Since the opening of the School of Medicine in 1893, Johns Hopkins has risen to the challenge of major health problems, as well as of less prominent but equally damaging diseases and disorders.
A CALL TO ACTION

Rising to the Challenge: The Campaign for Johns Hopkins will raise unprecedented levels of support to attract, sustain, and further empower the people of Johns Hopkins—our students, faculty, and researchers—who through their work improve the lives of millions around the world. Together with our philanthropic partners we will:

ADVANCE DISCOVERY AND CREATIVITY
through support of our exceptional faculty and researchers. Their innovative work drives the development of new knowledge, new forms of expression, and new ways to save lives and improve health, and furthers progress across our core disciplines in science and technology, the humanities and arts, and public health and medicine.

ENRICH THE STUDENT EXPERIENCE
by investing in scholarships and fellowships, inspirational spaces for collaborative learning and social opportunities, and new programs that will enhance student-faculty interactions, ensure diversity on campus, link learning in the classroom to life after graduation, and strengthen connections between our students and our surrounding communities.

SOLVE GLOBAL PROBLEMS AS ONE UNIVERSITY
by creating new cross-disciplinary solutions in crucial areas such as sustaining global water resources, revitalizing America’s cities, advancing individualized and population health, and understanding how we learn and teach. The Department of Medicine is committed to playing a key role in the success of the campaign. Please join with us in this important mission.

A VAST ARRAY OF HEALTHCARE NEEDS plague individuals and populations around the world; these needs are not only many and varied, but also continuously evolving. The tides of poor health—carrying issues such as cardiovascular disease, diabetes, HIV, life-threatening allergic reactions, autoimmune disorders, aging-related conditions, metabolic disorders, and obesity—sweep broadly across society, wreaking havoc on individuals’ lives and incurring massive expense. Since the opening of the School of Medicine in 1893, Johns Hopkins has risen to the challenge of major health problems, as well as of less prominent but equally damaging diseases and disorders. No health concern is minor to the individual who experiences it. For well over a century, the Department of Medicine has provided the very best of patient care for the full spectrum of medical needs, continuously improved upon that care through advancement of the underlying science, and educated future healthcare providers and biomedical scientists in the most current methods of care, while maintaining a patient-centered and compassionate orientation.

A MONUMENTAL ENTERPRISE
The Department of Medicine traces its roots to two of the most influential and forward-thinking academicians. The University’s founder, Johns Hopkins, planted a vision of a university that advances human knowledge through research as well as scholarship. Sir William Osler, the first physician-in-chief of Johns Hopkins Hospital (recruited in 1888) and the second professor appointed to the School of Medicine, believed that medical education must feature bedside learning focused on the patient, and that laboratory experience should be integrated into learning about patient care. Maintaining these commitments to academic excellence and to the patient, reinforced by dedicated scholarly and research efforts, the Department boasts an unbroken history of leadership, innovation, and achievement.

To lead the world of medicine in discovery, healing, education, service delivery, and shaping public policy and to train the next generation of medical leaders.
Throughout its history and to the present, the Department has been an unrivaled powerhouse for innovative, collaborative research. Each year, Hopkins receives approximately $700 million in research grants from the National Institutes of Health (NIH)—more than any other institution; the Department receives 43% of this total. Government funds, combined with other traditional sources of research support, provide a solid foundation for basic science research; these peer-reviewed grants support ideas that have already progressed considerably through preliminary studies, have achieved traction in the scientific community, and receive positive peer review. Federal and other traditional funders are not inclined to support new and especially innovative research, which forays into uncharted territories where “high risk” ideas also contain the potential for “high reward.” This, however, is the terrain of breakthrough discovery. Here philanthropic partners play an important, even essential, role in facilitating medical discovery.

Novel ideas in their earliest stages of development, ideas sparked in our brightest scientists’ minds, require enlightened partnerships with forward-thinking, dedicated supporters. In fact, partnerships between the Department and visionary philanthropists are the cornerstone of early discovery. Partnership, in the form of scientific collaboration, is also the guiding principle behind the Research Centers, through which the Department of Medicine is creating environments designed to encourage highly productive, interdisciplinary, initiatives.

Each Center’s work unites the efforts of researchers in multiple fields as they conduct exemplary high-risk/high-reward science.

Research Spotlight: Cystic Fibrosis
Cystic Fibrosis (CF) is caused by mutations in a gene that controls the salt and water balance in the lining of the lungs. Research led by Dr. Michael Boyle is studying new compounds that show promise in treating the underlying problem—allowing the CF chloride channel to open more normally. Early results suggest significant benefit.

Research Spotlight: Sickle Cell Anemia
Sickle Cell Anemia is a debilitating, painful, usually fatal disease that affects millions of people worldwide. A breakthrough treatment piloted by Dr. Robert Brodsky and colleagues entails bone marrow transplant from a donor who is not a perfect match, a drug that re-starts the body’s immune system, and a process in which donor stem cells out-compete the patient’s immune cells. For the first time ever, we now have within reach a cure for adults with Sickle Cell Anemia.

Research Spotlight: Lung Health
In a study with mice, Drs. Enid Neptune and Robert Wise found that a commonly prescribed blood pressure medicine prevents almost all of the lung damage caused by cigarette smoke. The treatment targets lung tissue breakdown, airway wall thickening, inflammation, and lung over-expansion. This drug is now being tested in people with smoking-related chronic obstructive pulmonary disease (COPD).

Research Spotlight: “Scarless” Surgery
Dr. Anthony Kalloo and colleagues have developed Natural Orifice Transluminal Endoscopic Surgery (NOTES), in which an endoscope passes through a natural orifice then through an internal incision, thus avoiding any external incisions or scars. NOTES holds great promise for use in removing organs, such as the gall bladder, appendix, pancreas, and kidneys, or for tubal ligation, hernia repair, and liver biopsy. To date, over 3,000 hybrid NOTES procedures have been performed world-wide.

While Departmental research is far-ranging, we have targeted certain areas as especially important, timely, and/or poised for significant progress. Warranting our full-force attention in the upcoming years, these research areas are:
1. Autoimmunity and inflammation
2. Epigenetics, particularly of cancer and aging
3. HIV and tuberculosis (TB)
4. Hepatitis
5. Cardiac arrhythmias, mechanisms, imaging, and intervention
6. Aging and frailty
7. Obesity and diabetes
8. Interventional cardiology, gastroenterology, and pulmonary medicine
9. Sleep

Recently we have:
• Described a novel mechanism by which our genes control how people develop normally, and under conditions of cancer and aging;
• Discovered the sites where drugs for high blood pressure attach in the “energy factories” of cells (mitochondria), and pointed to potential use of these drugs to control cells’ energy and lifespan;
• Discovered a sugar-based molecule that controls allergies;
• Completed and published a seminal randomized trial demonstrating innovative, inexpensive methods for effectively reducing body weight and combating obesity; and,
Proven the effectiveness of a novel, short-term, treatment approach for managing TB. Further support from generous donors will boost current research to a next level of exploration and discovery, and/or will catalyze additional discoveries launching new research trajectories. Philanthropy is thus the critical ingredient that can lead to transformative approaches to patient care.

Research Spotlight: Sarcoidosis
Sarcoidosis is a disease in which inflammation occurs in lymph nodes, lungs, liver, eyes, skin, or other tissues. Dr. David Moller and his team have identified a protein trigger that may cause this disease. Increase in production of this protein explains, for the first time, how inflammation can persist in the lungs without an active infection. Their findings clear the path for developing drug treatments or vaccines.

Research Spotlight: Kidney Transplantation
The immune system often mediates rejection of transplanted organs. Historically, this immune barrier prevented treatment of patients who needed solid organs but could not be matched to an appropriate donor. Hopkins researchers have discovered how to transplant across the ABO blood type barrier, and can now perform kidney transplants in patients with either B- or T-cell positive cross matches. These discoveries have been moved from the lab to clinical trials and are quickly becoming the standard of care nationally and internationally.

SUPPORT FOR LEADERS IN MEDICINE
1. TRAINING THE NEXT GENERATION
The Department of Medicine at Johns Hopkins has long been a premier, internationally recognized, training ground for future leaders in medicine. In the late 1800s, the Osler Housestaff program at Hopkins created the template for physician training programs throughout the United States. A noted educator and humanitarian as well as physician, Sir William Osler instituted the then-radical idea of a full-time, live-in, residency program in which students learned to focus on the patient first, and to treat patients as people rather than as subjects addressed in a lecture or textbook. The tradition of patient-centered care, and of medical education focused on the patient, continues at Johns Hopkins. It is common to hear new patients comment, with surprise, on their first experience with a Hopkins physician: “He really listened to me,” or “we just sat and talked for a long time before she even started the exam.” The Osler and Bayview Housestaff programs at Johns Hopkins Medicine remain the nation’s leading residency programs. Pillars of medical training, they represent only the beginning of a continuum of learning. Following residency training, each division in the Department of Medicine invites a select few residents from Hopkins and similar world-class medical training centers to apply for extensive training in their fellowship programs.

The next generation of leaders in American medicine will arise from today’s fellows. These individuals have chosen a specific area in which to develop their expertise; through their fellowships, they gain clinical experience, research involvement, networks and collaborative relationships, and mentoring and guidance from senior faculty. From the Department’s perspective, fellowships constitute an investment in the future of individuals, but even more importantly, of highest-quality medical care and research.

Launching the careers of the most promising young physicians requires financial support for their early career stages; as new investigators, fellows must ramp up their research in order to position themselves to apply for grants. Philanthropic assistance has been a major source of funding for our fellows. It allows them to learn under the world’s best leaders in medicine, gather momentum for their careers, and step out into their respective fields able to “hit the ground running.” As our fellows enter their chosen professions, philanthropy makes the difference between a stroll and a rocket launch.

NOTE: THE RESEARCH SPOTLIGHTED ABOVE REPRESENTS ONLY A SMALL FRACTION OF THE RESEARCH UNDERWAY IN THE DEPARTMENT OF MEDICINE. FOR VIRTUALLY ANY DISEASE OR DISORDER, HOPKINS FACULTY STAND AT THE FOREFRONT OF RESEARCH PROGRESS, ACTIVELY ADVANCING THE STATE OF THE SCIENCE TOWARD NEW UNDERSTANDING, NEW METHODS, AND EVEN CURES. INDIVIDUALS WITH SPECIFIC INTERESTS ARE ENCOURAGED TO CONTACT US, TO LEARN MORE ABOUT RESEARCH AGENDAS IN THEIR AREA OF INTEREST, AND PARTNERSHIP OPPORTUNITIES.
A CONTINUUM OF EDUCATION

Medical education at Hopkins is not confined by the walls of our medical school. Our educational efforts span every level: from involving high school and college students in our programs and encouraging them to enter medicine; through our newly redesigned medical school curriculum, Genes to Society; continuing with programs for housestaff and fellowships that offer specialized training; and supporting education throughout medical careers with our Continuing Medical Education and faculty development programs that help our faculty, as well as health professionals regionally and internationally, gain new knowledge and hone their skills.

2. EMPOWERING TRUE LEADERSHIP AND OUTSTANDING CONTRIBUTION

In medical research, “talent” describes a unique alchemy in which intelligence, knowledge, insight, dedication, and sheer hard work combine to yield discovery—that is, the breakthroughs in understanding, or the inspirations about possible methods, that lead to significant improvements in patient care. We continuously scan the horizon for individuals who possess this rare sort of talent.

“Leadership” in medicine requires not only research talent, but also a constellation of exceptional human qualities such as:

• A sincere interest in education, and a desire to guide junior physicians so that they enhance their skills and advance in their careers;

• A subtle charisma, manifesting as an ability to communicate, convene, and inspire, which allows the leader to rally others around shared purposes, transcending individual ambition in service of science, humanity, and individual patients; and,

• A genuinely caring spirit, which makes the leader an exemplary model of compassionate, patient-focused, medical practice.

Leaders in academic medicine are rare and exceptional individuals. Endowed professorships are our mechanism for acknowledging, supporting, and retaining these leaders at Hopkins.

In academic medicine, endowed professorships are covered and prestigious positions. Affording academic freedom and flexibility, these positions enable us both to recruit world-class physician-scientists to Hopkins, and to better support and retain our most talented faculty. They are thus an important institutional strategy for advancing the frontiers of research, and for improving patient care.

Endowments are a direct investment in our most outstanding physicians and their work. In recent years, the Department has been very successful at matching donors with endowed professorships in fields of medicine where they have a special interest. These gifts allow generous philanthropists to support an individual physician and/or future physicians in a given medical field, to help advance the science in a specific area of their interest, such as a particular disease or disorder, and to contribute to better patient care for future patients with this condition. Endowments, which usually honor the donor or a member of the donor’s family by carrying their name, yield benefits in perpetuity.

DR. AMI SHAH
Major contributor, as a Hopkins Fellow

After earning her MD from Johns Hopkins School of Medicine and completing residency at Stanford, Dr. Shah returned to Hopkins for a fellowship in Rheumatology. During her first year (2006), she was supported by a philanthropic gift from a donor made in honor of his wife, who had succumbed to scleroderma. While supported by this dedicated individual, Dr. Shah made a discovery that drew international attention: in patients with a certain anti-body profile, the onset of cancer is closely associated with the development of scleroderma. Her findings have helped elucidate the mechanisms driving scleroderma onset and progression in a subset of patients. Published in Arthritis and Rheumatism, this work launched epidemiologic and basic science exploration of the links between cancer and autoimmune rheumatic diseases. Dr. Shah’s success as a fellow led to her joining the Department of Medicine faculty (2009).
WHY JOHNS HOPKINS?
The name, "Johns Hopkins," is equated with excellence. As a patient, there is no better place in the world to come for medical care. *U.S. News & World Report* consistently ranks Johns Hopkins Hospital as America’s best hospital. We attract the best and brightest medical students, residents, and fellows; they are drawn by the quality of Hopkins education and by the ability to train under our faculty, representing the "crème de la crème" in academic medicine. Our research programs trace the full trajectory of disease—from processes at the cellular and molecular levels to preventive interventions and clinical treatments. The caliber of our research is evident in multiple scientific and clinical breakthroughs.

The Department of Medicine is vast, and its record of contribution to medical education, research, and patient care unrivaled. Despite our formidable strength, we function collegially. Our faculty members collaborate closely in all three aspects of our mission—while always keeping the patient as the central focus. When asked “Why Hopkins?,” we believe the more obvious question is, “Why anywhere else?”

PHILANTHROPY CAN CREATE THE FUTURE
Excellence at the level and on the scale maintained by the Department of Medicine requires massive financial support. We must sustain the efforts of the best, the most talented and dedicated, people and we must provide them with both state-of-the-art facilities and the resources to support their efforts.

Healthcare faces an increasingly competitive funding environment. In this context, partnerships with philanthropists who share our visions of ever-better medical care, and of cutting-edge research to improve outcomes for patients, are of critical importance. Philanthropic gifts—which honor our donors and bring their dreams to fruition—are, quite simply, our most successful strategy for advancing the state of the science, and the art, of medicine. These are the funds that allow us to endow chairs for our most brilliant and productive physicians, groom young physicians to become leaders in their fields, meet the infrastructural needs of research, create an optimal environment for education and scientific discoveries, and lead medicine with transformational advances in research and patient care.

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