the**benefactor**

HARVARD MEDICAL SCHOOL

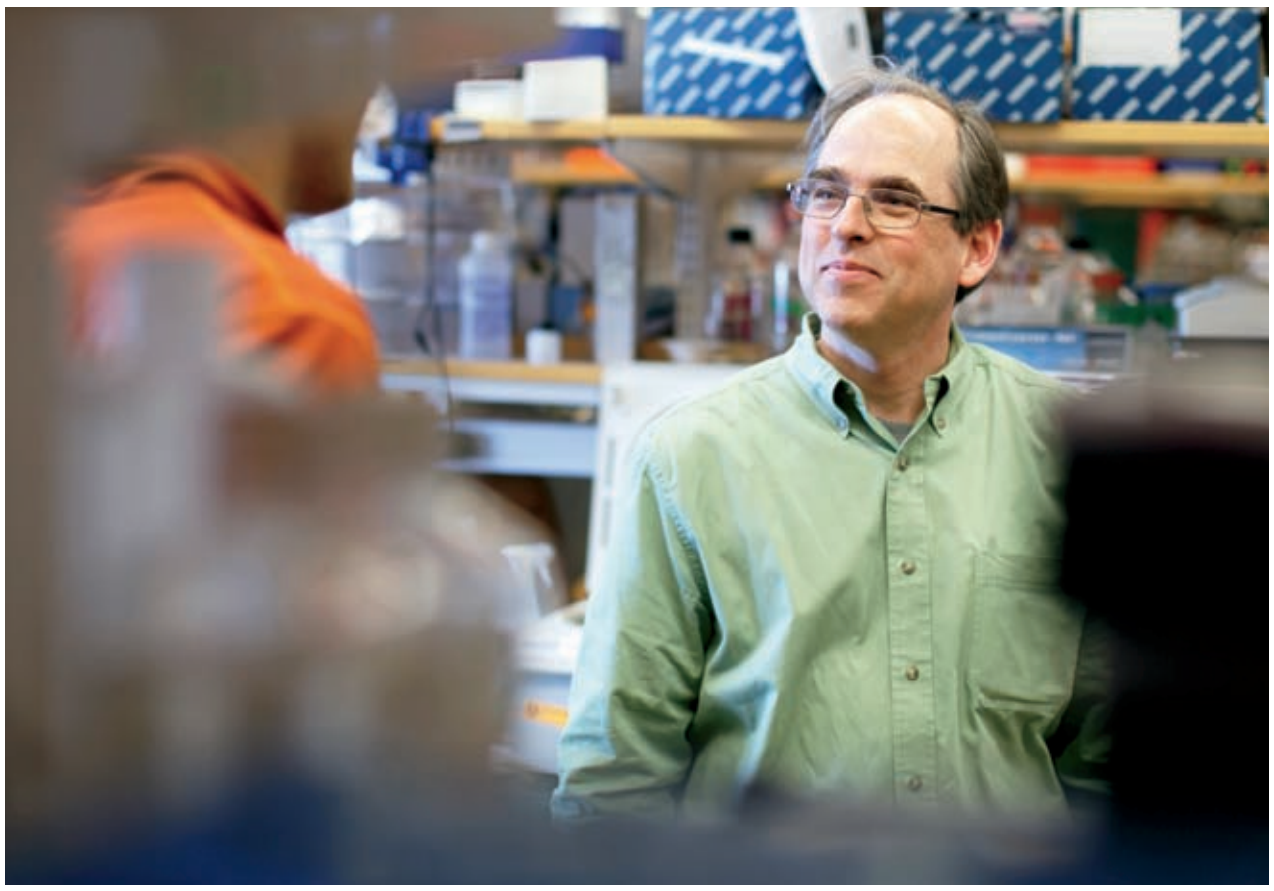
INSIDE FALL 2013

With seed funding, Harvard Program in Therapeutic Science "HiTS" the ground running

Drug development is an expensive proposition, and it is one of biomedicine's greatest challenges. The costs of research and testing are high and the vast majority of drugs fail during clinical trials, resulting in lost investments of up to $1 billion for each drug. This, in turn, ratchets up the cost of drugs for patients and hinders the availability of new medicines to target their diseases.

The Harvard Program in Therapeutic Science (HiTS) is looking to change this paradigm and reinvent the science of drug discovery. Never before have scientists, engineers, and physicians from Harvard University, Harvard Medical School, its affiliated hospitals and research institutes, the pharmaceutical industry, U.S. Food and Drug Administration, and other Boston-area universities come together in such a powerful partnership to improve fundamentally the understanding, discovery, and use of therapeutic drugs and devices.

Based at HMS and led by Peter Sorger, AB '83, PhD, Otto Krayer Professor of Systems Pharmacology at HMS, HiTS is moving full steam ahead thanks to $6 million in seed funding, representing investments by Joshua Boger, AM '75, PhD '79, and his wife, Amy, AB '77, MD, and the Massachusetts Life Sciences Center (MLSC).



Peter Sorger, AB '83, PhD, who is leading Harvard's efforts to reduce the failure rate of new drugs, drive down the cost and uncertainty of drug development, and improve outcomes for patients

"The truth is, we simply don't understand how most drugs work," says Sorger. "Thanks to this generous funding, Harvard is embarking on a bold experiment to rethink the science guiding the development, evaluation, and use of new medicines. We are convening the best research scientists and clinicians and applying advanced experimental and mathematical methods to better understand today's medicines and develop tomorrow's cures."

On Target

There are four components of HiTS. The Laboratory of Systems Pharmacology is a multidisciplinary scientific incubator for applying network-based approaches to the treatment of serious diseases, such as cancer, inflammation, and neurodegeneration. Housed in the Armenise Building on the HMS Quadrangle, this new research facility is being supported by the MLSC, a quasi-public agency established to promote the life sciences within the Commonwealth of Massachusetts.

"A key strategy of the Life Sciences Center is to use our capital dollars to enable the creation of unique resources that are available to the Massachusetts life sciences community, and this innovative project at Harvard Medical School is a great example of that," says MLSC President and CEO Susan Windham-Bannister.

The Therapeutics Technology Cluster will enhance and build core facilities to create and test next-generation therapeutic agents, including molecules and materials designed for function rather than structure. The Therapeutics Graduate Program will award a certificate in therapeutics to doctoral students in biological science, who will complete internships in industry, the clinic, or a regulatory agency.

Finally, the Program in Regulatory Science is an education and research program focusing on the science needed to test and evaluate new medicines more effectively. With support from the Bogers, the program will speed the process of bringing better, safer drugs to the patients who need them and minimizing their use in those who will not benefit.

"The 'regulatory ship' has gotten loaded up with layer after layer of rules, often contradictory or confusing, always more expensive and slower than the previous voyages. No present or future scientific breakthroughs can lead efficiently to transformative innovation without a complete overhaul of this process," says Joshua Boger, founder and former CEO of Vertex Pharmaceuticals and a member of the HMS Board of Fellows. "That overhaul must be based not upon precedent of history, but on present-best science."

Boger adds that all the stakeholders—regulators, basic scientists, product innovators—need to be at the table to make progress, which will be uncomfortable since the mission is revolution. "Harvard is uniquely positioned as a safe haven for collaboration and as an active and essential science-driven participant in bringing the science of the 21st century to the regulated therapeutic innovation process," says Boger.

The Benefactor: Partners in Discovery
is produced by the Harvard Medical School Office of Resource Development, 401 Park Drive, Suite 22 West, Boston, MA 02215.

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Dear Friends,

This issue of *The Benefactor* celebrates the generosity of our growing constituency of alumni, friends, volunteers, faculty, staff, corporations, and foundations. Their dedication to and investment in advancing the fields of science and medicine and helping people live longer, healthier lives is palpable and inspiring.

Among them is Charles A. Tawney Jr., MBA '32, whose $1.1 million estate gift has established an endowed scholarship. And the $4.26 million given by our graduates and friends through the Annual Giving Program advances the School's top priorities, including reducing the debt burden for future graduates.

In the area of discovery, we have launched the Harvard Program in Therapeutic Science, which, under the leadership of Peter Sorger, AB '83, PhD, aims to reinvent the science of drug discovery. This program was bolstered recently by $6 million in seed funding from Joshua Boger, AM '75, PhD '79, and his wife, Amy, AB '77, MD, and the Massachusetts Life Sciences Center. We are also thankful for a significant gift from the Raymond and Beverly Sackler Foundation to support convergence of the biomedical, physical, and engineering sciences, as well as additional gifts to advance the field of immunology and propel research into Alzheimer's disease, cancer, and diabetes.

Our commitment to serve humanity has never been stronger. Thanks to a $4 million gift from The Pershing Square Foundation, founded by Karen, MLA '93, and William (Bill) Ackman, AB '88, MBA '92, HMS will hire a new Pershing Square Professor of Global Health. The incumbent will make leadership contributions to the development of this emerging discipline, build intellectual communities, and link them to the underserved across regions of the world to promote health equity. Additionally, Alice Rosenwald has given $1 million to improve the treatment and stigma of mental health through the lens of primary care.

Despite the challenges of sequestration and the tightening federal budget, we are forging ahead and making tangible progress. Thank you for your partnership as we work to alleviate human suffering caused by disease.

Sincerely,

Susan Rapple, EdM '89
Dean for Resource Development

IT'S PERSONAL: COMBATTING CANCER WITH COMBINATION THERAPIES

Moderated by award-winning journalists and designed to address national issues, the Harvard Medical School Conversations series gives invited guests a front-row seat to in-depth discussions with distinguished Harvard faculty who are driving the revolution in science and medicine. This past spring, HMS alumni and guests gathered at the Harvard Club of Boston for a compelling conversation about the origins of cancer and new strategies for combatting disease.

The event was hosted by HMS Board of Fellows members Ellen Gordon, GSA '69, president of Tootsie Roll Industries, and Peter Lynch, vice chairman of Fidelity Management & Research Company.

Moderated by Jim Axelrod, anchor of the Saturday Edition of "CBS Evening News," the event's panelists were Joan Brugge, PhD, Louise Foote Pfeiffer Professor of Cell Biology and chair of the Department of Cell Biology, and Peter Sorger, AB '83, PhD, Otto Krayer Professor of Systems Pharmacology and director of the Harvard Program in Therapeutic Science.

Below, left to right: Lynch, Sorger, Dean Jeffrey S. Flier, MD, Gordon, Axelrod, and Brugge share their perspectives following the evening's program.

The Pershing Square Foundation shapes emerging discipline of global health delivery

Health is a human right. This simple yet powerful idea launched the field of global health and has inspired action and leadership among individuals, communities, and governments alike. Now, The Pershing Square Foundation is helping to advance global health delivery as a significant academic discipline by giving $4 million to establish an endowed professorship at Harvard Medical School. The new Pershing Square Professorship in Global Health will expand the frontiers of interdisciplinary scholarship in global health, bridging the social sciences relevant to medicine with clinical and evolving delivery science. The incumbent will focus on fighting poverty and disease globally through innovative research and the training of future leaders. This will, in turn, increase exposure to this vital field by students and trainees, inspiring them to commit their careers to global health.

Instituted in 2006 by Karen, MLA '93, and Bill Ackman, AB '88, MBA '92, The Pershing Square Foundation has been a steadfast supporter of HMS and its Department of Global Health and Social Medicine under the direction of Chair Paul Farmer, MD '90, PhD '90, Kolokotrones University Professor and co-founder of Partners In Health. The foundation's mission is to support exceptional leaders and innovative organizations that tackle important social issues and deliver scalable and sustainable impact. For example, the foundation has supported the One Acre Fund to help African farmers produce and sell more crops, in addition to the Innocence Project and Human Rights Watch among others.

"This gift allows Paul Farmer and his team to do even more to tackle social issues today while simultaneously creating greater impact for the long term," says Paul Bernstein, CEO of the New York-based foundation.

> **"Increasing leadership is vital to multiplying the kind of work Harvard Medical School can do both academically and on the ground," says Bernstein.**

Photo courtesy of Rebecca E. Rollins/Partners In Health

The field of global health delivery, and the work of Paul Farmer, MD '90, PhD '90 (center), is being propelled thanks to a new gift from The Pershing Square Foundation

Bridging the Gap

This new gift builds upon the foundation's generous and critical support of the Global Health Delivery (GHD) Project at HMS and its affiliate Brigham and Women's Hospital. Through course offerings, curriculum development, knowledge generation, information sharing, and online communities, GHD has forged collaboration among educators, researchers, stakeholders, and implementers, and systematized the study of health delivery, which is essential to bridging the knowledge-practice gap in global health.

The establishment of this professorship will have a ripple effect and tangible impact on GHD and the world's most vulnerable populations, ensuring that the progress in implementation science is embodied through scholarly contributions to the evidence base and to the training mission of HMS and its many partner institutions.

"My hope and expectation is that the Pershing Square Professor of Global Health will build upon our vision of integrating research and teaching to improve global health delivery. This will not only impact the lives and health of poor people around the world, but it will inspire the heart and engage the intellect of the students and future scholars who will take up this cause as their life's work," says Farmer.

EZEKIEL HERSEY COUNCIL MEMBERS HONORED

The Ezekiel Hersey Council (EHC) recognizes alumni and friends who have established life income gifts or included Harvard Medical School in their estate plans. In May, EHC members and guests joined Council Chairman Jordan J. Cohen, MD '60, for their annual recognition dinner.

Attendees were treated to an enlightening presentation entitled, "What Cancer Cells Don't Want Us to Know," by Galit Lahav, PhD, associate professor in the Department of Systems Biology. Lahav discussed how she and her team are using high-resolution approaches, including examining individual cancer cells and measuring their behavior over time, to uncover cancer cells' secrets and help explain why they vary so dramatically in their responses to specific drugs.

In addition to honoring members, Cohen led the group in a toast to the life of Joseph E. Murray, MD '43, emeritus professor of surgery at HMS, a surgical pioneer, humanitarian, Nobel Prize winner, and former chairman of the council, who passed away last November.

At right, left to right: EHC members Walter Guralnick, DMD '41, and Gerald Foster, MD '51, get to know HMS student Neir Eshel, MD '16, PhD '17, at the reception preceding the evening's program.

Raymond and Beverly Sackler Foundation stimulates scientific convergence

The challenge of interdisciplinary science is that by definition there are no roadmaps for success. In the interface between biology and mathematics, the challenge is to explore and identify unsolved problems that can be addressed effectively by a combination of biological experiments and mathematical analysis.

Now a substantial gift from the Raymond and Beverly Sackler Foundation is fueling precisely this kind of innovative research. The new Raymond and Beverly Sackler Laboratories for the Convergence of Biomedical, Physical, and Engineering Sciences Fund is supporting the work of young scientists across Harvard Medical School, encouraging them to take risks, expand their current research focuses, and tackle challenging questions that can impact the diagnosis and treatment of human disease.

"The biomedical sciences are transforming from a qualitative to a quantitative endeavor. This will require scientists to have advanced mathematical skills and look at biological questions in a wholly new way," says Raymond Sackler, MD, KBE. "This new science and new generation of scientists hold great promise in benefiting mankind, particularly human health, which aligns well with our foundation's longstanding mission and philanthropy."

High Risk, High Reward

Under the direction of HMS Dean Jeffrey S. Flier, MD, the Raymond and Beverly Sackler Laboratories will fund the work of postdoctoral fellows and graduate students, advancing their specific research agendas, providing necessary equipment and resources, and fueling workshops and brainstorming sessions. This virtual lab will also support the intellectual exchange of ideas and visits with national and international collaborators.

"The environment for convergent scientific exploration is key," says Flier. "Thanks to the generosity of Dr. Raymond and Beverly Sackler, we have created an atmosphere that is conducive for success. We have the intellectual breadth and depth, extensive opportunities for scientists to encounter important and exciting biological and medical problems, and a willingness to meet our young theoreticians halfway."

Raymond and Beverly Sackler, who, through their foundation, are fueling the convergence of sciences at HMS

The Department of Systems Biology is one example of this ideal environment. Its faculty members run mixed experimental/theoretical labs, and it is embedded within the Longwood Medical Area, representing the most dense concentration of biomedical expertise on the planet. Even in this ideal environment, however, the interdisciplinary transition can be difficult and risky because financial support is needed to fund salaries, purchase key pieces of equipment, and support travel to enable important collaborations. Funding from the Sackler Foundation is filling this void.

"We have long seen Harvard University and Harvard Medical School as institutions at the cutting edge of scientific inquiry," says Raymond Sackler. "From the establishment of the Raymond and Beverly Sackler Distinguished Lectures at the Harvard-Smithsonian Center for Astrophysics, to research on the genomics and biology of ileal carcinoid tumors and this scientific convergence program, our foundation has looked to Harvard and HMS as extraordinary academic environments that are worthy of our continued support."

RATHMELL NAMED BEECHER PROFESSOR OF ANESTHESIA

James P. Rathmell, MD, has been named the inaugural incumbent of the Henry Knowles Beecher Professorship in Anesthesia at Harvard Medical School.

Rathmell, who is chief of the Division of Pain Medicine and vice chair of the Department of Anesthesia, Critical Care, and Pain Medicine at Massachusetts General Hospital (MGH), devotes much of his professional time to treating patients with acute, chronic, and cancer-related pain.

The professorship honors the late Henry Knowles Beecher, MD '32, who was influential in the practice of anesthesiology and a pioneer in medical ethics and informed consent. Beecher's career spanned more than three decades at MGH, including serving as anesthetist-in-chief and, in 1941, becoming the first person to hold an endowed chair of anesthesiology. The Beecher Professorship is made possible through the generosity of MGH patients, colleagues, family members, and friends of Beecher.

Below: Rathmell (center) celebrates his achievement with his adoptive mother, Virginia Rathmell (left), and Nina Fedoroff, his biological mother (right).

FRIEDMAN PROFESSORSHIP IN OPHTHALMOLOGY

Eric A. Pierce, MD '90, PhD, director of the Ocular Genomics Institute and associate director of the Berman-Gund Laboratory for the Study of Inherited Retinal Degenerations at Massachusetts Eye and Ear Infirmary (MEEI), has been named the first incumbent of the Solman and Libe Friedman Professorship in Ophthalmology at Harvard Medical School.

The professorship bears the name of the parents of Ephraim Friedman, MD, former president of MEEI, who, together with his sisters, established a foundation to honor their legacy. The Friedman Professorship is made possible through the generosity of the Solman and Libe Friedman Foundation and the MEEI Board of Directors.

Pierce, a leader in the field of ophthalmologic disease, particularly in the area of retinal degeneration, focuses his research on improving the understanding of the molecular bases of inherited retinal degenerations and the mechanisms by which mutations in these genes lead to blindness. His goal is to develop more effective therapies to prevent vision loss.

At left: Dagmar Friedman, widow of Ephraim Friedman, and Pierce celebrate the honor.

Primary care: A gateway to mental and physical health

According to Russell Phillips, MD, director of Harvard Medical School's Center for Primary Care, a substantial portion of health care costs are attributable to mental health disorders. "It is quite clear that improved prevention, detection, and treatment within the framework of primary care will simultaneously reduce overall costs of care and improve the health of countless patients and their families," he says.

One in four adults in the U.S. has a mental health-related issue, yet only one-third of those affected receives adequate treatment. Too often these are viewed as voluntary and self-induced, as opposed to "legitimate" medical conditions like multiple sclerosis or Alzheimer's. Patients struggling with mental illness also have a two- to four-fold higher risk of dying due to complications of chronic medical illnesses.

And yet the mental health care system is broken, with few opportunities for care, let alone for prevention through early identification and treatment. Primary care offers a solution: As a patient's initial and most frequent point of contact, it is uniquely positioned to provide accurate diagnosis as well as effective long-term treatment. Too often, however, no resources or expertise are available to do so accurately, if at all, and mental health experts are scarce, expensive, and inaccessible. As a result, patients and their loved ones suffer severely and needlessly.

Alice Rosenwald is committed to changing this harsh reality. With a gift of $1 million, she has established the Mental Health Integration Initiative Fund at Harvard Medical School under the direction of Phillips. The program incorporates mental health specialists into primary care teams, expands access through the use of emerging technologies, and maximizes impact through collaborating with national experts in care integration.

Russell Phillips, MD, who is leading the charge to transform mental health by integrating specialists into primary care teams

"The new national health care and insurance reforms, coupled with the recent focus on proactive prevention, provide a golden opportunity for a widespread solution that leverages primary care as the gateway for prevention and holistically integrated care," says Rosenwald.

Moving the needle

This integrated program provides enhanced, real-time consultation between patients and physicians, as well as physician-to-physician, through telemedicine and video-conferencing. These capabilities are being rolled out to HMS primary care training sites encompassing hospital and community-based practices across six Harvard affiliates and beyond. The program also supports education and training for primary care clinicians. The initiative's goals are to improve measurably the health of patients on an ongoing and long-term basis, to provide effective communication to and support for providers and caregivers, and to raise the quality and lower the cost of health care substantially. Savings and impact will be measured, documented, and scaled on a national level for further improvement and innovation.

"Strategic focus on impact and prevention is how you move the needle," says Rosenwald. "No one person can do it alone. Harvard's and Russ Phillips' groundbreaking efforts provide the platform for major change. Now it is essential to sustain this effective solution and expand its reach."

RICHARDSON NAMED R.J. CORMAN PROFESSOR OF MEDICINE

Paul G. Richardson, MD, clinical director of the Jerome Lipper Multiple Myeloma Center at Dana-Farber Cancer Institute (DFCI), has been named the inaugural incumbent of the R.J. Corman Professorship in Medicine.

Made possible through the generosity of Richard Corman, a tireless advocate for cancer research and a passionate, long-standing supporter of DFCI, the appointment to the professorship recognizes Richardson's achievements from the bench to the bedside.

A leader in the field of multiple myeloma and a pioneer in the use of combination therapies to treat this disease, Richardson has received numerous awards honoring his excellence in both research and clinical care. In 2012, he shared the Warren Alpert Foundation Prize for his contributions in the development of bortezomib as a front-line therapy for multiple myeloma.

At left, left to right: Corman; his wife, Tammy Taylor; Richardson; and Nancy Tarbell, MD, HMS dean for academic and clinical affairs, celebrate the establishment of the professorship.

Pitts encourages students to "take a chance"

W. Reid Pitts Jr., MD '67, who describes himself as more curious than most, is challenging current Harvard Medical School students to explore a question of their own making. He acknowledges it's difficult to get external funding for novel ideas, and he believes that reliance on grant dollars can take the place of "intelligent curiosity," ultimately closing doors on new discoveries.

In an effort to encourage students to pursue unanswered questions, Pitts has contributed an additional $100,000 to the existing William R. Pitts, MD '33, and W. Reid Pitts Jr., MD '67, Research Scholars Fund.

"I want students to take a chance. In the course of your medical education, you're bound to come across something that makes you ask 'why?' Find out," he urges.

Pitts leads by example, focusing his own work on identifying the unifying mechanism for the initiation of carcinoma cellular proliferation—ultimately learning that tamoxifen and diethylstilbestrol slow the progression and prolong the survival of breast, prostate, and non-lung carcinomas.

The Pitts Fund specifically supports the HMS Scholars in Medicine program, which has quickly become an integral part of the School's curriculum. The program requires the completion of a scholarly research project from every student, not only nurturing a passion for innovation but also providing students and faculty with new avenues for mentorship and collaboration.

"The goal is to hone critical thinking and foster curiosity among students while equipping them with the tools for discovery," says Program Director Gordon Strewler, MD '71, professor of medicine and master of the Walter Bradford Cannon Society at HMS.

Annual giving illustrates the power of teamwork

Funds raised by the Annual Giving Program are integral to Harvard Medical School and have a tangible impact both on the Quad and globally. Because of the extraordinarily rapid pace of progress and change in science and medicine, these critical funds allow HMS to invest in the best people and programs in order to accelerate breakthroughs in education, research, and service.

Throughout fiscal year 2013, thousands of alumni and friends helped to advance the School's mission to alleviate human suffering caused by disease by providing essential funding for student scholarships and fellowships, faculty recruitment and development, and research and global health initiatives.

The Annual Giving Program is made up of several principal initiatives, including the Alumni Fund, Board of Fellows Annual Fund, Friends of Harvard Medicine, and the Joseph B. Martin Conference Center Amphitheater Chairs Program. Gifts of all sizes from 3,977 alumni and friends provided more than $4.26 million to the School.

Continuing the Tradition

The Alumni Fund raised $1.8 million through gifts from 2,352 alumni, including the Reunion classes (see story on page 13). Dean Jeffrey S. Flier, MD, continues to designate 100 percent of these funds to student scholarship.

"Last fiscal year, 87 percent of current HMS students received scholarship support, and the need for financial aid continues to grow. The Alumni Fund helps make it possible for HMS to accept the most deserving and talented students, regardless of their socioeconomic status," says Beth Karlan, MD '82, chair of the Alumni Fund.

Challenging Young Alumni

Two alumni and members of the HMS Board of Fellows, Laurence Paul, AB '86, MD '90, and Christoph Westphal, MD '96, PhD '96, sponsored the Recent Graduate Challenge, matching every dollar given by members of the Classes of 2004–2012. The initiative raised more than $60,000 and engaged nearly 200 young alumni.

"Through this challenge, I hope we were able to educate young alumni about the School's needs and raise much-needed funds to support scholarships for today's students," says Westphal.

Paul agrees, adding, "I hope this challenge helped illustrate that a gift of any amount is a way to respect your HMS experience."

Core Support

Members of the Board of Fellows not only serve as external advisors to the institution, they contributed nearly $650,000 through their annual fund to support the School's strategic priorities. Their philanthropy plays a powerful role in helping advance the fields of science and medicine and helping people live longer, healthier lives. It is the collective impact of this wide network of generous alumni and friends that continues to propel HMS and this critical field forward.

More than 550 MD students received scholarship support in fiscal year 2013, thanks to the generosity of alumni and friends

Thoman invests in HMS's greatest potential

Lynn Thoman, MBA '79, whose unrestricted gift allows the dean to invest in the people, systems, and infrastructure necessary to support the work of HMS faculty across an extraordinary range of fields

Lynn Thoman, MBA '79, knows a thing or two about business. As managing partner of Corporate Perspectives, LLC, a consulting firm; co-president of the Leon Lowenstein Foundation, which focuses on education, health, and medical research; and a member of the Harvard Medical School Board of Fellows, she understands the important nuances between for-profit companies and nonprofit organizations.

When businesses grow, she says, they are able to invest in their top priorities. This is much different for nonprofits, which are funded predominantly by donors who earmark funds for specific areas or programs in which they have a personal interest. "It would be as if McDonald's had to earmark its investment funds to areas that funders were interested in rather than to the areas where leadership saw the greatest potential," explains Thoman.

To address this, the Leon Lowenstein Foundation, on behalf of Lynn Thoman, has made an unrestricted gift of $100,000 to enable Dean Jeffrey S. Flier, MD, to apply these funds based on his priorities and the needs of Harvard Medical School.

According to Dean Flier, approximately 95 percent of the gifts the School receives each year are restricted. These gifts continue to be worthwhile and have a tangible impact on HMS's education, research, and service initiatives.

"However, as we continue to deal with the effects of sequestration and the tightening federal budget, our need for flexible funding is more critical than ever," says Flier. "I cannot thank Lynn and the Leon Lowenstein Foundation enough for this generous and insightful support."

> "As we continue to deal with the effects of sequestration and the tightening federal budget, our need for flexible funding is more critical than ever."
> —Dean Jeffrey S. Flier, MD

HBS grad, WWII vet leaves lasting legacy

During his lifetime, Charles A. Tawney Jr., MBA '32, established a charitable remainder trust (CRT) in memory of his parents to benefit Harvard Medical School. CRTs are a flexible form of planned giving, in which the return on a gift invested through the Harvard Management Company pays the donor variable income for life, after which the remainder is given to HMS.

When his life-income beneficiary died this year, HMS received $1.1 million to create the Charles A. Tawney and Margaret Wilson Tawney Scholarship Fund. The fund will be directed toward a scholarship in either public health or general practice, as Tawney specified.

Tawney was born in McKeesport, Pa., a small town outside of Pittsburgh. He moved to Boston to earn his MBA at Harvard Business School and then settled in New York City, where he worked as a foreign bank examiner for National City Bank, now PNC. During World War II, Tawney served as an Army lieutenant colonel. He retired in Seminole, Fla., where he was an active member of Lake Seminole Presbyterian Church.

FELLOWS CELEBRATE MANFRED L. KARNOVSKY'S LEGACY AND SUPPORT

The Manfred L. Karnovsky Fellowship Fund was established in 1997 by the late Manfred L. Karnovsky, PhD, Harold T. White Professor of Biological Chemistry at Harvard Medical School, to support students in the Division of Medical Sciences working at the cutting edge of basic research, foster imaginative thinking, and encourage the development of breakthrough biomedical concepts and emergent applications.

This past June, the 2013 Karnovsky Fellows gathered with Ann Karnovsky, AB '52, EdM '60, PhD '73, Manfred's widow, for a recognition dinner to honor their accomplishments and celebrate Manfred's generosity as a longtime teacher and advocate for young investigators.

Above, left to right: David Cardozo, PhD '93, associate dean of graduate studies and assistant professor of neurobiology at HMS; 2013 Fellow Leah Liu; daughter-in-law Priscilla Karnovsky; Ann Karnovsky; granddaughter Sidney Karnovsky; and 2013 Fellow Jamie Lahvic celebrate Karnovsky's legacy and poetic sensibilities. "Leukocyte's Lament," one of many poems that Karnovsky wrote and hung in elevators around campus, was published by the *New England Journal of Medicine* in 1981.

Building a pipeline of global health researchers

Distributing surgical tool kits throughout India; researching nutritional supplements that fight malnutrition and improve therapeutic success in Haiti; implementing a perioperative antibiotic administration protocol in Rwanda; developing a rapid diagnostic tool for typhoid fever in Nepal: this is just a sampling of some of the Harvard Medical School projects undertaken by fellows supported by the Doris Duke Charitable Foundation.

The foundation shares HMS's commitment to seeding the field with leaders in science and medicine and building health equity worldwide, so much so that the School was selected as one of six institutions to receive more than $850,000 to administer an International Clinical Research Fellowship program.

Established in 2012, the program is based on the international component of the Clinical Research Fellows program that HMS benefited from previously. This spin-off initiative enables students to take a year off from school to conduct mentored research in resource-limited settings around the world.

"HMS was one of the first schools to send clinical research fellows to developing countries for their research experiences, starting with a pilot program in 2007, and it continues to direct an outstanding program," says Betsy Myers, PhD, program director for medical research at the Doris Duke Charitable Foundation.

Bushra Taha, AB '06, MD '13 (center, with colleagues from Butaro District Hospital), who was mentored by Lisa Hirschhorn, AB '81, MD, MPH '91, as a 2011–2012 fellow, studied the implementation of a perioperative antibiotic administration protocol in Rwanda

"The fellows focus on diseases and conditions that significantly impact morbidity and mortality, and we anticipate that they will be part of the next generation of talented global health researchers," says Myers.

HMS Assistant Professor of Medicine and Program Co-leader Bisola Ojikutu, MD, MPH '03, says the program is working well and that the vast majority of fellows are planning to pursue careers in global health. "This is a great example of research in action—students applying their work to vulnerable populations around the world," says Ojikutu.

According to Lisa Hirschhorn, AB '81, MD, MPH '91, director of international monitoring and evaluation in the Department of Global Health and Social Medicine and co-leader of the program, it's difficult to teach the differences between conducting research in developing countries versus in a lab. "Fellows gain a deeper appreciation for the priorities, realities, and constraints of trying to answer critical questions in the global health arena," she says.

Ornitz estate gift allows researchers to think big

Dorothy Ornitz, an avid gem collector and children's literature author, bequeathed her $1.2 million estate to Harvard Medical School to encourage the type of research that could lead to scientific breakthroughs. The Dorothy Ornitz Endowed Post-Graduate Fellowship Fund will enable current and potential Nobel laureates to pursue their special areas of interest, funding the highly intuitive, speculative investigations that may lead to revolutionary developments that benefit all humankind. In particular, she wanted to support essential research that otherwise might remain unfunded because it is deemed unpopular or impractical.

"I cannot overstate the important role philanthropy must play in the future of biomedical research," says Lee Nadler, MD '73, dean for clinical and translational research and the Virginia and D.K. Ludwig Professor of Medicine at HMS. "The generosity and foresight of individuals like Ms. Ornitz give me great hope for what our researchers will accomplish, and great confidence that HMS will be in a position to support bold, innovative work that can truly transform our capacity to treat and cure disease."

Ornitz's estate included her extensive gemstone collection, several children's books she wrote and illustrated, an animated movie screenplay, and her Manhattan apartment. Her books examined themes such as the longing to explore, as in "The Flower That Wanted to Fly," and the importance of embracing solutions found in unexpected places, as the title character discovered in "The Cat with A Seeing-Eye Mouse."

SPRINGER PROFESSORSHIP IN STRUCTURAL BIOLOGY

Hao Wu, PhD, professor of biological chemistry and molecular pharmacology at Harvard Medical School and a senior investigator in the Program in Cellular and Molecular Medicine at Boston Children's Hospital (BCH), has been named the inaugural incumbent of the Asa and Patricia Springer Professorship in Structural Biology.

The professorship was established with generous gifts from Timothy Springer, PhD '76, Latham Family Professor of Biological Chemistry and Molecular Pharmacology and a senior investigator in the Program in Cellular and Molecular Medicine at BCH. The establishment of this professorship honors Springer's parents, Asa and Patricia, and furthers his tremendous contributions to the HMS community.

Wu, who joined the faculty of HMS and BCH in 2012, employs the core approaches of structural biology to determine how macromolecular interactions affect innate immune responses.

At left, left to right: Asa and Patricia Springer; Timothy Springer; Frederick Alt, MD, director of the Program in Cellular and Molecular Medicine at BCH and Charles A. Janeway Professor of Pediatrics at HMS; James Mandell, MD, CEO of BCH; and Wu celebrate the professorship.

Improving the prevention and treatment of Alzheimer's disease

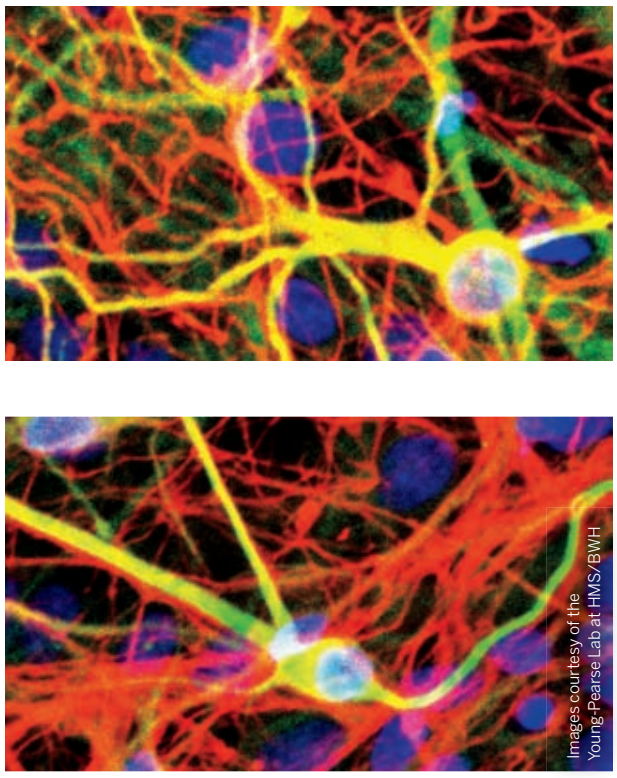
There are very few drugs available to treat neurological diseases and none that prevent or effectively treat Alzheimer's disease specifically. This is due, in part, to the inherent complexity of the human brain and to the drug discovery process, much of which relies on experiments using animal cell lines or non-neuronal, human cells. This represents a significant compromise since neither reflects accurately the actual disease process seen in patients.

A $500,000 gift from an anonymous donor is helping to change this paradigm by launching the Alzheimer's Induced Pluripotent Stem Cell (iPSC) Initiative Fund at Harvard Medical School. The initiative will enable HMS scientists to generate for the first time millions of patient-specific neurons and to use them to develop and test new drug candidates for the disease.

iPSCs are derived from patient skin samples. The skin fibroblasts are manipulated in the lab to create the stem cells, which are then differentiated into neurons. Although the resulting neuronal cell lines are artificially created, they are faithful, genetic copies of the patient's own neurons and can be used to study the same disruptive processes likely to occur in patients.

"We no longer assume that one Alzheimer's drug will be effective for all patients," says Adrian Ivinson, director of the Harvard NeuroDiscovery Center. "It is more likely that some patients will respond best to one particular drug, while others may respond to a different drug."

"By developing iPSC-derived neurons from many different patients, we will be able to design a drug discovery process that takes into account the known diversity of patients."



Induced pluripotent neuronal stem cells cultured over 100 days from patients at Brigham and Women's Hospital. Red signifies neuronal axons, green marks the dendrites, and blue highlights the nucleus.

Teamwork will be key to success. Acknowledging this, the Harvard NeuroDiscovery Center plans to work with others to generate iPSC-derived neurons from many patient volunteers, and then share those cell lines with other investigators and collaborators.

"Finding effective ways to treat and prevent dementia is one of the crucial challenges of the decade, even while federal support for medical research is being curbed," said the donor. "The Harvard NeuroDiscovery Center is developing new ways to study the brain that effectively leverage the value of our donation to bring a cure closer to reality."

A tale of two coasts

A native of San Francisco, Calif., and graduate of Stanford University, Richard Palmer ventured to the East Coast to attend Harvard Medical School as a member of the Class of 1943A, one of two accelerated classes graduating that year due to the war effort and lack of physicians in the Army. Following his residency at Peter Bent Brigham Hospital, he returned to the West Coast, where he and his wife, Helen, settled and raised two sons.

Palmer worked as an associate professor of medicine at the University of California, San Francisco. In addition to his private practice in internal medicine, he was an attending and neurology consultant at Children's Hospital of San Francisco and St. Luke's Hospital, both now part of California Pacific Medical Center (CPMC). He also led the Multiple Sclerosis and Muscular Dystrophy Clinics for Northern California.

Following his death in 1982, Helen Palmer carried on her husband's legacy by establishing a charitable remainder unitrust in both of their names. Funded with appreciated stock, she named HMS and CPMC as co-beneficiaries. For 18 years, Helen received income generated by the trust.

When she died in 2012, the institutions on both coasts benefited from her generosity. The HMS portion, totaling more than $218,000, was earmarked to support medical research and education in the Department of Neurobiology. It was a fitting tribute to an alumnus who dedicated his career to the field of medicine and improving the lives of others.

LUNCHEON CELEBRATES LYNCH FOUNDATION FELLOWS

This past June, the recipients and benefactors of the Carolyn and Peter Lynch Fellowship in Systems Biology gathered for a luncheon to honor the 2013 fellows and recognize the continued generosity and support of Carolyn and Peter Lynch. Since 2008, the fellowships have supported 12 emerging scientists and provided the opportunity for students to pursue their education and graduate research in systems biology.

The Lynches, who are strong supporters of basic research, believe that systems biology—fusing the fields of biology, computer science, mathematics, physics, chemistry, and engineering—will lead to discoveries that will treat today's most vexing diseases.

Both Carolyn and Peter are outstanding members of the HMS community and have served the Medical School in numerous ways. Peter, an HMS Board of Fellows member, helped launch the Department of Systems Biology and has chaired the Systems Biology Advisory Council, of which Carolyn has also been a member since 1997.

Below: Peter Lynch (center) shares ideas with Lynch Fellows Antonina Iagovitina, PhD '17 (left), Tami Lieberman, PhD '15 (right), and Matthieu Landon, PhD '18, during the 2013 luncheon.

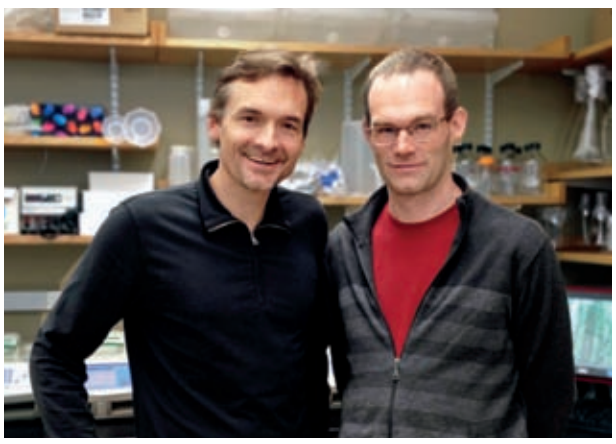
Ellison Foundation amplifies search for clues to mental illness

What if risk factors for mental health conditions could be identified within the genome? Jesse Gray, PhD, assistant professor of genetics at HMS, is exploring that possibility with the help of a $250,000 grant from the Ellison Foundation.

The project arises at the intersection of neuroscience and human genetics and represents the beginning of a long-term collaboration between Gray and Steven McCarroll, PhD, assistant professor of genetics, who acknowledge that identifying the specific genome sequence variations that underlie risk of mental illness is challenging.

"The genetic variations responsible for disease risk are like needles in a genetic haystack," says Gray. "Recent work has reduced this haystack to a series of small piles of hay, but the challenge remains to sort efficiently through these piles. We are ecstatic to have the Ellison Foundation's support as we embark on this innovative and worthwhile project."

Their research uses Massively Parallel Reporter Assay (MPRA) technology to test the ability of thousands of candidate enhancers to activate neuronal gene expression, searching for the specific genome sequence variations that could point to potential mental illness.



Geneticists Steven McCarroll, PhD (left), and Jesse Gray, PhD, who are searching for clues to the genomic components of mental illness

Jeffrey Modell Foundation nurtures future immunology leaders

Fred (left) and Vicki Modell (right), who, through the Jeffrey Modell Foundation, are supporting promising young immunology investigators, including (left to right) Carolyn Boudreau, Jacob Turner, and Nora Ortega

The immune system is essential to protecting people from infections and tumors. On the flip side, it can also cause complications, including allergies, graft rejections, and autoimmune diseases like rheumatoid arthritis and multiple sclerosis. Though the field of immunology has been around for more than 200 years, it remains closely tied to clinical medicine and is critical to the advancement of innovative therapies to prevent and cure disease.

Harvard has been a leader in immunology research since the early 20th century. In fact, many of the world's premier immunologists have worked at Harvard Medical School or its affiliated institutions. According to Michael Carroll, PhD, head of the Harvard Graduate Program in Immunology and professor of pediatrics at HMS and Boston Children's Hospital, training future leaders in the field is critical to continuing the momentum and improving outcomes for patients.

Vicki and Fred Modell couldn't agree more. With this impetus in mind, they have established the Jeffrey Modell Foundation Challenge Fund for Immunology to support graduate students enrolled in the Harvard Graduate Program in Immunology. Through their foundation, named for their son Jeffrey, who died at the age of 15 from complications of a Primary Immunodeficiency, the couple will match all gifts and pledges up to $500,000.

"This generous gift from the Jeffrey Modell Foundation will provide support for new students during this critical period in their education," says Carroll, explaining that students are supported financially for the first two years of the program so they have freedom to explore new ideas in the classroom and in the laboratories of the faculty before they select a dissertation topic and mentor.

Fred Modell says that Harvard has opened his family's eyes to see the brilliance of these young investigators, each of whom is a bigger star than the next.

> **"One day, one of them will be able to tell us what really happened to Jeffrey. That will be amazing. Our work will come full circle when we are able to prevent these diseases from affecting other families," says Fred Modell.**

McLean professor's bequest supports students

George Hauser, PhD '55, a lifelong supporter of education, gave $100,000 through a bequest to establish the Hauser Scholarship Fund at Harvard Medical School. A longtime teacher at the School, he remained dedicated to and impressed by his students until his passing in 2012.

According to his widow, Louise, establishing this scholarship fund was a clear choice for her husband as a way to demonstrate his commitment to both HMS and its students. "He loved the idea of attracting students to the Medical School," she says.

A neurochemist, Hauser joined the faculty of McLean Hospital in 1957 and established a free-standing program at the McLean Hospital Research Laboratory on the metabolism of brain complex lipids. His research concerned the roles of glycolipids and phospholipids in the nervous system, and his efforts furthered scientific understanding of the distribution, metabolism, and functions of these substances. He was later named professor emeritus at McLean, which is an affiliate of HMS.

In 2001, Hauser received the Austrian Cross of Honour for Science and Art, First Class, for his research in neurochemistry. He received the highest recognition for his service in World War II, the Légion d'Honneur, from the French Government for his participation in the liberation of Normandy.

Studying the economics of senior living

Individuals in senior living settings, including assisted living, memory care communities, and continuing care retirement communities, are increasingly frail, requiring an array of health and supportive services. Residents typically receive fragmented care through multiple payers and providers, often resulting in unnecessary health care expenditures and lower quality of care.

To address these concerns, Brentwood, Tenn.-based Brookdale Senior Living is establishing the Assisted Living Sector Health Care Policy Research Fund at Harvard Medical School with a gift of $150,000, which includes donations from eight of its partners: Atria Senior Living, Elmcroft Senior Living, Emeritus Senior Living, Erickson Living, HCP, Inc., Health Care REIT, Inc., Sunrise Senior Living, and Ventas, Inc. Together, they hope to begin a dialogue among health care providers, policy makers, regulators, and consumers on the value of senior living and its role in creating an integrated, outcomes-driven health care system.

"This support allows us to examine what role senior living providers might have in the new models of care that have emerged under health care reform," says David Grabowski, PhD, professor of health care policy, who is leading this research study. He and his team will examine whether providing more comprehensive, coordinated services in the senior living sector reduces the need for Medicare-paid services and Medicaid-financed nursing home services.

According to Will Clark, MBA '02, senior vice president of strategic development at Brookdale and a member of the Health Care Policy Advisory Council at HMS, society's ability to meet the needs of an aging population is an important political, economic, clinical, and social imperative. "Harvard's reputation for tackling some of health care's biggest challenges and generating meaningful insights that shape our nation's policy is unparalleled. We are confident Dr. Grabowski and his colleagues' research will be influential in determining the appropriate role senior living can and should play in an evolving health care landscape."

Will Clark, MBA '02, of Brookdale Senior Living, who is leading efforts to bring together three real estate investment trusts and five additional senior housing providers to support HMS

JDRF advances research into type 1 diabetes

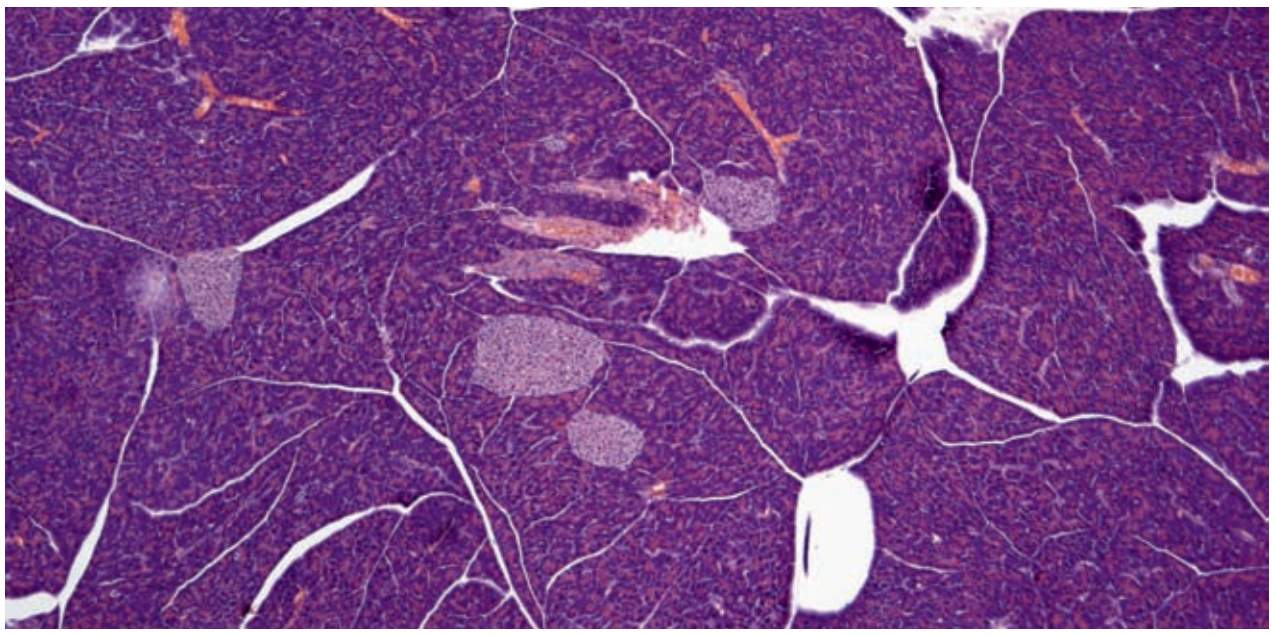
Three million Americans are living with type 1 diabetes, and every day 80 more people are diagnosed with the disease. While there is no cure, Michael Silverman, PhD, MD, a postdoctoral fellow in the Department of Microbiology and Immunology, is working hard to find preventive treatments using bacteria that may already live in our intestines.

As a Juvenile Diabetes Research Foundation (JDRF) Advanced Postdoctoral Fellow at Harvard Medical School, Silverman will be using the nearly $270,000 grant to study the interactions of genetics, the immune system, and the gut microbiota, as well as how they affect susceptibility and resistance to type 1 diabetes.

Using non-obese diabetic (NOD) mice, Silverman is researching specific diabetes-protective major histocompatibility complex (MHC) genes and attempting to isolate bacteria that can induce protection from diabetes.

"I'm thankful to the JDRF for its support of my work, which will hopefully lead to breakthroughs in diabetes research," says Silverman.

"This research could lead to exciting potential preventive treatments for individuals at risk of developing type 1 diabetes," says Jessica Dunne, senior scientist at the JDRF, the leading global organization funding research into the disease.



Pancreatic cells inflamed by diabetes, which is the focus of research by Michael Silverman, PhD, MD

GLIKLICH NAMED LEFFENFELD PROFESSOR OF OTOLOGY AND LARYNGOLOGY

Richard E. Gliklich, MD '87, founder and director of the Clinical Outcomes Research Unit at Massachusetts Eye and Ear Infirmary (MEEI), has been named the inaugural incumbent of the Leffenfeld Professorship in Otology and Laryngology at Harvard Medical School. The professorship was established by the Board of Directors of MEEI and carries the family name of the incumbent's mother.

Gliklich, a dedicated clinician and exceptional researcher, has helped pioneer the use of large, prospective observational studies and registries for evaluating the safety, effectiveness, and quality of care for medical products and services. Among the programs he has helped to develop are registries in cardiovascular disease and stroke for the American Heart Association, which are currently used in more than 2,200 hospitals.

Upon Gliklich's retirement, the professorship will be renamed the Richard and Laurie Gliklich Professorship in Otology and Laryngology, a testament to Gliklich's exemplary service and the esteem in which he is held professionally for his contributions to MEEI's successes.

Above: Gliklich celebrates the professorship with his wife, Laurie (right), and children (left to right), Emily, Jenny, and Ben.

Finding drug combinations to treat ovarian cancer

What happens when targeted therapies induce the development of adaptive pathways in ovarian cancer cells, allowing them to sidestep those very therapies? Identifying, preventing, and inhibiting these adaptive responses are critical to combating this disease, the fifth leading cause of cancer-related deaths in the country.

To support this effort, the Dr. Miriam and Sheldon G. Adelson Medical Research Foundation (AMRF) has given $350,000 to the Brugge Laboratory at Harvard Medical School as part of its Ovarian Cancer Demonstration Project.

"Our foundation encourages teams of accomplished scientists from multiple disciplines and institutions to reach for significant new research goals rather than incremental progress," says Sheldon Adelson, trustee of the foundation and CEO and chairman of the board of Las Vegas Sands Corp.

Under the direction of Joan Brugge, PhD, Louise Foote Pfeiffer Professor of Cell Biology and chair of the Department of Cell Biology at the School, the lab is identifying key pathways for tumor cell growth and adaptive resistance to develop effective combination drug therapies. In addition, Brugge's collaboration with other AMRF-funded investigators has enabled researchers to explore mechanisms of resistance to targeted cancer therapies using a three-dimensional model of ovarian tumors.

Joan Brugge, PhD, who lost her mother to ovarian cancer and is applying her research in breast cancer to help understand the disease's origins and metastasis

"This work was initiated with AMRF funding. Our lab had been focused on breast cancer prior to being contacted about the project. This is a great example of the progress that can be made when you bring together experts from complementary areas to examine a problem," says Brugge.

Success in merging business and medical science benefits international students

Lee Ligang Zhang, AM '01, was born and raised in China during an era when it was expected that the best students pursued degrees in the sciences. Having excelled in biology and chemistry in high school, Zhang continued to study these areas in college, ultimately earning his master's degree in genetics from Harvard.

Lee Ligang Zhang, AM '01, who someday hopes to merge the latest discoveries in research labs with internet and wireless solutions to improve health care services

Today, Zhang is regarded as one of China's leading pioneers and advocates in the field of preventive health care service and is the chairman and CEO of iKang Guobin Healthcare Group, which provides medical examination, disease screening, and primary care services.

Zhang credits his affiliation with Harvard Medical School for his success. "My education and the support I received from the HMS community changed my life," he says. To show his appreciation, and in hopes of allowing more international students to benefit from the same opportunities, he renewed his support of the Leder Human Biology and Translational Medicine Program (LHB) within the HMS Division of Medical Sciences with a second $100,000 gift.

The LHB is co-directed by Connie Cepko, PhD, Bullard Professor of Genetics and Neuroscience, who was Zhang's advisor and the director of his Biological and Biomedical Sciences graduate program. "The program provides PhD students with a working knowledge of the fundamentals of human biology and disease, helping to demystify the culture and practice of medicine while facilitating future collaborations with clinicians and physician-scientists," says Cepko.

Alumni Council election results announced

This past spring, more than 1,000 Harvard Medical School graduates cast their votes during the annual Alumni Council election. Two new officers and four new councilors will join the Council as Laurie Green, AB '72, MD '76 (below), founding partner of Pacific Women's OB/GYN Medical Group, begins her one-year term as president.

Newly elected officers include President-Elect Michael LaCombe, MD '68, professor of medicine and medical humanities at Maine General Medical Center, and Vice President Sigall Bell, MD '97, assistant professor of medicine at Beth Israel Deaconess Medical Center and HMS and co-director of patient safety and quality initiatives at the Institute for Professionalism and Ethical Practice at Boston Children's Hospital.

Newly elected councilors, representing the Tenth, Sixth, and Third Pentads respectively, are Judith Rapoport, MD '59, distinguished investigator and chief of the Child Psychiatry Branch at the Intramural Research Program of the National Institute of Mental Health; Edward Barksdale, MD '84, Robert J. Izant Jr. Professor of Surgery and vice-chairman for the Department of Surgery at University Hospital at Case Western Reserve University School of Medicine, as well as surgeon-in-chief at Rainbow Babies and Children's Hospital; Ingrid Bassett, AB '95, MD '00, MPH '07, infectious disease physician at Massachusetts General Hospital and assistant professor of medicine at HMS; and Councilor-At-Large Julia Haller-Gottsch, MD '80, ophthalmologist-in-chief of the Wills Eye Hospital.

Alumni celebrate Reunion and contribute millions to their alma mater

More than 700 alumni and friends of Harvard Medical School and Harvard School of Dental Medicine returned to campus for Reunion and Alumni Week May 30–June 1. The Reunion classes came together and raised more than $3.7 million, with 39 percent of alumni participating.

Alumni and guests revisited their years as students by attending exciting scientific symposia and celebrating at a gala at the Four Seasons Hotel Boston.

The Faculty Symposium on organ transplantation and regeneration was dedicated to Joseph E. Murray, MD '43, who performed the first successful organ transplant, in recognition of his contributions to Harvard Medical School, medicine, and humanity.

Speakers from the 25th Reunion Symposium spoke to their peers on TEDMED-inspired "Ideas Worth Sharing," covering topics from revamping medical education to pushing research and investigative boundaries.

Elaine Kaye, AB '84, MD '88, who reconnects with a classmate over lunch

The Faculty Symposium was dedicated to Joseph E. Murray, MD '43. Among the attendees were Murray's family members (front row, left to right) son Richard Murray, widow Bobby Murray, and daughter Katherine Murray Leisure, MD '78, who greeted presenters (back row, left to right) Joseph Vacanti, MD, John Homans Professor of Surgery at HMS; Bohdan Pomahac, MD, associate professor of surgery at HMS; and Terry Strom, MD, professor of medicine at HMS.

Friday was also Alumni Day, when all alumni were invited to return to the Quad to participate in the Annual Meeting of the Alumni Association, Alumni Day Symposium on medical education in the era of health care reform, and the Dean's State of the School address.

Eight members of the Class of 1963 sponsored the Race for Reunion Challenge to boost immediate-use scholarship support for today's students by matching all contributions from the 2013 Reunion classes dollar-for-dollar, up to $200,000. The classes met the goal, raising more than $400,000.

Further support came from the Class of 1963, which raised $100,000 to fund a classroom in the Tosteson Medical Education Center (TMEC) in memory of their classmate J. Bion Philipson, AB '59, MD '63, who died in 1968 in the Vietnam War. Philipson was a captain in the Army in the 9th Infantry Division and was serving in South Vietnam's Long An Province.

Left to right: Dean's Council members Sangita Lee Chandra, Jay Chyung, AB '99, MD '03, PhD '04, and Tiffany McNair, AB '03, MD '08, MPH '13, at the Reunion Gala

CHIOCCA NAMED CUSHING PROFESSOR OF NEUROSURGERY

E. Antonio Chiocca, MD, PhD, professor of surgery at Harvard Medical School and chair of neurosurgery and co-director of the Institute for Neurosciences at Brigham and Women's Hospital (BWH), has been named the inaugural incumbent of the Harvey W. Cushing Professorship in Neurosurgery at HMS.

Established through the generosity of the Daniel E. Ponton Fund, the professorship honors Harvey W. Cushing, MD 1895, a pioneer in the development and practice of neurosurgery. Cushing spent most of his career at Peter Bent Brigham Hospital, where he was appointed surgeon-in-chief in 1911. He was instrumental in establishing neurosurgery as its own surgical discipline and vastly improved the chance of survival for patients undergoing brain surgery.

The Daniel E. Ponton Fund for the Neurosciences at BWH continues the work Cushing began more than a century ago, improving the lives of patients with neurological diseases. Chiocca's research focuses on malignant gliomas, a deadly type of tumor originating in the central nervous system, and discovering new therapies to treat them.

Right: Chiocca (left) and Daniel E. Ponton (right) celebrate the professorship.

HBS professor advances global health delivery

Michael Porter, who was compelled to donate after seeing firsthand the transformative effect of the Global Health Delivery Project curriculum

As the father of modern business strategy, Michael Porter, MBA '71, PhD '73, the Bishop William Lawrence University Professor at Harvard Business School (HBS), recognized that health care delivery is an essential component of the value chain in global health. In 2007, Porter and fellow Harvard faculty members Paul Farmer, MD '90, PhD '90, current chair of the Department of Global Health and Social Medicine at HMS and Kolokotrones University Professor, and Jim Yong Kim, MD '91, PhD '93, former department chair and current president of the World Bank, launched the Global Health Delivery Project (GHD) to address the gap that prevents care from consistently reaching impoverished patients who need it.

An interdisciplinary collaboration among Harvard Medical School, Harvard Business School, and HMS affiliate Brigham and Women's Hospital, GHD investigates the management decisions behind disease treatment and prevention globally and has instructed thousands of students from the U.S. and around the world.

"Organizing health care around value for the patient, defined as health outcomes achieved per unit cost, is the single most important imperative for health care delivery systems domestically and abroad," says Porter. With a new gift supporting GHD, Porter is helping to amplify the delivery of high-value health care to those in resource-limited settings. To date, GHD has published 30 teaching case studies that are available at no cost through Harvard Business Publishing at www.ghdonline.org/cases.

"I hope my contribution will promote the delivery of high-value health care to underserved global populations and train leaders through the continued production of new tools, concepts, and strategies for the field," he says. "I know thousands of patients' lives are being impacted daily thanks to GHD's efforts."

Warren Alpert Foundation recognizes awe-inspiring science

For 25 years, the Warren Alpert Foundation has honored innovative individuals and organizations dedicated to understanding and curing disease through groundbreaking research, scholarship, and service. Each fall the foundation hosts a signature symposium at Harvard Medical School, where the world's foremost researchers receive one of the most prestigious awards in biomedicine.

Recipients of the Warren Alpert Foundation Prize are selected annually by the foundation's Scientific Advisory Committee, comprising internationally renowned biomedical scientists and chaired by HMS Dean Jeffrey S. Flier, MD. Recently the foundation gave $150,000 to HMS to further its mission and continue the prize's momentum and impact.

"We are honored to administer the Warren Alpert Prize, whose recipients have impacted a wide spectrum of diseases, from asthma and breast cancer to H. pylori, its role in gastric ulcers, cardiovascular disease, and HIV/AIDS," says Judith Glaven, PhD, associate dean for basic and interdisciplinary research at HMS. "Seven of these honorees have also received a Nobel Prize."

The 2013 prize, to be celebrated Oct. 3, will be awarded to David Botstein of Princeton University, and Ronald W. Davis and David S. Hogness, of Stanford University School of Medicine, for their seminal contributions to the concepts and methods of creating a genetic map in the human, leading to the identification of thousands of disease genes and ushering in the era in human genetics.

"It is incredibly important to spotlight exciting scientific achievement which promises to change the landscape of medicine," says Bevin Kaplan, director of the Warren Alpert Foundation and a member of the HMS Board of Fellows. "This year's prize, in particular, would have thrilled Warren Alpert because of its tremendous potential to better humankind. He would have been humbled to honor these scientists for their work leading to the mapping of the Human Genome. It is certainly fitting that in our 25th anniversary year, we are celebrating such incredible visionaries."

GLENN SYMPOSIUM SPOTLIGHTS AGING RESEARCH

This past June, the medical community gathered for the 8th annual Harvard/Paul F. Glenn Symposium on Aging to discuss significant advancements in the fast-paced field of aging and to stimulate collaborative research. David Sinclair, PhD, co-director of the Paul F. Glenn Laboratories for the Biological Mechanisms of Aging and professor of genetics at HMS, together with Dean Jeffrey S. Flier, MD, and Mark Collins, president of the Glenn Foundation for Medical Research, opened the symposium, after which eight leaders in the field presented their work focused on the molecular biology of aging.

For more than 30 years, Paul F. Glenn, JD '55, has provided unwavering support and vision to the field. Since the inception of the Paul F. Glenn Laboratories at Harvard in 2005, the consortium has grown to include Albert Einstein College of Medicine, The Buck Institute for Research on Aging, Massachusetts Institute of Technology, Princeton University, Salk Institute, and Stanford University.

Left: Members of the HMS-based Glenn Laboratories gather following the engaging symposium.

ALUMNI GATHER IN D.C. TO DISCUSS THE AFFORDABLE CARE ACT

Harvard Medical School alumni and guests in the Washington, D.C. area gathered in April to discuss the impact of the Affordable Care Act on the future of medical practice and research. Hosted by Bryan J. Arling, MD '69, the evening featured a presentation by Michael Chernew, PhD, professor in the Department of Health Care Policy at HMS and vice chairman of the Medicare Payment Advisory Commission, an independent agency established to advise the U.S. Congress on issues affecting the Medicare program.

Chernew discussed his research into the causes and consequences of growth in health care expenditures, geographic variation in medical spending and use, and value-based insurance design, then fielded questions from the engaged crowd.

Below: Arling hosted the thought-provoking evening at the Columbia Country Club in Bethesda, Md.

Aging human brain is focus of Beckerman Trust

Only aging humans develop the pathology of Alzheimer's disease, raising questions about what makes it unique. Is there a relationship between sites of DNA damage and changes in the expression of specific genes during aging? Does this relationship change in the genomes of individuals with cognitive decline, both at early stages and at the more severe stage known as Alzheimer's disease? And why are some individuals able to live past 100 and remain intact cognitively?

To gain greater insight into these questions, Bruce Yankner, MD, PhD, professor of genetics and neurology at Harvard Medical School and co-director of the Paul F. Glenn Laboratories for the Biological Mechanisms of Aging, is researching the molecular basis of brain aging and neurodegenerative disorders such as Alzheimer's.

This important work is being supported by the late George Beckerman, who established a charitable remainder trust in 2000 to benefit HMS. The gift provided him with a tax deduction and income before his death at age 97. Now the principal is benefiting Yankner's research and other laboratories.

Bruce Yankner, MD, PhD, who is studying the aging human brain

"George Beckerman was someone with a long view," says Yankner, recalling numerous meetings with his benefactor over the years. "He was a visionary who funded my team's research at a critical phase, when speculative, large-scale database research was not easy to fund. And he played a large role in our initial demonstration of gene changes in the aging brain."

Beckerman, a successful real estate investor, has been described as smart, dynamic, and upbeat. Having lived with diabetes for more than 70 years, he is believed to be one of the longest survivors of the disease treated with insulin. His own experiences with chronic illness, and seeing family members suffer from others, solidified his commitment to improving the quality of life for those around him. In addition to his contribution to the School, he donated much of his money to an array of organizations, including those focused on cancer research and summer camps for children with diabetes.

> "George Beckerman was a visionary who funded my team's research at a critical phase, when speculative, large-scale database research was not easy to fund."
> —Bruce Yankner, MD, PhD

Wolfson Foundation finances student education

Nearly 20 percent of the HMS student body receives financial assistance from the Louis E. Wolfson Foundation each year

For more than 25 years, the Louis E. Wolfson Foundation has been helping Harvard Medical School students finance their educations. To date, the foundation has provided more than $10 million in institutional loans, including $950,000 to 93 HMS students in the 2012–2013 academic year alone. That steadfast commitment was reinforced recently with additional gifts totaling more than $500,000.

"Aid from the Wolfson Foundation has been hugely important to us over the past quarter-century, helping thousands of medical students pursue their education," says Bob Coughlin, director of financial aid at HMS. He added that the loan fund helps 15 to 20 percent of the student body each academic year, particularly the neediest students who have accumulated debt prior to attending HMS.

The foundation not only helps HMS students but those at other medical schools around the country. The late Louis E. Wolfson, the foundation's namesake, was an industrialist and financier who sought to improve medicine through philanthropy. He had a passion for thoroughbred racing and was the owner and breeder of the 1978 American Triple Crown winner, Affirmed.

thebenefactor

HARVARD MEDICAL SCHOOL

FALL 2013

REDEFINING STRENGTH

Photo courtesy of Jesse Costa/WBUR

"The doctors, nurses, medical students, and staff performed heroically during and following the Boston Marathon attack, executing the difficult work for which we have trained and to which we have devoted our lives. Their expert skill and dedication illustrate why Harvard's teaching hospitals have earned a reputation as best in the world."

—Dean Jeffrey S. Flier, MD

Left: Mery Daniel, 31 (pictured with occupational therapist Becky Buttiglieri at Spaulding Rehabilitation Hospital), is rebuilding her physical and mental strength following the Boston Marathon bombings.

401 Park Drive
Suite 22 West
Boston, MA 02215

JOIN US CALENDAR OF EVENTS

Oct. 3

25th Annual Warren Alpert Foundation Prize Symposium
Celebrate the winners of the 2013 Warren Alpert Foundation Prize—David Botstein, PhD, of Princeton University, and Ronald W. Davis, PhD, and David S. Hogness, PhD, of Stanford University School of Medicine—for their seminal contributions to the concepts and methods of creating a genetic map in the human, leading to the identification of thousands of disease genes. The event runs from 2–5:30 p.m. in the New Research Building. *Contact Caitlin Craig at 617-384-8467 or caitlin_craig@hms.harvard.edu for more information.*

Oct. 16

13th Annual Hollis L. Albright, MD '31 Symposium
Join us from 5–7 p.m. in the New Research Building for a scintillating discussion of the new scientific initiatives underway at HMS. Featuring an update by Dean Jeffrey S. Flier, MD, the symposium is moderated by George Daley, AB '82, PhD, MD '91, Samuel E. Lux IV Professor of Hematology/Oncology at Boston Children's Hospital, and includes keynote presentations by Lewis C. Cantley, PhD, director of the Cancer Center at Weill Cornell Medical College and NewYork-Presbyterian Hospital, and Peter K. Sorger, AB '83, PhD, director of the Harvard Program in Therapeutic Science. *Contact Alexandra Chase at 617-384-8596 or email albright@hms.harvard.edu for more information.*

Nov. 3

Alumni Reception in Philadelphia
Do you live in the Philadelphia area or are you planning to attend the Association of American Medical Colleges' (AAMC) annual conference? Don't miss the HMS alumni reception on Sunday at the Philadelphia Marriott Downtown from 5:30–7:30 p.m. *Contact Debbie Metcalfe at 617-384-8520 or email hmsalum@hms.harvard.edu to RSVP or for more information.*

March & April

Longwood Seminars
You don't have to be a doctor to attend Harvard Medical School's mini-med school classes, held Tuesdays from 6–7:30 p.m. in the New Research Building. This free seminar series is geared toward the general public and features faculty from HMS and its affiliate hospitals presenting on a broad array of topics. Registration is required. A limited number of priority reserved seats are available to members of the Dean's Council, HMS's leadership annual giving society, by emailing giving@hms.harvard.edu.

Visit http://hms.harvard.edu/news/longwood-seminars for more information. View the 2013 video series at youtube.com/harvardmedicalschool and click on the Longwood Seminars playlist.

May 29–30

Reunion
This year we celebrate classes ending in 4 and 9. Alumni and guests are invited to return to campus for the festivities, including a gala, class-specific events, symposia from faculty and alumni, the Dean's State of the School Address, tours, and more.

Learn more at http://hms.harvard.edu/reunion or contact Anne Koza at 617-384-8520 or hmsalum@hms.harvard.edu to volunteer on your class committee. Ensure you're receiving the latest event information by updating your email address at alumni.harvard.edu.

View all upcoming HMS events at http://hms.harvard.edu/calendar. Can't join us in person? Download our Harvard Medical Labcasts at http://hms.harvard.edu/podcasts or visit the HMS YouTube Channel.

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