



SPECIAL EDITION: JANUARY 2019

Transforming human health

Momentous gift from the Blavatnik Family Foundation catalyzes curiosity-driven research and the translation of next-generation precision therapies



\$200 million
commitment
to HMS

“It has long been my goal to support innovative, breakthrough scientific research and to expedite the translation of scientific discovery into treatments and cures to solve the most confounding biomedical challenges. Harvard Medical School, with its unparalleled history of scientific achievement, creativity, and science entrepreneurship, is the ideal partner to further this dream.”



Len Blavatnik, MBA '89
*Founder and Chairman,
Access Industries*



BLAVATNIK INSTITUTE HARVARD MEDICAL SCHOOL

Led by HMS Dean George Q. Daley, the Blavatnik Institute at Harvard Medical School is home to world-class faculty who aim to solve the greatest problems of human health through fundamental and translational biomedical science research. The institute reflects the unique identity of the scientific enterprise housed on the HMS Quadrangle, encompassing the School's 11 academic departments, including the departments of biological chemistry and molecular pharmacology, biomedical informatics, cell biology, genetics, global health and social medicine, health care policy, immunology, microbiology, neurobiology, stem cell and regenerative biology, and systems biology. The institute was named in November 2018 in recognition of a momentous commitment from the Blavatnik Family Foundation to benefit Harvard Medical School.

11

departments
forming
the Blavatnik
Institute



The chairs of HMS's 11 academic departments gather on the steps of Gordon Hall. From left: Michael Greenberg, PhD (neurobiology); Wade Harper, PhD (cell biology); Galit Lahav, PhD (systems biology); Cliff Tabin, PhD (genetics); Ann Hochschild, AB '77, PhD '86 (microbiology); Arlene Sharpe, AB '75, AM '76, PhD '81, MD '82 (immunology); Stephen Blacklow, AB '83, MD '88, PhD '91 (biological chemistry and molecular pharmacology); Amy Wagers, PhD (co-chair, stem cell and regenerative biology); Barbara McNeil, MD '66, PhD '72, AMP '86 (health care policy); and Isaac Kohane, MD, PhD (biomedical informatics). Not pictured: Paul Farmer, MD '90, PhD '90 (global health and social medicine).

“This is a thrilling time to be working at Harvard Medical School! The generous gift from Len Blavatnik will open many doors and possibilities. I am especially excited about the new bridges that will form between departments and the new possibilities for using computer science and artificial intelligence to probe the complexities and deep structure of biological systems.”

—Galit Lahav, PhD
Chair, HMS Department of Systems Biology

Watch a video
about the gift at
bit.ly/transforming-health



Transformational gift

Largest gift in Harvard Medical School's history will accelerate therapeutic discovery and spur scientific advances

Harvard University announced on Nov. 8 that the Blavatnik Family Foundation has committed \$200 million to Harvard Medical School

to accelerate the pace of therapeutic discovery and support initiatives aimed at solving some of humanity's most acute biomedical challenges.

The gift, the largest in the School's 236-year history, will help propel the School's mission of transforming health through curiosity-driven research that stimulates the development of new therapies and tools to diagnose, prevent, and treat disease.

"We are deeply grateful to the Blavatnik Family Foundation—and Len Blavatnik in particular—for the resounding vote of confidence in Harvard Medical School," said Harvard University President Lawrence S. Bacow, JD '76, MPP '76, PhD '78. "Len is one of this generation's greatest philanthropists. He understands that great strides in human health comprise many steps taken by many people over long periods of time."

Biomedicine is at a unique inflection point, marked by a dizzying pace of discovery and rapid proliferation of new technologies. The gift will enable Harvard Medical School to harness unprecedented opportunities for discovery and remove barriers that historically have stymied efforts to expedite the translation of basic insights into promising treatments.

"This tremendous act of generosity will speed progress and generate profound and lasting contributions to science and human health," Bacow added. "In each aspect of the gift, one recognizes not only a deep commitment to supporting outstanding research, but also a fundamental understanding of and respect for the nature of the scientific enterprise—and the hope it holds for all of humanity."

Led by business leader and philanthropist Len Blavatnik, MBA '89, the Blavatnik Family Foundation is well-known for its generous charitable activities that have advanced life-sciences innovation around the world, most notably the Blavatnik Awards for Young Scientists.

"It has long been my goal to support innovative, breakthrough scientific research and to expedite the translation of scientific discovery into treatments and cures," Blavatnik said. "Harvard Medical School, with its unparalleled history of scientific achievement, creativity, and science entrepreneurship, is the ideal partner to further this dream. I am confident that the School will make the most of this gift to build on its tradition of scientific greatness in the years ahead."

The overarching goal of the gift is to accelerate the pace of therapeutic discovery by shortening the trajectory between basic discovery and transformation of insights into therapies.

"The work that takes place in the labs and clinics across Harvard Medical School embodies the promise of curiosity-driven fundamental research to solve some of humanity's most confounding and pressing biomedical challenges. In that sense, this is a gift to medicine and, indeed, to patients everywhere," said George Q. Daley, AB '82, MD '91, PhD, dean of Harvard Medical School.

"This transformational gift will bring us closer to solving the most intractable health challenges of our time," Daley added. "We are deeply grateful to the Blavatnik Family Foundation for its support."

In particular, the gift will:

Support a therapeutics initiative

This therapeutics initiative will catalyze the development of new treatments as well as train scientists to be more effective contributors to therapeutic translation. A central tenet of the initiative is that effective treatments emanate from deep insights into the fundamental mechanisms of

disease that follow from curiosity-driven research, but the current system for translating discovery into therapies must be optimized. To achieve that, the therapeutics initiative will eliminate barriers to therapeutic optimization—common across academia—such as insufficient funding for therapeutic discovery, inadequate support for enabling technologies, and a cultural divide between academic and industry scientists.

(Please refer to the callout box on the far right for the new and enhanced technologies this gift will enable.)

Spark fertile intellectual communities

Harvard Medical School will enrich its pool of scientific talent by recruiting the most promising bioengineers, physicists, quantitative analysts, and

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"I know the amazing power that is enabled by cross-institutional affiliations, and this gift allows us to take that to the next step."

—Laurie Glimcher, AB '72, MD '76
President and CEO, Dana-Farber Cancer Institute

"True breakthroughs can be achieved when we bring different perspectives, experiences, ideas, and passions to bear on worthy challenges, and when we form partnerships that transcend the institutional barriers that divide us. This gift is predicated upon empowering such partnerships."

—George Q. Daley, AB '82, MD '91, PhD
Dean, Harvard Medical School

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computational biologists who have the specialized expertise needed to harness new data-rich technologies to advance biological research, build and manage new core technology facilities, and train fellow scientists. The School will empower its biomedical informatics and data science initiatives to harness advances in artificial intelligence, machine learning, and augmented reality to help scientists generate richer insights into a range of biological phenomena, ranging from the behavior of rogue cells in cancer development to improving diagnosis for mystifying disorders. To that end, HMS will create a new data science core facility that will enable the conceptualization, design, and development of new computational and AI tools and technologies for use by researchers across the Harvard life sciences community.

Build bridges across disciplines

Through a robust collaborative-grants program, Harvard Medical School will bring scientists together to solve challenging biomedical problems. The gift will fund promising partnerships among researchers based on the Harvard Medical School campus and at its 15 affiliated teaching hospitals and research institutions. These grants will bring together scientists with a wide range of expertise, skill sets, and disciplines who will work to solve the most confounding biomedical challenges, and also accelerate interdepartmental and cross-institutional research partnerships across the broader biomedical ecosystem.

Launch the Blavatnik Harvard Life Lab Longwood

Building on the success of the pioneering Pagliuca Harvard Life Lab in Allston, the Blavatnik Harvard Life Lab Longwood will provide collaborative workspaces for early-stage, high-potential biotech and life sciences start-ups founded by Harvard students, alumni, postdoctoral scholars, and faculty. Situated on the Harvard Medical School campus, in the heart of the Longwood Medical Area, the planned Blavatnik Harvard Life Lab Longwood will foster collaborations with biotech industry experts, academics, and investors. As part of the Harvard Innovation Labs, the new life lab will offer diverse resources, including business building, industry-specific programming, and expert advisors and mentors.



“This gift is going to fuel our drive to the biomedical future we all dream about.”

—Susan Hockfield, PhD
President Emerita and
Professor of Neuroscience, MIT



Front Cover Standing in front of Gordon Hall and the new Blavatnik Institute banner are (from left) George Q. Daley, AB '82, MD '91, PhD, dean of Harvard Medical School; Lincoln Benet, MBA '89, chief executive officer of Access Industries; Alex Blavatnik, MBA, executive vice president of Access Industries and brother of Len Blavatnik, MBA '89; Lawrence S. Bacow, JD '76, MPP '76, PhD '78, president of Harvard University; and Peter Thoren, JD, executive vice president of Access Industries.

2 Alex Blavatnik receives a standing ovation at the Nov. 8 gift-announcement symposium after putting on a white coat bearing his name. His brother Len could not attend the symposium because of a medical issue.

3 A symposium panel moderated by Susan Hockfield, PhD (right), MIT president emerita and professor of neuroscience, featured (from left) Eric Lander, PhD, president and founding director of the Broad Institute of MIT and Harvard; Vas Narasimhan, MD '03, MPP '03, chief executive officer of Novartis; and Laurie Glimcher, AB '72, MD '76, president and CEO of Dana-Farber Cancer Institute.

4 After asking an overflow symposium crowd to “squeeze in and smile,” Alex Blavatnik snaps a photo from the stage podium.

5 Personalized HMS white coats were given to Len Blavatnik and members of his family foundation to welcome them as part of the School's community.

1 Lawrence S. Bacow and George Q. Daley

“It’s one thing to dream for oneself, for one’s family and friends, even for one’s community. It’s another thing to dream for all people, to dream for a future in which more lives are improved and saved through the creation and application of knowledge through science. This gift represents the audacity of one person to dream on behalf of all of us.”

—Lawrence S. Bacow, JD '76, MPP '76, PhD '78
President, Harvard University

“Len’s optimism and sense that what can be imagined can be accomplished has been an inspiration to me and many others.”

—Lawrence Summers, PhD '82
President Emeritus, Harvard University

In recognition of this gift, HMS will name the Blavatnik Institute at Harvard Medical School—an umbrella research institute to encompass the School's 11 academic departments. The institute will recognize the unique identity of the scientific enterprise housed on the HMS Quadrangle, while supporting research infrastructure that will be a magnet for the broader life sciences community, including the 15 Harvard-affiliated teaching hospitals and research institutions, as well as other Harvard schools and peer institutions.

The Blavatnik Family Foundation's history of support at Harvard originated with a gift that established the Biomedical Accelerator Fund in 2007, followed by a \$50 million gift in 2013 that created the Blavatnik

Biomedical Accelerator at Harvard University and the Blavatnik Fellowship in Life Science Entrepreneurship at Harvard Business School.

Many Harvard Medical School scientists from a range of disciplines—immunology, genetics, neurobiology, and stem cell biology, among others—have received support from the Blavatnik Biomedical Accelerator to advance translational efforts in areas spanning cancer immunology, regenerative medicine, neuroscience, infectious disease, and reproductive medicine. One of the early recipients of the Blavatnik Award for Young Scientists was Rachel Wilson, AB '96, PhD, the Martin Family Professor of Basic Research in the Field of Neurobiology at Harvard Medical School.

Bolstering new technologies

New and enhanced technology platforms supported by this gift will:

Boost the imaging and visualization capabilities of the Harvard Cryo-Electron Microscopy Center for Structural Biology. This revolutionary technology has given science a more powerful magnifying glass, enabling an unprecedented level of visualization of life's exquisitely complex molecular machinery. Cryo-EM promises to enable the identification of new drug targets and to fuel the design of next-generation precision therapies for a range of diseases that arise from molecular aberrations.

Enhance single-cell sequencing capabilities, allowing scientists to profile cellular behavior one cell at a time and in the context of its immediate surroundings or microenvironment. Single-cell analysis offers far greater precision and informs how the minutest of shifts in cellular behavior can shape biology, disease, and health.

Propel high-throughput screening capabilities that promise to accelerate precision therapies. High-throughput drug screening can advance the identification of new treatments by enabling scientists to rapidly sift through hundreds of thousands, even millions, of chemical compounds, looking for potential "hits."

Watch a video about HMS's impact on the world at bit.ly/serving-the-world



6 Rachel Wolfson, Harvard/MIT MD-PhD Class of 2019, speaks at the symposium about how fortunate she has been at HMS to find "daring mentors who are willing to take a chance on my imagination."

7 Harvard President Emerita Drew Gilpin Faust, MA, PhD, gives a toast in honor of the Blavatnik Family Foundation at a celebratory, post-symposium luncheon.

Back Cover Audience members stand and cheer after Harvard University President Lawrence S. Bacow announces a \$200 million commitment to HMS from the Blavatnik Family Foundation at a Nov. 8 symposium. An estimated 800 guests attended, filling the auditorium and watching the live-streamed video in rooms throughout the HMS New Research Building.

Photographers
Gretchen Ertl, Bethany Versoy,
and Kris Snibbe/Harvard Gazette



"Len's vision for the future of biomedical innovation is inspiring. His generosity will touch so many lives, especially the patients and families who are the ultimate beneficiaries of Harvard's work."

—Drew Gilpin Faust, MA, PhD
President Emerita, Harvard University



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Read more
about the gift at
bit.ly/transformational-hms-gift

Landmark gift

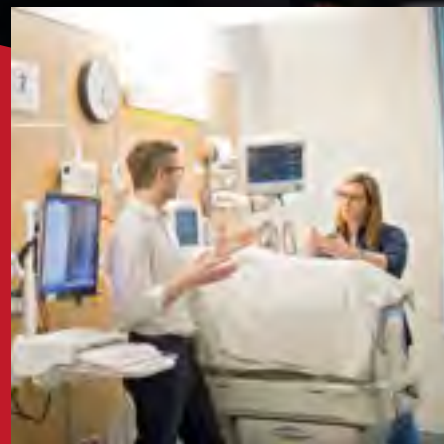
The \$200 million commitment to Harvard Medical School from the Blavatnik Family Foundation, announced at a symposium on Nov. 8, will support four key areas:



A therapeutics initiative to enhance the impact of fundamental curiosity-driven research and catalyze the development of new therapies



Fertile intellectual communities to integrate data science and artificial intelligence capabilities and applications



A collaborative-grants program to inspire cross-disciplinary research collaborations across the Harvard life sciences ecosystem



The Blavatnik Harvard Life Lab Longwood to provide incubator space for early-stage, high-potential biotech start-ups