HARVARD IS A PLACE OF DISCOVERY for people leading positive change in the world, be they scientists, scholars, or statesmen; poets, performers, or entrepreneurs. That is our heritage and it must be our future. The world is challenging Harvard and each of us to do more, to be more. The world is evolving, shrinking at an ever-accelerating pace, powered by ideas, the most valuable currency of today and tomorrow. Ideas have always been the fuel for excellence at Harvard. This is our time to encourage, embrace, and lead change. This campaign is our opportunity to ensure for this and every generation that Harvard continues as a premier source of ideas and leadership, advancing teaching, learning, and research, with a unique commitment to truth and excellence. This is our time to ensure Harvard continues as a place of discovery SHAPING THE FUTURE.
Alp Sipahigil, doctoral candidate and research assistant in physics, works in the Lyman Laboratory.
OUR PRIORITIES

FINANCIAL AID

HOUSE RENEWAL & THE STUDENT EXPERIENCE

FACULTY & OUR SCHOLARLY ENTERPRISE

LEADING IN LEARNING

SCHOOL OF ENGINEERING & APPLIED SCIENCES

DEAN’S LEADERSHIP FUND
The University brings together the brightest minds across an unparalleled landscape of disciplines, with unrivaled resources and the freedom to explore fearlessly, think creatively, and act boldly.

Our unique approach to teaching, learning, and research—with a commitment to truth and excellence—makes Harvard a premier source of innovation, ideas, and leadership.

Now, a digital, globalizing, fast-moving world is demanding we do more. The Harvard Campaign for Arts and Sciences will support and strengthen Harvard as a place of discovery unlike any other, where dynamic thinkers and problem solvers will connect, collaborate, and lead change well into the 21st century.

Our faculty and graduate students—our human capital—are the heart of Harvard's strength as a source of ideas and innovative thinking. Faculty members create new understanding, collaborate across disciplines to unlock new fields, and train scores of future leaders in the process. As engines of research and the world's future thought leaders, our graduate students are equally critical to investigating ideas and fueling breakthroughs.

This context forms a truly unique learning environment for students at Harvard College. We attract the very best students, who come to Harvard to learn from remarkable mentors. Our undergraduates are full, active participants in their education, working alongside preeminent faculty and graduate students in the creation of ideas. Frequently, these young scholars inspire even the most established professors to view their work through a fresh lens and pursue new directions. Ultimately, a Harvard education prepares students for a lifetime of intellectual curiosity and pursuit. No matter their career paths, our students are educated to lead in thought and action, and they do—with positive impact in every part of the world.

Sustaining this remarkable environment requires significant support and ongoing investment.

This campaign will provide support in the form of professorships for existing faculty, research fellowships for our tenure-track and newly tenured professors to support growth into emerging fields, and graduate fellowships. In addition, the Campaign will leverage the collective talents and ambitions of these extraordinary scholars to support a wide range of academic...
programs, such as theater and performance, the digital humanities, the foundations of human behavior, energy and the environment, and quantum science, as well as our efforts to extend research and discovery through the deployment of “big data” through our Institute for Quantitative Social Sciences—to name just a few.

At a time of accelerating change, it is more important than ever that we work together to power a dynamic Harvard to continued leadership and impact in the world.

GOAL
$600 MILLION

PROFESSORSHIPS $300 MILLION
ARTS AND SCIENCES PROFESSORSHIPS $50 MILLION
FACULTY RESEARCH FELLOWSHIPS $50 MILLION
ARTS LECTURESHIPS $15 MILLION
GRADUATE FELLOWSHIPS $80 MILLION
ACADEMIC PROGRAMS AND THE LIBRARY $105 MILLION
“WITH HARVARD, I CAN LITERALLY CHANGE THE WORLD IN A PROFOUND WAY FOR THE BETTER.”

THE CHEMISTRY OF GREEN PLANTS

DANIEL NOCERA
PATTERSON ROCKWOOD PROFESSOR OF ENERGY

DANIEL NOCERA BELIEVES THAT WE CAN BRING AFFORDABLE ENERGY TO THE ENTIRE WORLD.

The answer, he says, lies in using photosynthesis to process and store solar energy as chemical fuel. A pioneer in the study of energy conversion in biology and chemistry, Nocera has invented an artificial leaf that can convert sunlight and water into storable fuel. Easy to manufacture, highly durable, and requiring little infrastructure, the leaf has the potential to provide new sources of inexpensive and sustainable energy for the billions of people living in the developing world.

“It lends itself to being highly distributed because of its simplicity,” he says. “You can use it under very, very simple engineered conditions.”

The leaf needs further refinement, Nocera says, and he hopes to lead research that can capture hydrogen for fuel, furthering complementary sources of sustainable energy.

To accomplish these goals, Nocera came to Harvard, where he could pair his research with teaching undergraduate and graduate courses. Why?

“It’s not enough to just invent something; you need the wide interdisciplinary reach and focus of Harvard to fulfill the vision of bringing something to the entire world. With Harvard, I can literally change the world in a profound way for the better.”
AMY WAGERS IS WORKING TO UNLOCK THE SECRETS OF AGING, INCLUDING HOW TO REVERSE IT.

Wagers has found that when a particular protein, GDF-11, is injected into older mice, their hearts reduce in size and thickness. After the protein is introduced, those old hearts appear very much like the healthy hearts of younger mice.

“We compared young and old animals and identified a substance in the blood that is present at high levels when you’re young and lower levels when you’re old,” says Wagers. “We further found that when we supplemented the low levels of this substance that were present in old animals to the levels normally seen in youth, this could have a dramatic effect on the heart.”

Wagers, who carried out this work in her capacity as a faculty member of the Harvard Stem Cell Institute, specializes in blood-forming stem cells and muscle-forming stem cells. Her research may one day lead to advances in everything from bone marrow transplants to the treatment of muscular dystrophy.
Jeffrey Schnapp considers the Internet a change agent for what we know. It will help forge dynamic new forms of scholarship in the humanities, he says, and unlock connections between the physical and the virtual, the ancient and the modern. Schnapp is a pioneer in the field of digital humanities—technologically enhanced scholarship—in which scholars use computational methods to advance existing research or to pose new questions.

“The Internet has the potential to bring scholarship out of the silos in which it tends to live into interdisciplinary, even society-wide, conversations,” Schnapp says.

His work exists largely at the intersection of disparate worlds—the old and the new. How do digital tools, techniques, and media change knowledge? “The digital humanities are not simply about creating a kind of new universal humanist who can code in addition to being able to read ancient Greek,” he says.

Instead, the field is redefining how we look at the arts and humanities, and the web—the new public space of our era—is revealing new insights on ancient artifacts. In other words, digital humanities is best thought of as something entirely new, and Harvard is a place where it is being created.
WHEN HARVARD CAN ATTRACT SUPERSTAR TALENT, STUDENTS BENEFIT:

1. **MATT NOCK**
   Named a MacArthur Fellow in 2011, Nock is a professor of psychology whose research goal is to vastly improve the ways in which suicide is predicted and prevented.

2. **MARKUS GREINER**
   Also a MacArthur Fellow, Greiner is a physicist who uses ultracold quantum gases to understand and develop novel quantum materials.

3. **CAROLINE ELKINS PHD ’01**
   Winner of a Pulitzer Prize for nonfiction for her book *Imperial Reckoning*, Elkins is a narrative historian whose scholarship touches upon modern Africa, the British Empire, and 20th-century counterinsurgencies.

4. **CLAUDINE GAY PHD ’97**
   A professor of government, Gay is a leading scholar examining minority political behavior with a focus on how neighborhood makeup influences residents’ attitudes and actions.
Glenda Carpio is bringing literature out of exile and into the mainstream.

When a handful of undergraduates wanted to study Latino American literature, they came to Carpio. The literary scholar is well known for her work on the cultural meaning of exclusion, whether examining slavery in late 20th-century fiction or immigration, expatriation, and exile in American literature.

“They said they wanted to read literature that they didn’t see on other syllabi. I started working with one of them, and it spread by word of mouth, so I had five students asking to do independent studies,” Carpio recalls. “We met in a little room in the English department.”

That makeshift class evolved into a full-fledged course that Carpio teaches, New Immigrant Narratives, which highlights how contemporary Latina/o writers use formal literary tools to represent the immigrant experience. It has become a new offering in Harvard’s recently revitalized program in ethnic studies.

It is this kind of innovative teaching, faculty-student collaboration, and passion for the subject that can change a curriculum, inspire breakthroughs in research, and expand the possibilities for everyday discovery at Harvard.
“I BUILT AN ELECTRONICS LAB IN MY BEDROOM AS A CHILD.”

Adam Cohen’s curiosity has brought him to unusual places, from home-constructed electronics—most of which he says he has brought here—to lab bench and application. He reengineered a protein that came from Dead Sea microbes so that it flashes light every time a heart cell contracts. Those flashing cells may help doctors predict whether new drugs will cause heart problems in patients. Cohen is conducting research in the new field of optogenetics, which uses light to control how nerve cells behave. In addition to potentially speeding up drug development, his work could reveal how signals travel in the brain.

“It’s very exciting,” he says. “In terms of basic biology, there are a number of things we can now do which we’ve never been able to do. We can see how these signals spread through the neuronal network. We can study the speed at which the signal spreads, and if it changes as the cells undergo changes. We may someday even be able to study how these signals move in living animals.”

Cohen believes lab work is critical for aspiring scientists. “Work in a lab,” he says. “Doing well in science classes here has very little to do with being a good scientist. The key to being a good scientist is asking the right questions.”
ATTRACTING THE BRIGHTEST MINDS

IDEAS OF FAS FACULTY MEMBERS ARE FAR REACHING

With more than two million citations over the past 10 years, Harvard’s faculty are more widely cited than peers, according to Thomson Reuters’ Web of Science.

INVESTMENT IN TENURED AND TENURE-TRACK FACULTY

Strategic growth of FAS faculty is expensive but critical for Harvard to expand into new fields and improve undergraduate student-to-faculty ratios.

ENDORDED PROFESSORSHIPS ARE CRITICAL TO SUPPORTING AND RETAINING THE BEST FACULTY

Approximately 37 percent of faculty are without chairs; the sciences have the fewest.

HARVARD GRADUATE STUDENTS: OUR FUTURE THOUGHT LEADERS

In May, Harvard PhD students gave five-minute TED-style lectures at the first Harvard Horizons Symposium, demonstrating the extraordinary research strength of our graduate students.

Distance learning isn’t the modern innovation we think it is, argues Hansun Hsiung (East Asian languages and civilizations), who believes it began much earlier, with the printing of the first international textbooks in the 18th century. “When we set knowledge free, we must also sometimes relinquish our own control,” he says.

Music is the glue that binds knowledge, says Edgar Barroso (music). “Music has math; it has science; it has emotion. It has a lot of psychological elements to explore. If we make an effort to collaborate…we will have better music, better science, and, ultimately, a better society.”

“Even the most basic functions come from dynamic networks in the brain,” says Fenna Krienen PhD ’13 (psychology). She is helping to unlock secrets of the brain through the Human Connectome. Connectomics—a word and concept modeled on genomics—represents a new kind of cartography that traces connections between neurons in the brain.
As leader of Harvard’s Science of the Human Past initiative, McCormick looks at questions such as why pickled herring was a source of protein in the Middle Ages and why rats were responsible for the Justinianic plague.

He partners with his humanities students to develop new scientific tools, such as the Digital Atlas of Roman and Medieval Civilizations, a free online resource that combines geographic information system (GIS) technology with historical data on everything from roads to shipwrecks to rat bones. McCormick launched the atlas in 2006 and now enlists students to expand it.

Incorporating science into the already demanding field of medieval history may seem daunting at first. “The learning curve is often steep,” comments history doctoral candidate Alexander More AM ’07, “but once you familiarize yourself with the terminology, a whole new world is opened.” In addition to months of archival digging, More has used archaeology, computational tools, chemistry, and GIS for his dissertation on health and welfare policies in premodern Europe.

According to More, McCormick’s approach of inviting different experts to explore a new set of data “is the most exciting and rewarding way to do history. It combines the boundlessness of a beginner’s mind with the perspective of an expert’s, and that’s when innovation and discoveries emerge.”
WE INVITE YOU TO JOIN US in this campaign so that Harvard continues its leadership and influence in the world at a time of dynamic and accelerating change.

THE HARVARD CAMPAIGN FOR ARTS AND SCIENCES
\[ \overrightarrow{AB} = \overrightarrow{u} \quad (+) \quad \overrightarrow{BC} \]

\[ \overrightarrow{AB} + \overrightarrow{BC} = \overrightarrow{AC} \]