & gynecology and women’s health and associate director for clinical research at the Albert Einstein Cancer Center, is exploring whether the immune system can be enlisted to fight “triple-negative” breast cancer (tumors lacking receptors for estrogen, progesterone and Her2/neu). Most chemotherapy drugs target one of those receptors, so triple-negative breast cancer can be challenging to treat.

As chief of the section of breast medical oncology at Montefiore, Dr. Sparano participated in a national clinical trial involving patients with triple-negative breast cancer. The study found that patients whose tumors were densely infiltrated with immune cells had much better outcomes than did patients with fewer immune cells. He has recently begun collaborating with **Dr. Zang** to study how B7 proteins influence the immune response to triple-negative breast cancer.



Joseph A. Sparano, M.D.

An Immunity Boost from Radiation

Einstein scientists have found that radiation therapy—a standard treatment for many solid tumors—can also enhance the immune system’s ability to attack cancer. They’ve shown that exposing a tumor to radiation can increase the tumor’s immunogenicity—the likelihood that it will provoke an immune response.

“Tumor cells contain a lot of defective proteins,” says Chandan Guha, M.B.B.S., Ph.D., a professor and vice chair of radiation oncology at Einstein and Montefiore and professor of pathology and of urology at Einstein. “When radiation kills tumor cells, those abnormal proteins are released and become detectable by the immune system, which can then target living tumor cells containing those same proteins. Over the past 15 years, my colleagues and I have shown that focused delivery of energy in the form of radiation and ultrasound makes tumors more vulnerable to immune attack.”

The larger the dose, the better. “Standard radiation therapy given at intervals causes a small amount of DNA damage each time, much of which gets repaired by tumor cells,” says Dr. Guha. “Delivering large radiation doses in one to five sessions instead of more-frequent, smaller doses over several weeks causes more-extensive DNA damage that can’t be repaired so well. That means more tumor cells die, releasing large amounts of tumor-specific proteins along with a stronger ‘danger’ signal for arousing the immune system.”

Dr. Guha is also evaluating radiation combined with therapeutic cancer vaccines. Several experimental cancer vaccines boost the immune response by delivering tumor-associated proteins directly into certain immune cells. In one recent study, Dr. Guha and colleagues combined radiation with a prostate cancer vaccine that arouses the immune system against cells producing prostate-specific antigen (PSA). In a mouse model of prostate cancer, the combination therapy caused established tumors to regress completely in 60 percent of mice compared with regression of 10 percent or fewer tumors from either radiation or the vaccine alone.



Chandan Guha, M.B.B.S., Ph.D.



The New Age of Immunotherapies

Three immunotherapies that unleash the immune system against tumors are now available.

Yervoy is a monoclonal antibody that binds to and blocks CTLA-4 receptors on T cells. It received approval from the Food and Drug Administration in 2011 for treating metastatic melanoma, a usually fatal disease. In clinical trials, Yervoy enabled about a quarter of metastatic melanoma patients to survive for two years—a major improvement over older therapies.

Keytruda, another monoclonal antibody for treating metastatic melanoma, was approved in 2014. (Melanomas are more susceptible than other types of tumors to immune system attack.) Keytruda works by binding to and blocking PD-1 receptors on T cells and so far is approved only for patients who have first tried Yervoy. A clinical trial found that 69 percent of melanoma patients treated with Keytruda were alive after one year.

The third immunotherapy, Opdivo, also inhibits PD-1 receptors. This monoclonal antibody was approved last December for treating metastatic melanoma and this March for treating advanced squamous non-small cell lung cancer, which is typically associated with smoking.

There is room for improving these first-generation immunotherapies. Yervoy, for example, can overstimulate the immune system to attack healthy tissues, resulting in serious adverse effects in up to 15 percent of patients. And these drugs are expensive: A complete course of Yervoy costs \$120,000, and Keytruda and Opdivo each cost about \$150,000 a year.



Fernando Macian, M.D., Ph.D., with graduate student Rachel Ames, left, and postdoctoral fellow Rut Valdor, Ph.D.

When Brakes Can Be Useful

New immunotherapies to prevent T-cell attacks could transform the treatment of autoimmune diseases. But progress may depend on the answer to a question: Why don't the T cells of healthy people attack the same tissues and organs they target in autoimmune diseases?

Fernando Macian, M.D., Ph.D., an associate professor of pathology, studies the molecular origins of “anergy”—the condition of nonresponsiveness, or tolerance, that prevents T cells from attacking one's own tissues. He has found that a protein called NFAT (nuclear factor of activated T cells) plays a crucial dual role in immunity—capable of activating T cells as well as making them tolerant.

NFAT is a transcription factor—a protein that binds to specific DNA sequences and orchestrates gene expression. Whether NFAT activates T cells or makes them tolerant, Dr. Macian has found, depends on which program of gene expression it directs. “To boost T cells' ability to attack cancer cells, you'd want to suppress NFAT-regulated genes that might otherwise induce T-cell tolerance,” says Dr. Macian. “On the other

hand, drugs that induce T cells to over-express those ‘tolerance’ genes could help in treating autoimmune diseases.”

Einstein's Dr. Zang is studying immunotherapy for use against the autoimmune disease type 1 diabetes, in which T cells destroy the insulin-producing cells of the pancreas. Dr. Zang has shown that the protein B7x—notorious for stifling the immune system's response to cancer—could actually be an ally in treating or preventing type 1 diabetes and other autoimmune diseases.

Dr. Zang and colleagues recently observed that B7x is normally present in areas of the pancreas called the islets of Langerhans. Islets contain the insulin-producing beta cells that are destroyed in type 1 diabetes. In studies involving mice, Dr. Zang showed that the B7x protein plays a role in protecting beta cells from attack: “If a T cell ‘sees’ B7x on the beta cell, the T cell won't destroy the beta cell,” he says.

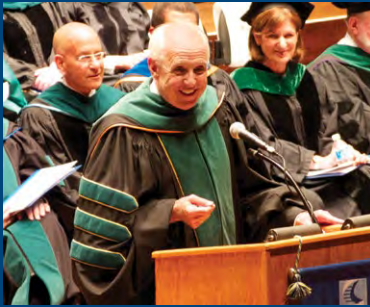
Based on those findings, Dr. Zang is pursuing two approaches against type 1 diabetes. He is developing B7x as a soluble drug and is trying to improve islet cell transplants as a therapy for type 1 diabetes.

A PROTEIN CALLED NFAT (NUCLEAR FACTOR OF ACTIVATED T CELLS) PLAYS A DUAL ROLE IN IMMUNITY, CAPABLE OF ACTIVATING T CELLS OR MAKING THEM TOLERANT.

Islet cell transplants involve infusing islet cells from a deceased organ donor into a patient with diabetes. Despite use of immunosuppressive drugs, the transplants usually stop working after about five years. “We believe the body's T cells attack the transplanted islets,” Dr. Zang says. To extend the life of the transplanted cells, Dr. Zang and his colleagues are developing genetically modified islet cells that overexpress B7x protein on their surfaces.

“Immunotherapy is not just a promise anymore,” says Dr. Macian. “The field has progressed rapidly over the past few years. FDA-approved drugs are now in use, clinical trials are under way to evaluate new immunotherapies and scientific advances will allow us to create treatments that are more targeted and more powerful.” **E**





**COMMENCEMENT SPEAKER
DARRELL G. KIRCH, M.D.**
President
Association of American
Medical Colleges

"One in 10 Americans still has no health insurance," said Dr. Darrell Kirch in his Commencement address. "When I was a medical student, I couldn't imagine that at this point in my career we would have so many people left out in terms of healthcare." Dr. Kirch believes that the nation's health-care system needs to change—and that academic medicine can lead the way. Medical students who are empathic, engaged and resilient can keep the conversation going and work toward solutions to entrenched social problems.

Dr. Kirch is a physician, educator and leader, with the credentials needed for his mission. He has served as acting scientific director of the National Institute of Mental Health, dean of the Medical College of Georgia, and dean of the college of medicine and CEO of the Milton S. Hershey Medical Center at the Pennsylvania State University. His broad-based resumé made him an ideal choice for president of the Association of American Medical Colleges, which represents medical schools, teaching hospitals, health systems and academic and scientific societies.

"If you care enough . . . if we care enough . . . maybe we can eliminate this problem of haves and have-nots in healthcare," said Dr. Kirch. "Maybe we can finally live up to our clinical ethics and create a system that feels fair and just."



Commencement 2015

The 57th Einstein Commencement on Thursday, May 28, was a time for rejoicing. After encouraging words from Richard M. Joel, president of Yeshiva University, and Allen M. Spiegel, M.D., Einstein's Marilyn and Stanley M. Katz Dean, the Class of 2015 responded with applause and cheers. "Celebrate now—residency starts soon," said President Joel. As in previous years, the event was held in Lincoln Center's Avery Fisher Hall.

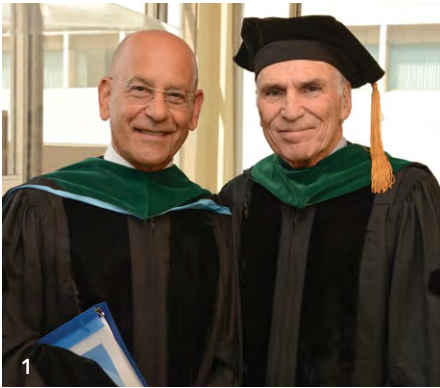
THE ALUMNI AWARDS

Dean Spiegel acknowledged the 50th Anniversary Reunion Class of 1965 and presented the alumni awards with Arthur M. Kozin, M.D. '82, president of Einstein's Alumni Association. Recipients were Joseph D. Bloom, M.D. '62, Dominick P. Purpura Distinguished Alumnus Award; Toby Tucker Hecht,

Ph.D. '73, Distinguished Ph.D. Alumnus/a Award; Hasan Bazari, M.D. '83, Distinguished Alumnus/Clinical Practitioner Award; Ruth E. K. Stein, M.D. '66, Lifetime Achievement Award; and Michael J. Reichgott, M.D. '65, Ph.D., Lifetime Service Award. Joshua D. Nosanchuk, M.D., received two awards: the Honorary Alumnus Award and the Samuel M. Rosen Award for Outstanding Teaching (Preclinical).

THE FACULTY AWARDS

Dean Spiegel also presented the faculty awards. Honorees were Miriam B. Schechter, M.D., Samuel M. Rosen Award for Outstanding Teaching (Clinical); Robert L. Goodman, M.D., Harry Eagle Award for Outstanding Basic Science Teaching; Felise B. Milan, M.D. '88, Harry



H. Gordon Award for Outstanding Clinical Teaching; Edward R. Burns, M.D. '76, Lifetime Achievement Award for Excellence in Teaching; Barbara K. Birshstein, Ph.D., LaDonne H. Schulman Award for Excellence in Teaching; and Ana Maria Cuervo, M.D., Ph.D., Saul R. Korey Award in Translational Science and Medicine.

THE ADDRESS

Darrell G. Kirch, M.D., president and CEO of the Association of American Medical Colleges, spoke on “gifts given and promises made,” reminding students that the first obvious gifts leading to their chosen career paths may have been toys—perhaps a doctor’s kit or a chemistry set—but that guidance and opportunities are also gifts. “Those memories will become a kind of fuel, and you will need them at times,” he said. He concluded his talk with his thoughts on the challenges we face as a nation to provide

equitable, affordable care. (See box at left for more.)

THE GRADUATES

This year, Einstein conferred 10 M.S., 7 master of science in bioethics, 1 master of public health, 185 M.D. and 33 Ph.D. degrees (6 of the latter along with M.D. degrees). This brings the grand total of Einstein graduates to 8,373 M.D.s and 1,493 Ph.D.s.

Faculty members, alumni, relatives and friends hooded the graduates. Many grads crossed the stage with children in tow, attesting to the balancing act they had performed to earn their diplomas.

Edward R. Burns, M.D. '76, Einstein’s executive dean, concluded with the prayer of Maimonides, and the graduates moved their tassels from right to left.

 **ON THE WEB**
www.einstein.yu.edu/r/commencement2015

1. Steven M. Safyer, M.D. '82, president and CEO of Montefiore Health System, and Joseph D. Bloom, M.D. '62, recipient of the Dominick P. Purpura Distinguished Alumnus/a Award.
2. Arthur M. Kozin, M.D. '82, president, Einstein Alumni Association, and Dean Allen M. Spiegel, M.D., present Toby Tucker Hecht, Ph.D. '73, with the Distinguished Ph.D. Alumnus/a Award.
3. Ruth E. K. Stein, M.D. '66, recipient of the Alumni Association Lifetime Achievement Award, and Philip O. Ozuah, M.D., Ph.D., executive vice president and chief operating officer of Montefiore.
4. Edward R. Burns, M.D. '76, Einstein’s executive dean, receiving the faculty Lifetime Achievement Award for Excellence in Teaching from Dean Spiegel.
5. Richard M. Joel, president of Yeshiva University, and Michael J. Reichgott, M.D. '65, Ph.D., recipient of the Alumni Association Lifetime Service Award.
6. Yvette Calderon, M.D. '90, M.S. '05, associate dean for diversity enhancement, with Daphne Mercer, M.D., Class of 2015, and her daughter.



Reunion 2015: Honoring the Class of 1965

This year's Einstein Reunion drew alumni from 10 classes, including the milestone 50th Anniversary Class of 1965.

Wednesday, May 27 WELCOME DINNERS

The Einstein Alumni Association kicked off the reunion festivities by hosting two dinners in Manhattan. One, held at the Yeshiva University Museum at the Center for Jewish History, welcomed members of Class of 1965; the other, at Colbeh, welcomed members of the Class of 1960. The celebrants looked back fondly on their Einstein years and greeted old friends.

Thursday, May 28 COMMENCEMENT AND GALA REUNION DINNER

Members of the 50th Anniversary Class led attendees from the other reunion classes in marching at Commencement, which was held at Lincoln Center's Avery Fisher Hall. The honorees were greeted by admiring applause from the assembled

"We were the class of the 'flower children' and the class that served during the Vietnam War as physicians to our boys in uniform."

— Stanford M. Goldman, M.D., Class of 1965

dignitaries, guests and new graduates.

That evening, members of the milestone anniversary class were the guests of honor at the Gala Reunion Dinner hosted by the Alumni Association for all 10 reunion classes (graduation years ending in 0 or 5) at the Grand Hyatt New York Hotel.

Alumni Association president Arthur Kozin, M.D. '82, the evening's emcee, announced the members of the Class of '65 as they entered the ballroom to a rousing welcome from the other classes.

Speaking for his Class of 1965, Stanford Goldman, M.D. '65, recalled Einstein as a "tremendously special place." He added, "Our class was special," noting that "we were the class of the 'flower children' and the class that served during the Vietnam War as physicians to our boys in uniform."



Stanford M. Goldman, M.D. '65, Class of 1965 Reunion Committee co-chair.

Eventually, he continued, "we became faculty members, researchers and outstanding clinicians in private practice in all branches of medicine. We've taught and mentored thousands of medical students, interns, residents and fellows, and have been involved in



Members of the Class of 1965 at the Gala Reunion Dinner.

our communities.” He encouraged his fellow alumni to “thank Einstein for the wonderful training we received.”

After dinner, representatives of the other reunion classes shared warm recollections of their years at Einstein.

Friday, May 29

ALUMNI DAY ON CAMPUS

Reunion celebrants and other alumni returned to the College of Medicine’s Jack and Pearl Resnick Campus—some for the first time since graduating from Einstein—to participate in a day of social and educational activities hosted by the Alumni Association.

Following a continental breakfast in the Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion’s Susan and Benjamin Winter Lobby, attendees gathered in the Ethel and Samuel J. LeFrak Auditorium for a symposium. The program was moderated by Harris Goldstein, M.D. ’80, associate dean for scientific resources, the Charles Michael Chair in Autoimmune Diseases and

director of the Einstein-Montefiore Center for AIDS Research.

Dean Spiegel kicked off the program with a town hall meeting focused on the new Einstein-Montefiore relationship. Then Mark F. Mehler, M.D. ’80, chair of and a professor in the Saul R. Korey Department of Neurology, a professor in the Dominick P. Purpura Department of Neuroscience and director of the Institute for Brain Disorders and Neural Regeneration at Einstein, the Alpern Professor and University Chair at Einstein and Montefiore, and neurologist-in-chief at Montefiore, presented “Epigenetics: Rewiring the Genome to Modulate the Brain and Behavior.” Harriette R. Mogul, M.D. ’65, M.P.H., discussed “EMPOWIR (Enhance the Metabolic Profile of Women with Insulin Resistance): New Perspectives for Reversing Midlife Weight Gain.”

Attendees had an opportunity to catch up and reminisce at an alumni-faculty luncheon held in the Evelyn

& Joseph I. Lubin Dining Hall. The day culminated in campus tours led by Michael J. Reichgott, M.D. ’65, Ph.D., chair of the conflict-of-interest committee, and Edward R. Burns, M.D. ’76, Einstein’s executive dean.

Tour stops included the Clinical Skills Center and the new Simulation Center, housed in the Van Etten Building (host: Felise B. Milan, M.D. ’88, director of the Clinical Skills Center and of the Introduction to Clinical Medicine programs); the Pessin laboratory in the Price Center/Block Research Pavilion (host: Jeffrey E. Pessin, Ph.D., the Judy R. and Alfred A. Rosenberg Endowed Professorial Chair in Diabetes Research and director of the Einstein–Mount Sinai Diabetes Research Center); the anatomy lab in the Leo Forchheimer Medical Science Building (hosts: Todd R. Olson, Ph.D., a professor of anatomy and structural biology, and Sherry A. Downie, Ph.D., a professor of clinical anatomy and structural biology); and



Alumni Day on Campus: Jeffrey E. Pessin, Ph.D., director of the Einstein–Mount Sinai Diabetes Research Center, far left, hosts visiting alumni for a tour of his lab in the Price Center/Block Research Pavilion.

components of the Education Center on the first floor of Forchheimer (host: Terence P. Ma, Ph.D., assistant dean for educational informatics).

Planning is under way for Reunion 2016, celebrating the Einstein classes of 1961, 1971, 1976, 1981, 1986, 1991, 1996, 2001, 2006 and honoring the 50th Anniversary Class of 1966. To learn more or to get involved, contact the office of alumni relations at 718.430.2013 or alumni@einstein.yu.edu.



At the Gala Reunion Dinner: 1. Members of the Class of 2005. 2. Hasan Bazari, M.D. '83, and his wife, Wendy Bazari, Ph.D. '83. 3. Members of the Class of 1990 celebrate their 25th reunion. 4. Rachel Katz-Sidlow, M.D. '95, Class of 1995 Reunion committee member, speaking on behalf of her class. 5. Members of the Class of 1980.



At the Gala Reunion Dinner: 6. Members of the Class of 1985. 7. Joshua Nosanchuk, M.D., Honorary Alumnus Award recipient, with his wife, Patricia Murphy, M.D. 8. Members of the Class of 1960. 9. Kevin Jovanovic, M.D. '00, Class of 2000 Reunion committee member, speaking on behalf of his class. 10. C. Michael Knee, M.D. '70, Class of 1970 Reunion committee member, representing his class.

11. From left, Alicia Erlich; Steven Mandel, M.D. '75; Heidi Mandel; Mark A. Erlich, M.D. '75; and Barbara Kapelman, M.D. '75.

At the Welcome Reception: 12. Class of 1965 Reunion committee co-chairs Michael J. Reichgott, M.D. '65, Ph.D., and Harriette R. Mogul, M.D. '65, M.P.H., and committee member Stephen P. Haveson, M.D. '65.

Professional & Leadership Division's Golf & Tennis Outing Supports New Drug Discovery at Einstein



The Einstein Professional & Leadership (P&L) Division hosted its 2015 Golf & Tennis Tournament and Dinner on June 23 at Sleepy Hollow Country Club in Scarborough, NY. New York real estate developer Peter S. Duncan was the honoree of the event, which benefited Einstein's Center for Experimental Therapeutics. The center provides resources to help Einstein investigators advance promising research projects aimed at finding innovative treatments for cancer, diabetes, cardiovascular disease and other medical conditions.

Mr. Duncan is president and CEO of George Comfort & Sons, Inc., a major New York-based real estate investment and management company. He has been a member of the

Professional & Leadership Division since 2006.

After a busy—and intermittently rainy—day on the golf course and tennis courts, Martin Luskin, P&L Division chair, welcomed division members and guests to the dinner program. Dean Allen M. Spiegel, M.D., then spoke to them about the “new Einstein” and the Center for Experimental Therapeutics, and thanked them for supporting the College of Medicine’s drug discovery enterprise.

“True Friend” to the College of Medicine

Neil Clark, a past P&L Division chair and a longtime executive committee member, presented Mr. Duncan with the 2015 Albert Einstein

- 1 Peter S. Duncan, 2015 Albert Einstein Humanitarian Award recipient, center, with Neil A. Clark, P&L Division executive board member and past chair, left, and Martin Luskin, P&L Division chair.
- 2 From left, Dean Allen M. Spiegel, M.D.; Andrew M. Weinberg, treasurer, P&L Division; and Einstein Overseer Samuel G. Weinberg.

Humanitarian Award. “Peter is a dedicated philanthropist who believes passionately in the importance of giving back to his community,” said Mr. Clark. “He’s been a loyal member of the P&L Division and a true friend to Einstein.”

In his acceptance remarks, Mr. Duncan recounted a conversation he had with his father, a pediatrician and noted genetics researcher, nearly ten years ago about whether he should join

To learn more about the Einstein Professional & Leadership Division and upcoming events, please contact Eve Marsan at 718.430.4178 or eve.marsan@einstein.yu.edu.



the P&L Division and support Einstein biomedical research. He recalled his father referring to Einstein researchers as “the real rocket scientists” who “do great work.” Mr. Duncan added, “As it turns out, my father’s observations about Einstein were spot on.”

Teaming Up to Advance Einstein’s Mission

“This event is about camaraderie and friendly competition,” said Mr. Luskin, “and, most importantly, it’s about working together as proud members of the Einstein team.”

Peter Bernstein and Andrew M. Weinberg co-chaired the event. Mr. Clark, Mr. Luskin, division vice chair Greg Gonzalez, Jeffrey A. Fiedler and Raymond S. Cohen served as journal co-chairs; Marc Altheim, Jack M. Somer and Greg Williamson were the

tennis chairs; Marlon Bustos and Peter E. Zinman, division treasurer, served as auction co-chairs.

The Golf & Tennis Tournament and Dinner is the P&L Division’s major annual fundraiser. It celebrates a 50-year tradition of philanthropic leadership and collaboration among a group of business leaders united in their passion to advance Einstein’s mission to improve human health.

Einstein’s Professional & Leadership Division

Since 1961, the Professional & Leadership Division of Albert Einstein College of Medicine (formerly known as the Men’s Division) has provided volunteer leadership to encourage the growth and development of the College of Medicine.

3 Peter E. Zinman, vice chair, P&L Division.

4 Peter Bernstein, secretary, P&L Division, with his father, Daniel Bernstein.

5 From left, Jeffrey Bartfeld; Greg Gonzalez, vice chair, P&L Division; Ignacio Castillo; and James Di Pietro.

6 Marc Altheim, tennis co-chair, with Andrew Woolf.

7 From left, Jack M. Somer, past chair, P&L Division; Arlene Maidman; Harry Maidman; and Dean Silverman.

8 Marvin D. Wax, P&L executive board member emeritus, center, with his son, Joel Wax, right, and his grandson, David Wax.

 **ON THE WEB**
www.einstein.yu.edu/r/pldivision

Women's Division Spirit Luncheon Spotlights Cancer Research

The Einstein Women's Division hosted its 61st annual Spirit of Achievement Luncheon on May 19, at the Rainbow Room in Manhattan. Actress Candice Bergen, opera star Renée Fleming and Einstein-Montefiore pediatric heart specialists Daphne T. Hsu, M.D., and Robert H. Pass, M.D., were the honorees. The event benefited research at the Albert Einstein Cancer Center focusing on ovarian, breast, uterine, cervical, prostate, lung, colon and pancreatic cancers as well as leukemia and lymphoma. Emmy Award-winning TV personality Jill Martin, a past Spirit honoree, donated her time and talent as emcee. The event chairs were Carol Roaman, president of the Women's Division, and executive board members Andrea Stark and Terri Goldberg.

Luminaries in the audience included past Spirit honorees actress Christine Baranski, Olympic figure-skating champion Sarah Hughes, longtime Women's Division board members Broadway producer Daryl Roth and art collector/philanthropist Emily Fisher Landau, and Einstein faculty members Susan Band Horwitz, Ph.D., and Sylvia Wassertheil-Smoller, Ph.D. Also present were Steven M. Safyer, M.D., president and CEO of Montefiore Health System; Philip O. Ozuah, M.D., executive vice president and COO of Montefiore; Roger W. Einiger, chair of Einstein's Board of Overseers; and Ruth L. Gottesman, Ed.D., immediate past chair.



A Heartfelt Presentation

Allen M. Spiegel, M.D., Einstein's Marilyn and Stanley M. Katz Dean, introduced a video detailing how Drs. Hsu and Pass and a team of Montefiore doctors provided lifesaving heart transplant surgery to 17-year-old Brianna Barker. Ms. Barker then took the podium to rousing applause and assisted Dean Spiegel and Ms. Martin in presenting Spirit of Achievement awards to Drs. Hsu and Pass.

Dr. Hsu, a professor of pediatrics (cardiology) and division chief of pediatric cardiology at Einstein and co-director of the pediatric heart center at Einstein and the Children's Hospital

- 1 Jill Martin, Spirit Luncheon emcee.
- 2 From left, Bambi Felberbaum, Women's Division executive vice president and past president; Emily Fisher Landau, Honorary Einstein Overseer, Women's Division founding member and current board member; and Mickey Beyer, board member.
- 3 From left, Roger W. Einiger, chair, Einstein Board of Overseers; Steven M. Safyer, M.D., president and CEO, Montefiore Health System; Audrey Heckler, board member, Einstein Women's Division; and Dean Allen M. Spiegel, M.D.

To join the Einstein Women's Division's initiative to support research on women's and men's cancers, or to learn more about the Women's Division, please contact Mary Anna Smith at 718.430.4010 or maryanna.smith@einstein.yu.edu.



at Montefiore (CHAM), expressed her excitement about plans for Einstein and Montefiore to strengthen their longtime relationship, and about the prospect of following Ms. Barker's future success in life. Dr. Pass, an associate professor of pediatrics (cardiology) at Einstein and director of the pediatric cardiac catheterization laboratory and of pediatric electrophysiology services at CHAM, thanked Dr. Hsu and his other mentors, his "role model" parents and his patients, "who inspire me on a daily basis."

Stellar Tributes to Einstein-Montefiore

Ms. Fleming and Ms. Bergen received their Spirit of Achievement awards later in the program.

In her acceptance remarks, Ms. Fleming, a world-renowned soprano, noted, "Classical singers share a trait with medical researchers who are on

a lifelong quest to master an unruly instrument." As an artist whose art focuses on breath control, she was "amazed" to learn about an innovative inhalation therapy developed by Einstein and Montefiore researchers to combat lung cancer, which had struck a close family member of hers.

Widely acclaimed for her starring role in the hit TV sitcom *Murphy Brown*, Ms. Bergen was visibly moved by Ms. Barker's story. She declared Drs. Hsu and Pass "my new heroes." Noting that she lost her first husband, French film director Louis Malle, to lymphoma, and that her current husband, real estate developer Marshall Rose, lost his first wife to breast cancer and three friends to leukemia, she told the Women's Division members, "I salute you and have great respect for the work you do."

- 4 From left, Talia Mandelbaum, Lianne Mandelbaum and Karen A. Mandelbaum, Einstein Overseer and Women's Division board member.
- 5 Spirit Luncheon co-chairs: Carol Roaman, president, Einstein Women's Division, right, and Women's Division executive vice presidents Terri Goldberg, left, and Andrea Stark.
- 6 Sarah Hughes, Olympic gold medalist and past Spirit honoree, with Aileen Murstein.
- 7 From left, 2015 Spirit of Achievement honorees Candice Bergen and Renée Fleming, with 2014 Spirit honoree Christine Baranski.
- 8 2015 Spirit honorees Robert H. Pass, M.D., and Daphne T. Hsu, M.D., far right, with Brianna Barker, second from left, and her mother, Veronica Barker.

 ON THE WEB
www.einstein.yu.edu/r/womensdivision

Einstein Emerging Leaders Raise Funds for Cancer Research

Members and friends of Einstein Emerging Leaders (EEL) came out for “Cocktails & Conversation,” an evening of meeting, mingling and hearing about some of the current research being conducted at the Albert Einstein Cancer Center, on May 12, at the Norwood Club in Manhattan. The event benefited cancer research at Einstein.

Danielle Cohen Segal, EEL’s executive chair, welcomed the attendees. “As you may have heard,” she said, “Einstein is in the process of deepening its ties with Montefiore Health System. For those of us in EEL, this newly expanded, dynamic relationship will provide additional ways to get involved.”

Ms. Segal then introduced Teresa V. Bowman, Ph.D., the featured guest speaker. Dr. Bowman is an assistant professor of developmental and molecular biology and of medicine (oncology) at Einstein. She discussed her research on hematopoietic stem cell regeneration and the molecular origins of myelodysplastic syndromes (MDS), incurable diseases that can result in leukemia. Dr. Bowman’s work may lead to new targeted therapies for MDS and leukemia.

EEL executive board members Matt Makovsky, Amanda and Joseph Sipala, Joanna Steinberg and David Weinreb served as the host committee for the event.



Einstein Emerging Leaders are philanthropic New York City professionals committed to advancing Einstein’s mission to improve human health. EEL hosts a variety of educational programs, volunteer activities and fundraising events throughout the year. To learn more, please contact Eve Marsan at eve.marsan@einstein.yu.edu. **E**

1 From left, Jonathan Segal; Danielle Cohen Segal, EEL executive chair; Teresa V. Bowman, Ph.D.; Ruth L. Gottesman, Ed.D., chair emerita, Einstein Board of Overseers; and Dean Allen M. Spiegel, M.D.

2 From left, Tommy Shaffer and Danielle Lotardo with EEL executive board members Amanda and Joseph Sipala.

 ON THE WEB
www.einstein.yu.edu/eel



KEEP EINSTEIN UPDATED WITH YOUR NEWS!

Please tell us what you are up to so your classmates can read about it in *Einstein* magazine. To be included in the next issue, e-mail your news to alumni@einstein.yu.edu.

1950s

Donald Kline, M.D. '59, has published *Luv Bajan Style*, a love story, *A Long Beat to Windward*, a historical novel, and *The Epiphany of Jillian Ashton*, a political novel. All are available on Amazon and Kindle. Dr. Kline has two other novels on tap: an insurance murder mystery and a medical thriller.

1960s

Ruth Freeman, M.D. '60, is a professor of internal medicine and women's health at Einstein and continues to work full time as the director of the bone densitometry unit and as a practicing endocrinologist, lecturer and grandmother of 11. Her husband, **Robert M. Lewis, M.D. '60**, a clinical assistant professor of obstetrics & gynecology and women's health at Einstein, received the Distinguished Alumnus/Clinical Practitioner Award in 2014. Dr. Freeman writes, "We celebrated our 51st wedding anniversary on May 31. We're thrilled that our daughter, **Beth Lewis, M.D. '00**, has returned to the Einstein orbit as chief of obstetric consultative medicine at Jacobi Medical Center and North Central Bronx Hospital."

Jack Katz, M.D. '60, is "still working actively in private psychiatric practice" but is "(finally) in the process of retiring from playing basketball. Fortunately, there's still tennis!"

Edward Stim, M.D. '60, celebrated his 81st birthday this year. He is "still happily an expatriate in Tokyo, Japan," and may be reached at 011 91 33 811 8124 or at <http://physiciansnotebook.blogspot.com> (Physician's Notebooks) and <http://adventuresofkimi.blogspot.com> (Slim Novels 1 to 18).

Sidney H. Sobel, M.D. '61, F.A.C.R., commissioned a musical work that premiered in 2012 with the Oberlin Conservatory Orchestra and the Rochester Philharmonic, and has since been performed across the U.S. and abroad. (A recording is available on Amazon.com.) Dr. Sobel writes: "Created by world-renowned composer Lorenzo Palomo, this symphonic poem accompanies the narration of Dr. Seuss' 'The Sneetches,' a story about the injury caused by acts of prejudice. I believe its message will raise awareness of social injustice." He adds: "I continue a limited radiation oncology practice, hold a faculty appointment at the University of Rochester School of Medicine and

Dentistry, and serve on the boards of several community organizations. My dear wife, Barbara, and I have three children: Diane, a psychiatric social worker, lives in Brooklyn, NY, with her husband, Gary, a professor of foreign languages and literature and their son; Will, founder and CEO of System Insights, resides in Oakland, CA, with his wife, Valerie, an artist, and their three sons; Joshua is a theatrical director and literary manager in Chicago. I look forward to our 55th Einstein reunion in 2016."

Ronald Grober, M.D. '62, writes: "I hated to leave my specialty of orthopedic surgery, but with what I see going on in our profession I am happy not having to deal with our rapidly decaying healthcare system. Dorothy and I enjoy Florida in the winter and my sailboat and our home in Colorado in the summer. We feel privileged to enjoy an active and interesting lifestyle. We've taken wonderful trips over the years and are fortunate to have special friends who enrich our life. My interest in jazz continues; my band and I perform for enthusiastic crowds and play with top-caliber professionals. I hang on as best I can and enjoy the ride. I am most grateful for having had a super career, a wonderful woman in my life, healthy kids and grandkids."

Joseph Berke, M.D. '64, published his 12th book, *The Hidden Freud: His Hassidic Roots* (Karnac Books). Dr. Berke notes, "This book discusses the side of Sigmund Freud that he concealed, his interest in and knowledge of Jewish and Kabbalistic sources. It demonstrates the great extent to which psychoanalysis is based on Kabbalistic thinking."

Naomi Alazraki, M.D. '66, has retired “after a 42-year career in academic nuclear medicine with the Veterans Administration (28 years in Atlanta, five in Salt Lake City and ten in San Diego) and the affiliated universities (Emory, University of Utah and UCSD). I spend time playing the harp, being with my grandchildren, and ‘giving back’ as best I can. Proud of my daughters: Daphne, an art dealer in Manhattan, living with her husband in La Jolla, CA; Adina, a mother, wife and pediatric radiologist in my former department at Emory; and Rebecca, an attorney in Denver, CO. I serve as historian for the Society of Nuclear Medicine and Molecular Imaging, of which I am a past president, and plan to remain actively involved with the Education and Research Foundation for Nuclear Medicine. I remember my Einstein years fondly; they seem to have happened long, long ago and, at the same time, just yesterday.”

Robert Zohlman, M.D. '68, is a professor of medicine at Virginia Commonwealth University’s Northern Virginia campus at Inova Fairfax Hospital, in Falls Church, VA.

Robert Hoffman, M.D. '69, writes: “My fifth book chapter was published in a volume about pituitary disease. More important, my eldest son, Ari, recently had his first child and our eighth grandchild. Our first grandchild recently received the prize for best actor at a theater festival in Northern California, and our 16-year-old twin granddaughters won a state science contest at Cal Tech. Our youngest daughter, an immigration attorney and a fellow at the University of California’s Hastings College of the

Law, was awarded a grant to develop a program in Palo Alto for immigrant children facing deportation. Her husband wrote *The B Corp Handbook*, available on Amazon.”

1970s

Richard Abraham, M.D. '70, is “semi-retired” from 38 years of full-time private practice in primary care internal medicine. “The ‘semi’ means that I teach University of Connecticut medical students, one session per week. My wife, Judy, a physical therapist, works part-time in private practice. Three kids and six grandchildren keep us busy from New York City and Baltimore to London. Then there are sailing, windsurfing, skiing, rollerblading, wood-working, artwork and bread baking. I hope my classmates are all well and keeping active.”

Stanley Glick, Ph.D. '70, M.D. '71, has published a novel, *N Equals One*. For more information visit <http://www.amazon.com/Equals-One-Stanley-Glick-MD/dp/150291431X>.

Diane Stover, M.D. '70, reports, “My daughter, Dana, after earning a master’s degree in environmental health at Columbia University’s Mailman School of Public Health and then working at the Environmental Protection Agency, went to medical school. She graduated in 2013 from New York Medical College and did her internship in internal medicine at Georgetown; she hopes to specialize in infectious disease.”

Marc Berenzweig, M.D. '71, is forming a pediatric oncology service in Gondar, Ethiopia, with a grant from the National Children’s Cancer Society. Dr. Berenzweig serves on the board of the American Jewish Committee’s Westchester regional office, based in Westchester County, NY.

Allan B. Goldstein, M.D. '71, retired as vice president of AmeriHealth New Jersey in 2007. He then operated a boutique consultancy focused on healthcare-delivery system design and outcomes-focused quality improvement. He also became a director at the Patient Assistance Network Foundation, which assists underinsured individuals. He is now looking for new volunteer opportunities with healthcare-related not-for-profits. In 2010 he and his wife, Barbara, moved to Delray Beach, FL. He writes, “Both of our children, and our two grandchildren, live nearby. I have reengaged with photography, an artistic outlet I developed as a medical student. I would be happy to hear from classmates living in southeast Florida.”

Miriam F. Tasini, M.D. '71, reports that her book *Where Are We Going?* was included in the 2014 exhibit on the history of Polish Jews at the Galicia Jewish Museum in Kraków, Poland.

Robert Ritch, M.D. '72, is the Shelley and Steven Einhorn Distinguished Chair in Ophthalmology, director of international affairs and glaucoma research, surgeon director emeritus and chief of glaucoma services at the New York Eye and Ear Infirmary of Mount Sinai. In 2013 Dr. Ritch was honored at the American Glaucoma Society Annual Meeting and received

ALUMNI PROFILE

Louis M. Aledort, M.D. '59, M.A.C.P.



In medicine and other professions, “pioneer” denotes those first to pursue a new enterprise or area of inquiry. By that definition, hematologist Louis M. Aledort, M.D.

'59, is a pioneer twice over: He belongs to Einstein's first graduating class and has conducted trailblazing research into coagulation disorders.

Dr. Aledort is the Mary Weinfeld Professor of Clinical Research in Hemophilia at the Icahn School of Medicine at Mount Sinai in New York City, a position he has held since 1993. He studies bleeding related to anticoagulant therapy, the safety and effectiveness of bleeding-disorder treatments and idiopathic thrombocytopenic purpura (a blood disorder in which the immune system destroys platelets).

Recently, Dr. Aledort was awarded an honorary doctorate in medicine from Lund University in Sweden and traveled there in June to participate in the university's graduation ceremony, where the picture above was taken. Dr. Aledort has worked with Lund University on collaborative research projects and training programs for more than 30 years. He has also mentored young Swedish scientists, many of whom have gone on to successful careers.

“Receiving this honor was the most extraordinary accolade I can imagine as a lifetime achievement award,” he says. “As I climbed the stairs to accept the award there were real cannons roaring, and they announced my name in Latin, Ludovice Aledort. They presented me with a diploma, and with a ‘wedding ring’ as a sign that I am wedded to my profession. The ceremony was followed by a white-tie-and-tails reception

and an orchestra playing at midnight—very similar to the festivities following the awarding of a Nobel Prize.”

During his career, Dr. Aledort has taken part in many projects that have advanced scientific standards in research and patient care. He has also helped lead several groundbreaking collaborative study groups; worked with a broad range of governmental, nonprofit and educational organizations; written more than 400 peer-reviewed articles; and edited numerous medical journals. And he is known among his peers as a tireless advocate for colleagues and young physicians and investigators.

In 2011, the Einstein Alumni Association recognized Dr. Aledort with its Lifetime Achievement Award. Among

.....
“EINSTEIN PROVIDED ME NOT ONLY WITH A LOVE OF HEMATOLOGY, BUT ALSO WITH THE DISCIPLINE NEEDED FOR A SUCCESSFUL CAREER.”
.....

his other honors are the Hemophilia and Thrombosis Research Society's Lifetime Achievement Award, the National Hemophilia Foundation's Murray Thelin Science Award and the Mount Sinai Nursing Department's Lifetime Achievement Award. He was elected to

Mastership in the American College of Physicians in 2004.

A generous supporter of his alma mater, Dr. Aledort is a member of Einstein's Century Award Society and was one of the first alumni to join Walking with Einstein, the College of Medicine's new legacy giving society. He has served on the Einstein Alumni Association board of governors for decades and was its president in 1969 and 1970. In 2009, he chaired Einstein's first 50th reunion celebration, for his class of 1959; he chaired his 55th class reunion this year.

“Einstein provided me not only with a love of hematology,” he says, “but also with the discipline needed for a successful career.”

the World Glaucoma Association Recognition Award. In 2014, he received the Moacyr Álvaro Gold Medal, one of Latin America's most prestigious ophthalmology awards, at the Moacyr Álvaro International Symposium in Sao Paulo, Brazil. He was also honored at the Asia-Pacific Glaucoma Congress and served as convener of the World Ophthalmology Congress. This year, he was convener of the 2015 Glaucoma Program at the Asia-Pacific Academy of Ophthalmology, and organizer of the Glaucoma Program at the Academia Ophthalmologica Internationalis 40th anniversary meeting in Ghent, Belgium.

Mark Epstein, M.D. '73, has retired from his internal medicine practice. His wife, Debby, is retired from New York State (serving in the courts, in healthcare administration and as an advisor at Binghamton University). "I am employed part-time as director of Lourdes Occupational Health Services in Binghamton," he writes, "and am devoting more time to travel and reading. We recently drove down the California coast and stayed with Deb and **Rich Kremsdorf, M.D. '73**, in San Diego. My career satisfactions were abundant, but it was time to explore other paths."

Lawrence (Larry) Kaplan, M.D. '73, was honored for the second time by the *Wellesley Townsman* newspaper for making outstanding civic contributions to his community in Wellesley, MA. The honor recognized Dr. Kaplan's work as founder and president of the community development organization Cité Soleil Opportunity Council, which he started in Cité Soleil, Port-au-Prince, Haiti, soon after the 2010 earthquake.

Earle B. Weiss, M.D. '61, has published a book of his poetry and artwork titled *Faded Shadows: Some Thoughts at the End of a Journey* (Miles Press, Worcester MA, 2013). "I began writing many years ago during the summer days when spare time was rare for me," writes Dr. Weiss.

"Now and then subjects beyond my seaside loves began to find some ink. ... My daughter, Ilana, and wife, Vicky, encouraged me to collate the maelstrom." The book includes original photographs and line drawings by Dr. Weiss as well as copies he made of oil paintings and watercolors. Several of the poems previously appeared in collections published by the International Library of Poetry and the National Library of Poetry. Now retired from a long and distinguished career in pulmonary medicine, Dr. Weiss is a past president of the Massachusetts Thoracic Society and received its Chadwick Medal for "meritorious contributions to the study and treatment of tuberculosis and other thoracic diseases." He established a student research fellowship at Einstein and has made a planned gift to support global health programs at the College of Medicine.



"Autumn Dreamscape," photo by Earle Weiss.

He was also recognized for his four years of teaching in Wellesley High School's global marketing class and serving as a role model for the students.

Jonathan Tobis, M.D. '73, writes, "I presented a lecture at Jacobi Medical Center Grand Rounds in May 2015. I reviewed my work in interventional cardiology over the past 40 years, including helping to develop digital angiography, intravascular ultrasound and the treatment of patent foramen ovale. It was very poignant for me to return to where my journey in medicine began."

Barbara Allen-Dalrymple, M.D. '74, retired in 2014. She traveled to Uganda in June of that year to volunteer at a medical clinic, as a member of a mission trip sponsored by her church.

Albert Brooks, M.D. '74, was invited to participate in a physician leaders' forum hosted by the Joint Commission in March 2014. "This reflects the excellent training and education I received at Einstein and in my ob/gyn residency there," he writes. "I have served as chief of medical services at Washington Hospital Healthcare System in Fremont, CA, for the past ten years. Before that, I had a private ob/gyn practice

in Berkeley, for 26 years. During that time I became chairman of the ob/gyn department and president of the medical staff, and served on the Board of Trustees of Alta Bates Summit Medical Center.”

Martin Grajower, M.D. '74, serves on the editorial board of *Endocrine Practice* and as co-editor of *Diabetes/Metabolism: Research and Reviews*.

Murray Pollack, M.D. '74, is chair and professor in the department of child health at the University of Arizona College of Medicine–Phoenix. He recently stepped down from his positions as chief medical and academic officer of Phoenix Children’s Hospital, where he was on staff for seven years. Dr. Pollack plans to return to Washington, DC, in the near future.

Howard J. Winter, M.D. '74, F.A.C.S., is program director for surgery in the Virtua Health System. Headquartered in Marlton, NJ, Virtua is a four-hospital system with multiple outpatient surgery centers and is the largest system in southern New Jersey. Dr. Winter completed his surgical residency at Einstein in 1978 and specializes in colon and rectal surgery.

Harold Pincus, M.D. '75, received the 2015 Research Mentorship Award, bestowed jointly by the American Association of Chairs of Departments of Psychiatry and the American Psychiatric Association, for his contributions to the career development of young investigators. Dr. Pincus is a professor and vice chair of the department of psychiatry at Columbia University’s College of Physicians and Surgeons, director

of quality and outcomes research at New York–Presbyterian Hospital and co-director of Columbia’s Irving Institute for Clinical and Translational Research. He is also a senior scientist at the RAND Corporation and national director of the Health and Aging Policy Fellows Program.

Ira Helfand, M.D. '77, and Deborah Smith, M.D. '77, continue to practice in Western Massachusetts. Ira writes: “I serve as co-president of International Physicians for the Prevention of Nuclear War, the global federation of which Physicians for Social Responsibility is the U.S. affiliate. The two organizations released a major report on nuclear famine in 2013, describing the catastrophic consequences that would follow even a limited nuclear war. I presented data at the Knesset in Jerusalem, and addressed the second conference on the Humanitarian Consequences of Nuclear Weapons in Nayarit, Mexico, attended by 146 governments from around the world. I encourage you to visit www.psr.org and www.ipnw.org, and join the international campaign to educate people about the potential medical impact of nuclear war and the urgent need to eliminate these weapons.”

Robert Stone Lee, M.D. '77, reports that after retiring from his interventional cardiology practice in Boise, ID, in 2011, he went to law school at the University of California’s Hastings College of the Law and graduated in 2014. Dr. Lee writes, “I passed the Idaho State Bar exam and, in May 2015, was sworn in. Now I’m looking for a job! In my spare time, I enjoy kitesurfing, windsurfing, kayaking and skiing.”

Sten Vermund, M.D. '77, M.Phil., Ph.D., received the 2014 Allan Rosenfield Alumni Award for Excellence from the Columbia University Mailman School of Public Health in New York. Dr. Vermund is director of the Vanderbilt Institute for Global Health, the Amos Christie Chair of Global Health and a professor of pediatrics at Vanderbilt University in Nashville, TN. The award recognized his extraordinary contributions to the public health field in the area of HIV infection prevention and HIV/AIDS infrastructures to improve cancer screening and treatment for women in low-income countries since the late 1980s. It honored Dr. Vermund for his devotion to addressing public health disparities and his remarkable efforts to improve women’s and children’s health on a global scale.

Sarah Day, M.D. '78, plans to retire from her full-time pediatric practice in Richmond, VA, on her 70th birthday in February 2016. “Then I hope to spend much more time with my granddaughter, age 6,” writes Dr. Day. “She lives in Denver with my daughter, Katie Weisberger, who has her master’s degree and teaches high school art and photography in Denver. My three Weisberger sons are Ben, studying economics at Virginia Commonwealth University; David, doing a physics Ph.D. in Phoenix; and Bill, who has his master’s and teaches high school biology in Denver.”

Irene Hylar, M.D. '79, received the Nancy C. A. Roeske, M.D., Certificate of Recognition for Excellence in Medical Student Education, presented by the American Psychiatric Association and its Council on Medical Education

and Lifelong Learning. The award recognizes Dr. Hyler's contributions as a faculty member at Weill Cornell Medical College in New York City.

1980s

James Feldman, M.D. '80, ran his first Boston Marathon this year as a member of Team BMC (Boston Medical Center) to celebrate his 60th birthday. Dr. Feldman has worked at BMC for 35 years and has dubbed his training regimen and efforts "Run to Remember." He considers the whole experience a journey, "looking back at emergency care in the streets, the many triumphs, tragedies, personalities and visionaries who have played such an important role at BMC and in my life. Training for any marathon is no easy task, and as an emergency medicine physician, I had to schedule my training around the time spent caring for others." Dr. Feldman received the Massachusetts Medical Society's Grant V. Rodkey Award in 2014. The award recognizes a Massachusetts physician for outstanding contributions to medical education and medical students.

Howard Haines, Ph.D. '82, and his wife, Paula, announce the birth of their first grandson, to their daughter Elana and son-in-law Michael. Dr. Haines writes, "Paula and I have been married for 43 years. We are planning a trip to India and are looking forward to our next season at the Metropolitan Opera. She is enjoying retirement and literacy volunteering, while I continue to work as a contractor for Engility, supporting the Defense Threat Reduction Agency's therapeutics division."

Robert Kahn-Rose, M.D. '81, Ph.D. '81, has a full-time private practice in psychiatry in Encino, CA, and is still on the faculty of UCLA as an associate clinical professor. He writes, "I have four children, ages 34, 31, 29 and 20. The oldest three are married. I have seven grandchildren. One dog, one cat, one grand-dog. One wonderful wife of nearly 38 years. Great life. Hope everyone is well."

Brian Rubin, M.D. '81, and **Rhonda Rubin, M.D. '84**, welcomed a granddaughter, Sophie, in September 2013.

Steve Merahn, M.D. '82, has joined U.S. Medical Management in Troy, MI, as the chief medical officer for its 200-plus physician, multistate, home-based primary-care practice focused on complex/fragile elderly and disabled patients. Dr. Merahn oversees the company's national accountable-care organization and CMS Independence at Home program, a project of the Centers for Medicare & Medicaid Services.

Edwin F. Simpser, M.D. '82, is president and chief executive officer of St. Mary's Healthcare System for Children, New York's largest provider of long-term care for children with medical complexity and New York City's only pediatric sub-acute care hospital.

Marjorie Merod, M.D. '84, has retired from active practice in ob/gyn. Her son, Michael, born while she was a third-year student at Einstein, is an attorney in Silver Spring, MD. Her daughter, Marjorie, recently married Daniel Stevens in Montauk, NY, and works for North Carolina State University, as an assistant director of the Kayrollah

Institute for Lebanese Studies. Dr. Merod and her husband, Michael, have lived in Raleigh, NC, since she finished her residency at Einstein.

Sander Rabin, M.D. '84, writes, "Having practiced ophthalmology and biomedical patent law, I have founded and am organizing the Center for Transhuman Jurisprudence, a not-for-profit corporation. Its mission is to create and evaluate model legal systems that anticipate a transhuman citizenry."

Jo A. Hannafin, M.D. '85, Ph.D. '85, informs us, "I am a professor of orthopaedic surgery at Weill Cornell Medical College and the director of orthopaedic research at the Hospital for Special Surgery. I recently completed a term as the first female president of the American Orthopaedic Society for Sports Medicine. My husband, John Brisson, and I have three children: Andrew, 27, an artist in Syracuse, NY; Caitlin, 25, a marine ecologist in Providence, RI; and Connor, 21, an economics major at Indiana University. Life is good, and we're happy and grateful!"

Joseph R. Maldonado, M.D. '85, was installed as president of the Medical Society of the State of New York in May. Dr. Maldonado writes, "I believe that I am the first Einstein alumnus to attain this honor."

Linda (Lin) Arias, M.D. '86, writes: "Hello from Australia! I'm a GP (family medicine doctor) with obstetric qualifications here in Perth, on the West Coast. I've lived in Australia since 1987. I have two teenage girls who were born here and who, like me, are dual citizens. We return to the USA every two years,

to see family and friends and get a hit of New York City culture. Life is good Down Under. If you're interested in staying in touch, e-mail me at lcompston@ozemail.com.au. It seems to me that our school is thriving as I hope all of you are, too."

Kris Karlen, M.D. '86, led a team of medical personnel affiliated with the nonprofit SEE International on a trip to the Democratic Republic of Congo for a humanitarian expedition in July. The medical team, including Dr. Karlen's co-leader, Charles Narh, a technician, "had prepared to perform approximately 100 sight-restoring surgeries in the rural village of Dienenga. However, word spread across the countryside, and more than 4,000 men, women and children arrived seeking eye care. We managed to screen all 4,000, stretch our supplies and restore the vision of 250 blind or sight-impaired individuals."

Lewis Berman, M.D. '87, F.A.C.C.P., was promoted from chair of medicine to vice president of medical affairs of Norwalk Hospital in Norwalk, CT. He recently became an inaugural diplomate in clinical informatics through the American Board of Preventive Medicine.

Kelly Michael James, M.D. '87, F.A.C.S., has been appointed assistant associate professor of surgery at the University of Missouri–Kansas City Truman Medical Center in Lakewood, MO. He is also the trauma medical director at Saint Luke's East Medical Center in Lee Summit, MO.

Deena Zimmerman, M.D. '88, M.P.H., I.B.C.L.C., and her husband, Sammy, celebrated the wedding of their

Alumni Leadership Reception

Alumni who have recently reached new leadership levels of giving to Einstein were recognized at this year's Alumni Leadership Reception, hosted by Dean Allen M. Spiegel, M.D., on April 30 in the Susan and Benjamin Winter Lobby of the Price Center/Block Research Pavilion.

Following remarks by Dean Spiegel and Alumni Association president Arthur M. Kozin, M.D. '82, the honorees who were present received their awards. The group then proceeded to Einstein's new Simulation Center in the Van Etten Building. There they heard from Einstein-Montefiore faculty members Felise Milan, M.D. '88, professor of clinical medicine and director of the Clinical Skills Center; Peter Bernstein, M.D., M.P.H., professor of clinical obstetrics & gynecology and women's health and program director, maternal fetal medicine; and

Dena Goffman, M.D. '01, associate professor of clinical obstetrics & gynecology and women's health.

The alumni recognized, and their newly attained giving levels, include:

Dean's Club

Chaim Charytan, M.D. '64
Howard S. Gruber, M.D. '62
Michael B. Harris, M.D. '69
Barry Stephen Paul, M.D. '76
Michael J. Reichgott, M.D. '65, Ph.D.
Bradley G. Somer, M.D. '96
Elsa L. Stone, M.D. '70

Einstein Circle

Mark J. Ellenbogen, M.D. '70
Raja M. Flores, M.D. '92
George Fulop, M.D. '80
Robert C. Stern, M.D. '63

Century Award

Martin H. Brownstein, M.D. '61
Jay M. Feingold, M.D. '86, Ph.D. '86

Guardian

Donald Wolmer, M.D. '60



Clockwise from top left: Michael B. Harris, M.D. '69; Dean Spiegel with George Fulop, M.D., '80; Mark J. Ellenbogen, M.D. '70, left, with Arthur M. Kozin, M.D. '82; Dean Spiegel with Jay M. Feingold, M.D. '86, Ph.D. '86.

son Ari (an Einstein baby) in February 2014 to Hodaya Rosh in Tiberias, Israel, as well as the bat mitzvah of their daughter Tikva.

Jean Burg, M.D. '89, writes, “My daughter Abigail was one of the first babies born to our class, in May 1987. I am so sad to share the news of her death in July 2011 from a tragic accident, when she was only 24. She was a vibrant young woman who loved life and was deeply loved by her family and friends. She had a beautiful soprano voice, beautiful red hair and a beautiful personality. Abby was about to begin social work school and planned to dedicate her life to helping disadvantaged children and families. To honor her life and fulfill her dreams of helping youth, a nonprofit organization has been established. Please visit www.abbyschildren.org.”

1990s

Panayiotis A. Ellinas, M.D. '91, M.P.H., reports, “I continue to practice as the village doctor, on the fringes (both geographically and morally), in America’s Wild West and on the U.S.-Mexico border. My office is 500 feet from the border. The ‘forgotten diseases of forgotten people,’ to quote my mentor, as well as drug-related problems, are in my daily routine. After two active-duty overseas deployments (and a U.S. Army humanitarian mission to East Africa where I quickly became an expert in the treatment of the curious syndrome of schistosomiasis, TB and AIDS), I resigned from the U.S. Army Reserves Medical Corps. An 8-year-old and a 13-year-old at home are more than enough reason to do so, after 10

years of voluntary patriotic service and frequent absences from home! To quote Dr. Seuss, ‘And that is that.’”

Dina Levin, M.D. '93, moved to Bellingham, WA, in 2014. She writes, “Enjoying work for PeaceHealth Medical Group Ob/Gyn at PeaceHealth St. Joseph Medical Center. Our boys, 13 and 14, are adjusting well. My husband is remodeling a house for us with a great view of the Canadian mountains.”

Hugh Bases, M.D. '94, writes, “I am a developmental pediatrician at NYU School of Medicine and the program director of the fellowship in developmental/behavioral pediatrics. I have a small private practice in northern New Jersey. This past summer, I celebrated my 22nd wedding anniversary! I have two teenage kids, Rachel, 17, and Ben, 13. Very blessed.”

David Markenson, M.D. '94, has moved to Denver, CO, and is the chief medical officer for Sky Ridge Medical Center, a hospital within the HealthONE System, part of the Hospital Corporation of America.

Brian Blaufeux, M.D. '96, is the chief medical informatics officer at Northern Westchester Hospital in Mount Kisco, NY.

Laurie Hirsh, M.D. '97, is happily married to Stephen Goldstein and has two wonderful children, Casey, 2, and Matthew, 3 months. She lives with her family in Manhattan and is the hand surgeon in the orthopedic surgery department at Jacobi Medical Center in the Bronx.

James Post, M.D. '97, has joined the James J. Peters VA Medical Center in the Bronx, NY, as chief of internal medicine. He was previously an attending physician in nephrology there and co-administrator of the hemodialysis unit. Dr. Post has academic appointments at Columbia University School of Medicine and the Icahn School of Medicine at Mount Sinai. He is board certified in internal medicine and nephrology and has received numerous awards.

2000s

Dilip D. Madnani, M.D. '01, F.A.C.S., has a practice in facial plastic surgery in Manhattan and on Long Island (www.drmadnani.com) and started a skin care company, Pure Heal Plus (www.purehealplus.com). He writes, “We launched our first product to help improve the appearance of scars and had an official launch at Clyde’s on Madison, a well-known apothecary and pharmacy on Manhattan’s Upper East Side—quite exciting! I work closely with **Snehal Amin, M.D. '00**, and **Parinita (Pari) Amin, M.D. '01**, and am also regularly in touch with **Gautam Mirchandani, M.D. '00**; **Christina Koizumi, M.D. '00**; **Marwan Kazimi, M.D. '01**, and **Nerses Sanossian, M.D. '00**.”

Olga (Pantukhova) Segal, M.D. '04, writes, “I enjoy my work as a general neurologist in Queens, NY. My amazing husband, **Eric B. J. Segal, M.D. '05**, is a pediatric epileptologist. He runs pediatric epilepsy and ketogenic diet programs for the Northeast Regional Epilepsy Group in Hackensack, NJ.” They and their five children enjoy theater, arts, travel, camping and biking.

Satra (Browne) Gradiska, M.D. '06, was married to Daniel Gradiska in August 2013, in New York City, surrounded by family and friends. She writes, "We were blessed to share our wedding day with close friends and Einstein alumni **Anita Holman, M.D. '06**; **Adamma Mba Jonas, M.D. '07**; **May Li, M.D. '07**; **Marissa Stridiron, M.D. '06**; and **Shellyann Sharpe, M.D. '05**. We are now living happily ever after in New Zealand surrounded by nature, hobbits and lots of sheep."

Robyn Gartner, M.D. '08, and her husband, Howard Roth, happily welcomed their first child, Lea Rebecca, on January 7, 2015.

Cara Zeldis Snyder, M.D. '08, is "happy to report that since finishing my fellowship in oculoplastics last summer, I have started practicing ophthalmology with a focus in oculoplastics in Boca Raton, FL. By chance, I am working with fellow Einstein alum **S. Daniel Salama, M.D. '91**! I was lucky enough to be free for the Einstein in Florida alumni event and enjoyed hearing all about the wonderful ongoing research at Einstein. I would love to connect with other Einstein alumni in the South Florida area."

Dana Kotler, M.D. '09, completed a fellowship in sports medicine at Spaulding Rehabilitation Hospital/Harvard University in 2014. She has stayed on as an attending physician at the Spaulding Outpatient Center—Wellesley and Newton-Wellesley Hospital, and is a clinical instructor in the department of physical medicine & rehabilitation at Harvard Medical School. Dr. Kotler has created a cycling

medicine program that includes a multidisciplinary clinic for cyclists. She has also continued bike racing in New England, both road and cyclocross.

2010s

Allen Chang, M.D. '10, writes, "After completing my first tour as a naval flight surgeon out of Okinawa, Japan, I was selected to complete a final operational tour out of Marine Corps Air Station, Miramar, San Diego, CA. Shortly after attaching to Marine Medium Tiltrotor Squadron 363, I deployed to Central Command/Middle East with the Special Purpose Marine Air-Ground Task Force, serving as the senior medical officer for casualty evacuation, contingency operations and personnel recovery/crisis response missions out of Kuwait and Iraq. My expeditionary squadron flies an MV-22B 'Osprey' aircraft that takes off like a helicopter and moves like an airplane, and my seat is typically next to the pilot or enlisted crew chief with my dusty trauma bag. I spent the past few holidays in Kuwait and Iraq, but I've safely made it home and am applying for an emergency medicine residency as a civilian."

Andrew "Avi" Friedman, M.D. '13, and his wife, Deena, announce the birth of their son, Caleb Meir Friedman, in July 2013. **E**

In Memoriam

We acknowledge with sadness the passing of the following Einstein alumni. We honor their memories and extend our deepest condolences to their families and friends.

John Baron, M.D. '62

Hadassah Brooks-Morgan, M.D. '61

Naomi (Weiss) Drabkin, M.D. '71

Sidney W. Ecker, M.D. '66

David E. Epstein, M.D. '79

Harold H. Fogelman, M.D. '69

Sheldon Gladstein, M.D. '60

Richard Horstmeyer, M.D. '72

Alexander Karpenos, M.D. '86

Leonard Kasen, M.D. '60

Paul S. Nemetz, M.D. '61

Alan B. Port, M.D. '81

Georg L. Rymph, M.D. '99

Fred M. Sander, M.D. '63

Allan Spielvogel, M.D. '68

Frederick J. Tanz, M.D. '65

Kristin Joyner Vergunst, M.D. '90

Ann Weisman, M.D. '77

**Sandra M. Weiss-Schwartz,
M.D. '60**

Robert A. Wolf, M.D. '66

Richard Zakheim, M.D. '62

For news about Reunion 2016 and other upcoming alumni programs and events, please visit our website.



ON THE WEB

www.einstein.yu.edu/alumni



Picturing Where the Wild Things Are

A scientist's backyard provides plenty of photo ops

by NELLY EDMONDSON

Jayanta Roy-Chowdhury, M.B.B.S., has been interested in photography for decades. When he arrived in the United States in 1968, fresh out of medical school in his native Kolkata (formerly known as Calcutta), India, the first thing he bought was a camera.

His idea of a great photo is one that “does something other than describe exactly what it is. I like pictures that stir the emotions or show interaction,” he explains. “You can do this often with birds because they are always posing. If you keep your eyes open, you can tell a lot of stories with birds.”

Dr. Roy-Chowdhury, a professor of medicine and of genetics and scientific director of the gene therapy facility at Einstein, remembers the day he was standing at his living room window in New Rochelle when a scarlet tanager swooped toward him. “It was trying to enter through the glass,” he recalls.

He grabbed his camera, and as the bird approached the window for a second try, Dr. Roy-Chowdhury took what turned out to be a gorgeous picture of the creature in flight, fiercely beating its wings, before it realized its folly and flew safely away. “There is always something happening,” says Dr. Roy-Chowdhury. “Nature comes to us!”

Dr. Roy-Chowdhury credits his brother, a wildlife expert, with awakening his interest first in birds and then in the rest of the animal kingdom. Foxes, deer and other animals abound in the woods



Above, yawning hippo, Amboseli, Kenya; top, scarlet tanager at the window, New Rochelle, NY.



Top, lion cub cuddling with mother, Maasai Mara, Kenya; middle, painted storks flying at sunset, Gujarat, India; bottom, baya weavers and nest, Amboseli, Kenya.

in back of his Westchester home. One year, he gathered pictures taken from his windows and exhibited them in the Indian Academy of Fine Arts in Kolkata.

To photograph more-exotic fauna, Dr. Roy-Chowdhury and his wife travel abroad every year. They recently visited northeast India with their son, a professional sitar player. There, Dr. Roy-Chowdhury got magnificent shots of wild elephants, rhinoceroses, buffaloes and gibbons. In his office at Einstein, he shows off a picture of a mother lion playing with her male cub, taken during a trip to Maasai Mara, Kenya, in 2011. “We think of lions as killers,” he says, “but this interaction is so tender.”

A member of Einstein’s faculty since 1975, Dr. Roy-Chowdhury is now developing gene- and cell-based therapies for inherited liver diseases. He has had some success transplanting healthy liver cells into animals as well as into patients. And he sees a definite link between his work and his hobby. “Creativity in art is the same as creativity in science,” he says. “Designing an experiment requires a lot of mental work, and with photography, you are always planning the next shot. Both activities tickle my pleasure center.”

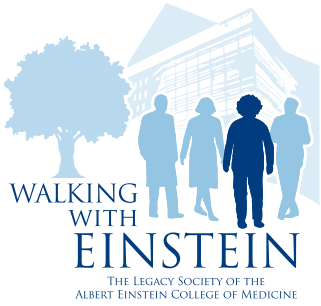
Not everything can be photographed—a problem Dr. Roy-Chowdhury solves with another activity he enjoys: painting in acrylics. “I paint things I cannot capture in photographs,” he explains, such as “a bird transferring a fish to its mate, or a moving train that passes through in a flash.”

Leaving for work one recent morning, Dr. Roy-Chowdhury saw a V-shaped skein of Canada geese flying above his house. He ran inside to get his camera, but by the time he returned, the birds had flown away. Dr. Roy-Chowdhury wasn’t discouraged. “I am a visual person,” he says. “Every day, I find something new to take a picture of!” **E**



When Montefiore installed its electronic data system in October 1963, it entered the modern era of clinical research. Medical records that once filled 30 typewritten pages could now fit on two or three inches of tape and be read in a fraction of a second. The new system was a boon for researchers conducting population and disease studies: Gone was the clerical effort needed to organize and analyze millions of facts.

What was modern in 1963 (which, coincidentally, was the year Montefiore became the University Hospital for Einstein) would pale in comparison with today's electronic medical systems. "We've gone from a single room in a hospital to a major data center in Yonkers with hundreds of employees," says Eran Y. Bellin, M.D., vice president of clinical information technology research and development in Montefiore's Emerging Health Information Technology group. Dr. Bellin is also a professor of clinical epidemiology & population health and of clinical medicine at Einstein.



WALKING WITH EINSTEIN

Ensuring the future vitality of the College of Medicine as a global leader in biomedical research and medical education.



“Walking with Einstein” is our new planned-giving society, intended to recognize and encourage friends and alumni to include the College of Medicine in their estate plans.

There are many ways this can be accomplished, such as making the College of Medicine the beneficiary of a charitable gift annuity or a charitable remainder trust, naming the College of Medicine as a beneficiary of a life insurance policy or arranging for the proceeds of a retirement fund to come to Einstein.

All of these methods provide favorable tax consequences, and several of them can actually enhance your current income by offering a higher-value income stream to you and your beneficiaries while securing a meaningful income and, possibly, estate and gift tax reduction.

They might also allow you to be more generous in supporting Einstein’s mission of biomedical research and education than you would have thought possible.



Albert Einstein College of Medicine

For more information, please contact our Institutional Advancement Office at 718.430.2371.



Albert Einstein College of Medicine

Science at the heart of medicine

Jack and Pearl Resnick Campus
1300 Morris Park Avenue
Bronx, NY 10461
www.einstein.yu.edu

Summer/Fall 2015



EINSTEIN IMAGE

To turn r-a-t into a-r-t, colorize its paths to a lever (at top) that releases a shot of sugar water. Morphing a graph into rainbow-tinged strings was the idea of addiction researcher Saleem M. Nicola, Ph.D. In this study, he and colleagues trained rats to press the sugar-releasing lever after hearing a tone, and the colors represent one animal's orientation on hearing the tone multiple times: warmer colors indicate that the rat is facing away, while cooler tones show that it has turned toward the sugar. The image was a winner of the Federation of American Societies of Biology's BioArt competition. Dr. Nicola is an associate professor in the department of psychiatry and behavioral sciences and in the Dominick P. Purpura Department of Neuroscience.