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HARVARDgazette

BREAKTHROUGH

Harvard's legacy of
intellectual discovery

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Online Highlights



◀ ROUNDTABLE AIRS IMMIGRATION, RESEARCH FUNDING ISSUES

A small group of business and higher education leaders met in Washington to discuss the importance of attracting the world's best students, the economic stimulus provided by government-funded research, and the safeguards of intellectual property protection.

▶▶ <http://hvd.gs/92429>

NOBEL BEGINNINGS

Seven Harvard alumni won Nobel Prizes. Two of the winners began their research while at Harvard. Among the winners was also Ralph M. Steinman, Harvard Medical School '68, who was named a Nobel laureate on Oct. 3. He had passed away on Sept. 30.

▶▶ <http://hvd.gs/92018>

▶▶ <http://hvd.gs/92530>

▶▶ <http://hvd.gs/92708>



▲ NEW ERA FOR THE ARTS

Since 2009, three of Harvard's main arts positions have changed hands. The fresh leaders of the music, dance, and choral spheres represent an important new direction for the arts.

▶▶ <http://hvd.gs/92437>

◀ TWO NAMED UNIVERSITY PROFESSORS

Rebecca M. Henderson of the Harvard Business School and Douglas Melton of the Faculty of Arts and Sciences and the Harvard Medical School were named University Professors in recognition of their dedication to teaching and scholarship that crosses academic boundaries.

▶▶ <http://hvd.gs/91165>



VOICES FROM THE TREES

To celebrate the University's 375th anniversary, excerpts of famous speeches will play on loop from trees in Harvard Yard.

▶▶ <http://hvd.gs/92029>



◀ LEARNING FROM LAURA LINNEY

Actress Laura Linney provided insights on her work — and on acting in general — for 100 members of the Harvard community as part of the Office for the Arts' Learning From Performers series.

▶▶ <http://hvd.gs/92558>

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Published to commemorate Harvard's 375th anniversary, "Explore Harvard," a collection of contemporary and historical photographs, showcases the myriad intellectual exchanges that make the University a citadel of learning. Page 9



COVER STORY

In science and medicine and across the humanities, Harvard has a legacy of producing transformative intellectual breakthroughs. As the University officially kicks off its 375th anniversary celebration, members of the faculty explain key moments in Harvard's history that revolutionized their areas of expertise, and in the process changed the world. Pages 11-14

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CAMPUS & COMMUNITY

HARVARD'S YEAR OF EXILE

It's little known, but Harvard wasn't always in Cambridge. During the American Revolution, the College temporarily turned its campus over to the new colonial army, and moved inland to Concord. Page 15

TEACHING THE TEACHERS

Charged with enhancing undergraduate education in the Faculty of Arts and Sciences, the Derek Bok Center for Teaching and Learning annually assists scores of faculty members and teaching fellows. Page 16

WOMEN AND BOXING: THEY GO HAND IN GLOVE

A required sport in the halcyon days of Theodore Roosevelt, today the Harvard Boxing Club is keeping tradition alive, but with a modern twist — its inclusion of women. Page 17

HEALTH CARE CHANGES AHEAD

Open enrollment begins Oct. 27. Until Nov. 9, faculty, staff, and retirees can make changes to their benefits, elect a new vision care plan, and review 2012 rates and features for Harvard's health plans. Page 18

STAFF PROFILE/BARBARA ELFMAN

Barbara Elfman, who interrupted her studies to raise her family, is using the TAP program to earn her master's at Harvard. Page 19

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Tracking the pollution amid the remote

A national research project led by Harvard scientist Steven Wofsy tries to fill in the blanks of understanding how the Earth's atmosphere works by crisscrossing the globe via jet, measuring air changes.

By Alvin Powell | Harvard Staff Writer

Jasna Pittman expected to be surprised by new findings as she traveled around the world measuring gases and particles in a three-year effort to understand how the atmosphere works.

She didn't expect to be shocked by what she already knew.

"Alaska is incredible, absolutely breathtaking. We were there in the wintertime, so you could see all the mountains covered in snow, beautiful blue skies," said Pittman, a research associate in atmospheric sciences at Harvard. "You look out far away, and you see this layer of haze."

It has long been known that pollution is blown into Alaska's skies from Europe and Asia, but Pittman and other scientists who participated in a three-year project to gather data on the Earth's atmosphere said their prior knowledge didn't lessen the impact of seeing the pollution firsthand.

"It looked like Los Angeles," said Steven Wofsy, the project's principal investigator and the Abbott Lawrence Rotch Professor of Atmospheric and Environmental Science at Harvard. "It was a smoggy haze, thick enough that you couldn't see features on the ground. People knew it was there, but it was much bigger than we thought."

Wofsy's team, which included Pittman, engineer Bruce Daube, postdoctoral fellow Eric Kort, and

graduate student Gregory Santoni, conducted five globe-spanning flights in a small jet crammed with high-tech instruments. Along the way, they measured gases and particles from pole to pole on roller-coaster flights that rose from just above sea level to 48,000 feet. Their project, called HIPPO, which stands for HIAPER Pole-to-Pole Observations, was run under the auspices of the National Center for Atmospheric Research and included scientists from the University of Miami, Princeton University, the National Oceanic and Atmospheric Administration, and Scripps Institution of Oceanography.

Wofsy described the project as something of a dream come true. Although scientists routinely measure the atmosphere's composition from ground-based stations and peek at it from orbiting satellites, they have to infer from those measurements what is going on high in the atmosphere.

The last time a similar atmospheric sampling operation was conducted was in 1977 and 1978, Wofsy said. With the climate change crisis prompting government action to fight global warming, the computer models on which climate predictions rely need data like this to ensure their accuracy.

HIPPO scientists measured 80 chemicals, including

Flying over volcanoes (at left) in the Aleutian Islands of Alaska in July 2011. Bruce Daube (clockwise from lower left), Eric Kort, Jasna Pittman, and Steven Wofsy discuss the HIPPO project inside Wofsy's Oxford Street office. Pittman (below) examined real-time measurements of various chemical species while the aircraft was flying over Arctic waters in March 2010.

the greenhouse gases carbon dioxide, methane, and nitrous oxide, as well as the byproducts of industrial burning, carbon monoxide and particles of black carbon. The latter two were present in surprisingly high levels far from human habitation over the Arctic.

“You’re flying and looking at data in real time. ... You look at concentrations of carbon monoxide; they just spike. It was really mind-boggling. There shouldn’t be this much carbon monoxide, certainly not over Alaska and certainly not at 20,000 feet,” Pittman said. “It was almost sad to see. It’s this pristine environment. It’s so white, it’s so clear, so beautiful.”

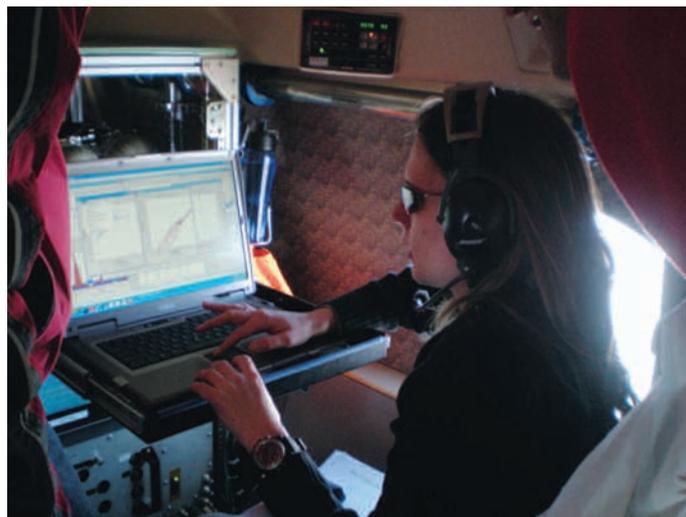
HIPPO scientists flew in a converted Gulfstream V, stuffed with instruments and owned by the National Science Foundation. Though most of the instrument setup and data download occurred before and after the flight, Kort and Santoni were called on to repair malfunctioning equipment in midflight to avoid missing key data.

The five HIPPO flight series had a different mix of personnel from Wofsy’s group and those of other scientists involved. Each series of flights took off from the plane’s home base in Colorado, flew up to Alaska, and over the top of the world. It traversed the Pacific to a turnaround in New Zealand before taking a different path back. The three-week flights were timed so that samples were taken during different seasons to give scientists information on how the atmosphere changes as the Earth cycles through its annual rhythms.

In between preparing for each day’s flying and handling the enormous amount of data generated afterward, researchers witnessed the Earth’s moods, watching sunsets and moonrises, sunny skies and storms, human-made pollution and even the occasional rainbow — all ample reward for the epic jet lag that came with the territory.

At times, nature provided a dramatic show of the physical effects they were studying. Wofsy recalled one flight over the Beaufort Sea, which was clear of ice. The researchers flew near a robotic boat that was recording water temperatures warm enough that steam was flowing into the cold air.

“You could see the heat and water vapor being transferred into the atmosphere,” Wofsy said. “You didn’t



need a model to see it.”

The last flight landed in September, and research groups are already inquiring about the data: 40 measurements every second, combined with aircraft information such as location, altitude, and outside air temperature.

Several aspects stood out to Wofsy even as the raw numbers were arriving. The data raised questions about the Southern Ocean’s ability to remove and store atmospheric carbon and also showed the presence of large amounts of nitrous oxide — a potent greenhouse gas — in the air above the tropics. That

indicates not only that there are more greenhouse gases there than expected, but also that scientists don’t really understand how the tropical atmosphere works.

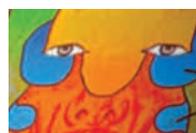
Another finding involves the release of methane as the Arctic warms. Scientists have been concerned that the region’s frozen ground, called permafrost, will melt with higher temperatures and release methane when previously frozen organic material decomposes. Methane, like carbon dioxide, is a greenhouse gas, so significant releases will exacerbate the globe’s warming.

The project measured that theorized methane emission, but Wofsy said the source was not always the permafrost. Instead, flights detected significant emissions from the ice-free Arctic Ocean. While the emissions’ source remains unclear — both surface waters and sediments are suspect — what is known is that current models don’t account for these emissions.

“This is in direct relation to sea ice cover,” Wofsy said. “With continuous ice cover, you don’t see this.”

[Online ►► Photo gallery: hvd.gs/92168](http://hvd.gs/92168)

More Science & Health Online
[news.harvard.edu/gazette/
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With the advent of new techniques and anti-rejection drugs, organ transplantation stands on the threshold of a new era.
hvd.gs/91541



Hoekstra, Charbonneau are the recipients of the inaugural Fannie Cox Prize for Excellence in Science Teaching.
hvd.gs/91730

Where (tiny) form follows function

A professor studies how the structure of large proteins influences how we feel heat, examining how the proteins behave and interact with molecules around them.

By Alvin Powell | Harvard Staff Writer

Rachelle Gaudet will forgive you if you mistake the colorful, spaghetti-like shapes displayed in six small framed pictures on her office wall for modern art.

That's because Gaudet, a professor of molecular and cellular biology (MCB), also sees beauty in the images, which depict proteins whose structures were worked out by two of Gaudet's mentors, Paul Sigler at Yale and Don Wiley at Harvard.

Today, Gaudet, students, and fellows in her Northwest Building laboratory specialize in structural biology, studying how form influences function in large biological molecules. In nature, several factors can influence how a molecule behaves. The most basic involves the atoms that make up the molecule. A molecule made of oxygen and hydrogen will behave differently, for example, than one made up of nitrogen, hydrogen, and carbon.

But a molecule's physical structure also can be important, particularly in the case of biological molecules such as proteins, which contain thousands of atoms. Such long molecules naturally fold in on themselves, creating intricate structures that can expose certain atoms and hide others. A protein molecule can change how it functions by exposing or hiding active sites, or sets of atoms with particular properties like the ability to attract other molecules, among its structural folds. It's the same molecule; it just behaves differently. Proteins can be affected by many different chemical and physical cues.

Take heat, for example. Gaudet is studying the structural biology of people's perception of temperature, specifically how we sense hot temperatures. Embedded in human nerve cell membranes are proteins called TRPV1, made up of roughly 800 amino acids. Four of these enormous molecules form a single functional unit, or channel. When TRPV1 channels detect temperatures above about 40 degrees Celsius, or 104 degrees Fahrenheit, the molecules change shape and create a pore in the membrane. This allows charged ions to cross into the cell, creating a "hot" signal that travels down the nerve cell to the brain.

Though our hot-sensing protein, TRPV1, is normally triggered by temperature, Gaudet said it also responds to the chemical that gives chili peppers their heat, capsaicin, which is why people feel extreme heat when they eat chilies, but they leave no lasting damage.

Photo by Rose Lincoln | Harvard Staff Photographer

Three people in Gaudet's lab are dedicated to figuring out the 3-D structure of that temperature-sensing protein, she said. So far, they have discovered several mechanisms by which these temperature-sensing channels adapt to their stimulus, either increasing or decreasing their sensitivity, depending on conditions.

Another major research focus, being conducted in collaboration with Professor of Neurobiology David Corey at Harvard Medical School, centers on the sense of hearing. When a sound wave strikes the ear, it vibrates a bundle of hair cells. The physical stimulus of the hair bundle motion is transformed into an electrical signal that travels along the auditory nerve to the brain, where it is perceived as a sound. Gaudet and Corey are studying proteins that convey the mechanical tension generated by the vibrations to the hair cell protein channels that generate the resulting electrical signal.

Proteins like the hot-sensing TRPV1 and the hair cell apparatus sensing vibrations and motions play a key role at the intersection of the physical stimulus and its transformation into an electrical signal that travels to the brain. These are the kinds of proteins that fascinate Gaudet the most.

Gaudet, who was named a professor of molecular and cellular biology earlier this year, has long been interested in the structures around her. She grew up thinking she would become an architect, because that would allow her to blend her scientific and artistic sides. But she

was drawn further to science through a high school chemistry class.

"I'm not an architect, but I study the architecture of proteins," Gaudet said.

During her undergraduate studies at the University of Montreal in her native Canada, a course on enzymes had a heavy focus on the structure of the molecules. Gaudet realized that if she understood the structure, she could better understand how the molecule worked. That knowledge of the importance of structure put her on the present path of her work.

Gaudet received a doctorate from Yale in 1998, with Sigler as her adviser, and came to Harvard to do postdoctoral work in the lab of Wiley. She became an assistant professor of molecular and cellular biology in 2002 and an associate professor of MCB in 2006.

Gaudet could have had a promising career in corporate research, but enjoys the mentoring relationship with students and fellows too much to give up what she does. She looks back fondly on her time in the labs of Sigler and Wiley, and said she tries to be as supportive a mentor as they were. Gaudet also serves as head tutor for undergraduate students in the MCB concentration.

"One of the main reasons for me to be in academia is interactions with students and other trainees, like postdoctoral fellows," Gaudet said. "I get as much satisfaction seeing trainees grow as scientists as I do from research findings."

FACULTY PROFILE



Rachelle Gaudet grew up thinking she would become an architect. "I'm not an architect, but I study the architecture of proteins," she said.

Widening national security concerns

A new collaboration between Harvard Law School and the Brookings Institution hopes to help define the widening, post-9/11 reality of what constitutes a threat to society.

By Colleen Walsh | Harvard Staff Writer

The searing images of the deadly 9/11 attacks make it almost an automatic response to view issues of national security through the lens of terrorism. But during the intervening years, analysts have come to see such threats much more broadly.

Professors and politicians agree that issues of public health, poverty, and crime are also dangerous to a country's safety and security, and are often contributing factors to the unrest and instability that promote anarchy and violence. Together with terrorism, they argue, such topics must be included in an expansive understanding of the national and international security landscape.

A new collaboration between the Harvard Law School (HLS) and the Brookings Institution, the Harvard Law School/Brookings Project on Law and Security, aims to help define that widening view.

"With this program, we really combine the wealth of legal expertise in various fields that exists at Harvard with the richness of policy expertise and all the people that Brookings has to offer," said Gabriella Blum, Rita E. Hauser Professor of Human Rights and Humanitarian Law and co-director of the program. "There is a real synergy here between what each institution brings to the table. We also wanted a Washington base in addition to a Cambridge base to give our students direct access to policymakers."

Development of the new program was largely driven by student demand. Acting like an umbrella organization, the program will unite a variety of earlier security programs and initiatives at HLS that were developed by students eager to explore and contribute scholarly research to the field.

Several years ago, students founded the Harvard National Security and Law Association (NSLA), a group that brings related programming to HLS. They also convened a group in affiliation with the Harvard Kennedy School to develop research projects that explore the dimensions of national security.

"They organized themselves around this topic and went to faculty and said, 'Give us interesting work to do,'" said Blum, of the student-led Harvard National Security Research Group. In 2008, HLS students also formed the Harvard National Security Journal (NSJ), a student-edited online law publication dedicated to improving scholarship and discourse on national security.

Recognizing the growing interest, Blum and her colleague Jack Goldsmith, Henry L. Shattuck Professor of Law, persuaded Benjamin Wittes, senior fellow at the Brookings Institution and a national security expert, to get involved. With Wittes on board as a co-director of the program, and with backing from HLS Dean Martha Minow, the initiative kicked off in Sep-

Photo by Kris Snibbe | Harvard Staff Photographer



Benjamin Wittes (left), senior fellow at the Brookings Institution, and Gabriella Blum, Rita E. Hauser Professor of Human Rights and Humanitarian Law at Harvard Law School, shared details on the new collaboration.

tember with the conference "Law, Security, & Liberty after 9/11: Looking to the Future."

Topics during the two-day symposium included piracy, drug cartels, the ethics and law of domestic counterterrorism, and the presidency in the post 9/11 world. It also included an address from John O. Brennan, deputy national security adviser for homeland security and counterterrorism.

But organizing events isn't the prime goal of the new program, said Blum. Instead, its founders aim to develop interdisciplinary, scholarly research around the subject. Blum and her colleagues hope to craft publications, including white papers, opinion pieces, law reviews, and policy papers that reflect broad perspectives on security.

"The idea is that there will be enduring products that will serve a wide array of audiences," said Blum.

The program will not be ideological, said Wittes.

"We really want to build a project that is nonideological, politically independent, and committed to the idea that these ideas are hard, that these problems are hard, and that the tent has to be very large, that wisdom isn't going to come from one corner, and we aren't going to reach it by shouting the other side down."

Above all, the program will focus on helping people understand national security in its broadest sense.

The notion of security as "very much 9/11-oriented is a stagnated one," said Blum. While she and Wittes agree that subjects such as terrorism, detention and interrogation strategies, and targeted killings are part of the wider security picture, so too are developments like natural disasters and famine.

"It's becoming harder and harder to understand security in any narrow way. You need a very comprehensive view to talk about security of development, of cyberspace, constitutional and international law questions, negotiation, law and religion, criminal law. Almost every field is related to security," said Blum.

"This is the way to understand security in the broadest sense, and that is what we want to do."

Working with an interdisciplinary team from scientists to ethicists, the program will first address the field of new weapons technology. Many analysts fear that the development of nanotechnology, the manipulation of matter on an atomic scale, will lead to microscopic nuclear weapons and molecular machines called nanobots that can be used in bioterrorism devices.

Once such technology works, said Blum, it's very difficult to control. And once it is widely available, there are a host of legal, ethical, economic, and even social and psychological questions to consider.

"You need to ask how a society functions with these threats around it. What does it do to communication? What does it do to privacy? What does it do to trust? What does it do to commerce? ... We want to be able to offer various stakeholders the most comprehensive and interdisciplinary insight on these types of questions."

"I think it's going to be a great opportunity for future law students to have this kind of access to both the academics here at Harvard who are interested in these issues and the resources that Brookings has," said HLS student Brian Itami, an editor at NSJ and the co-president of NSLA. "I can't think of anything like it."



Memories of Armageddon

With haunting images, Japanese artist and survivor Junko Kayashige depicts the horrors of the bombings of Hiroshima and Nagasaki in an exhibition of oil paintings.

By Colleen Walsh | Harvard Staff Writer

It weighed close to 9,000 pounds, was dubbed “Little Boy,” and exploded about 1,800 feet above Hiroshima on Aug. 6, 1945. The heat of the initial blast rivaled the temperature of the sun’s surface. By some estimates, it killed 100,000 people instantly.

A young girl at the time, artist Junko Kayashige was only a mile from where a U.S. plane dropped the first of two atomic bombs on Japan. She suffered serious burns to her face, neck, and right arm, and lost several members of her family, including two sisters. On Aug. 9, the second bomb fell on Nagasaki, effectively ending World War II.

Sixty-six years later, the artist and activist is showing her work in America for the first time in an effort to ensure such horror is never repeated.

A new exhibition at the Harvard Graduate School of Education’s Monroe C. Gutman Library, “With Hiroshima Eyes: The Hibakusha Art of Junko Kayashige,” depicts a series of evocative images inspired by Kayashige’s experience as a “Hibakusha,” an atomic bomb survivor.

A longtime activist for peace and nuclear disarmament, she writes of her work, “I wanted to depict the foolishness of humans who attempt to solve problems with war and destruction. It is hard for me to revisit and recount my experience, but nuclear weapons are still threatening our lives.”

Joe Gerson, director of programs and national disarmament coordinator for the New England branch of the American Friends Service Committee, the Quaker-based peace and justice organization that supports eliminating nuclear weapons, met Kayashige during a trip to Japan in the 1980s. He helped connect her with the Harvard space, where he hopes her art and message will reach a wider audience.

“We are not really talking about the depths of the destruction of Hiroshima and Nagasaki,” said Gerson, “and what people who lived through it have carried with them all their lives, not only in terms of the constant fear of cancer or other radiation diseases ... but also the memories of hell on earth. Imagine a city destroyed in nine seconds.”

During her career, Kayashige, who was a public school art teacher for 38 years, has created works that capture lasting devastation.

The view from an airplane window inspired the show’s chilling image “Faces II.” In the painting, a collection of blurred faces is partially covered in darkness.

“I was looking down on the town underneath my airplane, and I looked at one of the shadows of one of the wings of the airplane ... and I was thinking that the pilots on the Enola Gay might have been looking at the same image,” said Kayashige through an interpreter.

The show has strong Harvard connections. Included in



the exhibition, along with books about Hiroshima and its survivors and some house tiles that were melted from the blast, is an Easter egg that was delivered to former Harvard Professor Edwin O. Reischauer (for whom Harvard’s Reischauer Institute of Japanese Studies is named) while he served as the U.S. ambassador to Japan in the 1960s. The message on the painted egg calls for ending nuclear weapons tests.

Former Harvard President James Bryant Conant was a member of the interim committee composed of government officials and scientists who advised President Harry Truman on the use of nuclear energy and weaponry. The group recommended using the atomic bomb, if needed.

Lurking just below the surface of many of Kayashige’s works is the haunting subtext of Hiroshima and Nagasaki. Subjects like destruction and mortality inform much of the art on display. One painting evokes Japan’s recent devastating earthquake and tsunami, another reflects the artist’s struggles with aging and her declining health. In “I Cannot Fly,” the feet on an animal-like figure point to the left, while its head looks awkwardly to the right. The picture relates to her two debilitating strokes.

“I wanted to express the feeling of myself,” said Kayashige, “who cannot do anything.”

A mirage and a friend who was dying from cancer inspired the gripping work “Mirage II,” hanging in the library’s main lobby.

“When I was drawing this painting, I was hoping that

his death would be a mirage, like something that disappears,” said Kayashige. ... That his death would be an illusion.”

Since 2006, the library’s first-floor reading area has acted as an informal gallery space. Begun as a way to help showcase art by students affiliated with the School’s Arts in Education (AIE) Program, organizers soon included other Harvard artists and eventually those from outside the Harvard community. For the past three years students from the AIE Program have served as the library’s art curators and gallery managers, helping plan and coordinate the revolving exhibitions.

“The students have really added a level of professionalism and commitment to these shows,” said library director John Collins. The works of art “enrich our lives in many ways.”

Collins said Kayashige’s pictures offer viewers a compelling story and a vital connection to the period. “We can view this art with a sense of history,” he said, “and with a sense of empathy.”

For Gerson, the works of his longtime friend afford students and the wider Harvard community an important opportunity to “have an intimation of what Hiroshima was about, and some of the life force that endures.”

Kayashige will give a gallery talk Oct. 13 at 5:30 p.m. The exhibit, which is on display through October, will be the last show in the space before the library undergoes renovation for several months.

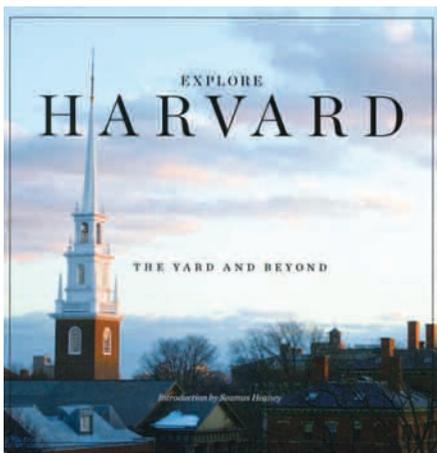
HARVARD BOUND



Harvard, then and now

On Nov. 22, 2008, Harvard Stadium was at capacity during the 125th playing of “The Game,” Harvard vs. Yale. Harvard won, 10-0.

Published to commemorate Harvard’s 375th anniversary, “Explore Harvard,” a collection of contemporary and historical photographs, showcases the myriad intellectual exchanges that make the University a citadel of learning.



By Sarah Sweeney | Harvard Staff Writer

In his poem “Little Gidding,” T.S. Eliot, Class of 1909, wasn’t talking about Harvard when he wrote “We shall not cease from exploration / And the end of all our exploring / Will be to arrive where we started / And know the place for the first time.” But the sentiment behind his verse serves as a perfect *leitmotif* for the book “Explore Harvard.”

Published to commemorate Harvard’s 375th anniversary, “Explore Harvard,” a collection of contemporary and historical photographs, showcases the myriad intellectual exchanges that make the University one of the world’s leading institutions of higher education.

“We wanted to gather together a collection of images that touched on the University’s past, but also showcased the present-day face of Harvard,” said Christine Heenan, vice president for Harvard Public Affairs & Communications. “This volume shows the incredible reach of the institu-

tion, from students immersed in the arts to researchers at work around the globe.”

In his introduction to the book, poet luminary Seamus Heaney writes that “brio and commitment shine off these pictures, whether of students serving on outreach programs in Africa or enjoying themselves near home, splashing through muddy puddles in the Yard; whether watching or playing in ‘the Game’ with Yale or dining in splendor in Annenberg Hall.”

Heaney, who taught at Harvard from 1982 to 1996, also composed “Villanelle for an Anniversary” to mark Harvard’s 350th anniversary. “From the moment I read that poem to the mighty assembly at that year’s Commencement,” he writes, “my sense of relationship with Harvard deepened to the point where I feel immediately at home with this beautiful, bountiful cornucopia of images ...”

“Explore Harvard” features the photographic work of Harvard staff photographers Jon Chase, Justin Ide, Rose Lincoln, Stephanie Mitchell, and Kris Snibbe. “None of
(see Book next page)



Photos: (top) by Justin Ide, (book cover image) by Rose Lincoln | Harvard Staff Photographers

Book

(continued from previous page)

us went to the College,” Mitchell said, “but each of us has spent over a decade here and has a fondness for and familiarity with the University.”

Verses by acclaimed Harvard poets — from former students like Eliot and Margaret Atwood, to professors like Jorie Graham — open each of the chapters, which are categorized thematically and feature everything from wide vistas to the small details of Harvard.

“Poetry and photography are a natural pairing,” said Mitchell, who took the lead in selecting the images and the verse. “Each condenses a thought, an image, and evokes a mood, expresses an emotion or an aesthetic, and speaks of greater truths.”

One of Mitchell’s favorite photographs is a backstage shot at the Hasty Pudding Theatricals. A blond youth uses a cotton swab to carefully apply fantastical makeup — the annual production is famous for its undergrads in drag — in front of a lighted mirror that also houses the wigs he’ll don for the night. On the opposite page, an archival image of a Hasty Pudding performer from 1886 contrasts the contemporary perspective. The student wears a long, Victorian-esque dress, dark elbow-length gloves, and a white curled wig, with an added fan for dramatic flair.

Mitchell relished the task of sequencing of the images, “comparing modern and historic, pairing photographs with similar compositions, or related themes,” she said.

The cover image, by colleague Rose Lincoln, “was taken last year,” said Mitchell, “but it looks like it could’ve been a moment out of Wallace Stevens’ time at Harvard, so it bridges the two time periods.”

Mitchell also loves a set of photographs at the Lowell House opera. The behind-the-scenes glimpse at the student actors in “Tosca” “feels like a Fellini set,” said Mitchell.

“We have this intimate access to Harvard. We’re not just photographing what’s happening; we’re really integrated with the University. We get to see a lot of things that a lot of people don’t.”

The Gazette photographers will participate in a panel discussion on Oct. 13 at the Harvard Coop, 6 p.m. On Nov. 3, a gallery display and panel discussion will take place at the CGIS Gallery, featuring a reception at 5 p.m., with comments to follow.



In 2008, Sanders Theatre (above) was filled to the rafters as Professor Michael Sandel taught his class in moral reasoning. In 2008, conductor, composer, and pianist Sir André Previn led a master class with student chamber ensembles in the Junior Common Room of Kirkland House. A 2009 photograph (below) documents the Costume Catwalk in Annenberg Hall.



In science and medicine and across the humanities, Harvard has a legacy of producing transformative intellectual breakthroughs. As the University officially kicks off its 375th anniversary celebration, members of the faculty explain key moments in Harvard's history that revolutionized their areas of expertise, and in the process changed the world.



SURGICAL ANESTHESIA

By Allan M. Brandt
Amelie Moses Kass Professor
of the History of Medicine
Dean, Graduate School of Arts and Sciences

October 16, 1846, is perhaps the most celebrated day in the entire history of medicine. On that morning at the Massachusetts General Hospital (MGH), local physicians and medical students gathered in the wide-domed surgical amphitheater (designed by esteemed Boston architect Charles Bulfinch) to witness a hastily planned clinical experiment.

At the center of the surgical theater stood John Collins Warren, the nation's most renowned surgeon and first dean of Harvard Medical School, and his young patient, a house painter, Gilbert Abbott, afflicted since birth with a tumor on the left side of his neck. The proposed procedure was no different than hundreds that Warren had previously conducted.

But in this instance he had invited William T.G. Morton, a Boston dentist, to provide the patient with a preparation that he claimed would make the

procedure pain free.

Morton rushed onto the stage some 20 minutes late and administered his preparation through an inhalation tube to Abbott, who quickly fell into a deep sleep. Warren, working with deft quickness, excised the tumor. When the patient awoke, he confirmed that his only sensation had been a slight scratching of the skin. Warren declared, "This is no humbug!" and the assembled audience erupted in applause. In an operation of under 10 minutes, the world of medicine and surgery had been forever transformed.

But the story — as such stories always are — is much more complex and exposes the intricate character of medical innovation. Morton's preparation was ether, a compound well known in chemistry and medicine, first identified in the 14th century. Indeed, for decades, medical students and others reportedly had experimented with ether as a recreational drug, participating in "ether frolics." During that time, however, the potential application of ether (and other drugs) for surgery seemed to have been almost universally overlooked.

The MGH demonstration touched off a bitter priority battle about who most deserved credit for a "discovery" that had been in plain sight. But much more importantly, it heralded radical new capacities for treating serious disease through surgical intervention. And it led to a critical reassessment within medicine and culture about the goals of relieving the suffering of those who experience pain, not only in the course of medical care, but in the experience of illness. ■

Harvard's many discoveries

MULTIPLE INTELLIGENCES

By Tina Grotzer
Associate Professor of Education
Harvard Graduate School of Education

In 1983, when Howard Gardner introduced the concept of multiple intelligences to the world in his book "Frames of Mind," it paved the way for a seismic shift in how we view learners and permeated every aspect of education.

It introduced the research basis for an expanded notion of human intelligence and began the conversation that enabled us to move beyond IQ notions that heavily weighted mathematical/logical and linguistic/verbal ability over other forms of intelligence. It immediately made sense to the best teachers who implicitly recognized the varied strengths of their students, and it opened the floodgates of change for those who focused more narrowly.

I was a public school administrator and teacher at the time, and the work enabled me to frame the district's academic enrichment offerings through a multiple-intelligences model, and to acknowledge and support the talents of a much broader range of children.



The shift has changed the lives of many learners whose intelligences are appreciated and accommodated as a direct result of the work by Gardner, the John H. and Elisabeth A. Hobbs Professor of Cognition and Education at the Graduate School of Education. His work resulted in a cascade of effects — causing educators to re-evaluate practices such as tracking, narrowly selective gifted and talented programs, and so forth.

Further, its impact has reached well beyond the classroom, resulting in enduring changes in our psyche and a much more textured notion of what it means to behave intelligently in the everyday world, in business, and beyond. The outcomes for society have been profound as we build and capitalize upon the wealth and range of human capacity. ■



REINFORCEMENT THEORY

By Mahzarin R. Banaji
Richard Clarke Cabot Professor of Social Ethics, Faculty of Arts and Sciences

To B.F. Skinner, the observables of behavior — whether it be the measurable peck of a pigeon's beak or the bar press of a rat's paw — constituted the only legitimate foundation on which a science of psychology could be built.

The Harvard professor emphasized the importance of "orderly data" and repeatedly refined his methods in order to make for systematic evidence. His methods, the most famous of which is the eponymous Skinner box, enabled the precise timing of events and the objective recording of responses, giving psychology the paraphernalia typical of the older natural sciences.

In understanding why any organism behaves the way it does, Skinner saw no place for dwelling on a person's "intentions" or "goals." For him, it was outward behavior and its environment that mattered. His most important contribution to psychological science was the concept of reinforcement, formalized in his principles of operant conditioning (in contrast to Ivan Pavlov's principles of classical conditioning, which along with J.B. Watson's extreme environmentalism strongly influenced his own thinking).

Behavior increases in probability when its outcomes are reinforced. In other words, a behavior such as a



smile or even a complex pattern of behavior (e.g., superstitious behavior) occurs because similar previous responses have been rewarded in particular contexts. Of course, behavior had to be broken down into smaller steps to achieve optimal reinforcement, and each step had to receive feedback to shape new and highly complex strings of behavior.

By Skinner's standard, very little of today's science of psychology would be regarded as scientifically legitimate. Looking at the human mind itself, which has been psychology's primary focus since the cognitive revolution, simply horrified him. But while psychology has moved in new directions, Skinnerian procedures have been effectively applied to the understanding and modification of human behavior in contexts such as industry, business, government, education, prisons, and mental institutions. His work also provided insight into methods by which children are raised, with specific applications to attachment and separation distress, crying, imitation, social referencing, and the acquisition of skills. ■

RESHAPING THE HUMANITIES

By Stephen Greenblatt
Cogan University Professor

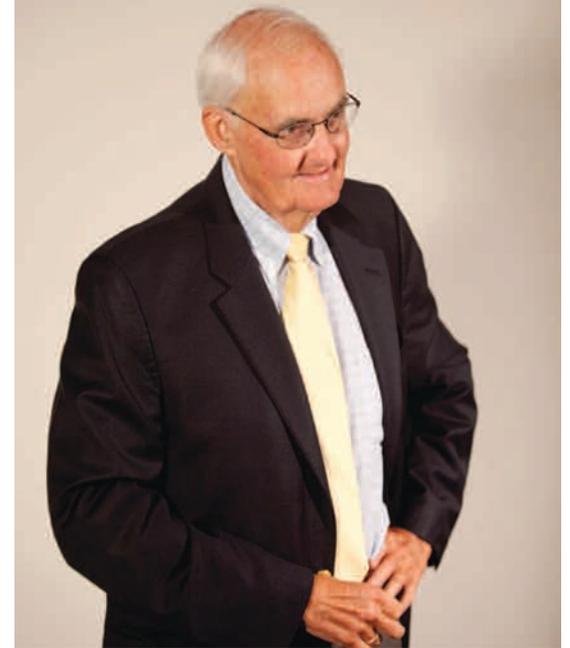
In recent years, humanities scholarship throughout the world has been transformed by the determined effort to interpret works of art in their historical, cultural, and anthropological contexts. This new practice came as a challenge to the entrenched method of analyzing these works in isolation, as if they had been created in a vacuum. To shift to a new perspective — one that grappled more directly with the lives of the makers and consumers — was the product of a generational insurgency, one in which I proudly played a part.

But the ground for this insurgency had already been long prepared at Harvard in a remarkably innovative program created in 1906: the undergraduate concentration known as History and Literature. The concentration, Harvard's first, was hardly meant to be intellectually radical; it was originally proposed by Professor of English Barrett Wendell as a conservative antidote to Harvard's free-elective system.



But institutional innovations often have unpredictable consequences. The pedagogical power of History and Literature lay in the touching together of two wires: canonical works of art and the documentary records of history. Art was not cordoned off from the traces of lived life, and those traces in turn could be subjected to the same interpretive pressure brought to bear on a poem or a play. The result was not only unusually lively classroom experience but also an intellectual ferment that helped inspire my generation's literary and historical scholarship and continues to generate powerful insight. ■

ORGAN TRANSPLANT



By Nicholas L. Tilney
Francis D. Moore Distinguished Professor of Surgery, Harvard Medical School
Author of "Invasion of the Body"

Joseph Murray successfully transplanted a kidney between identical twins on Dec. 23, 1954, at what was then the Peter Bent Brigham Hospital, having perfected the operation in the research laboratories at Harvard Medical School. The terminally ill patient recovered, married his nurse, fathered two children, and lived normally for the next decade.

This unique approach quickly posed new challenges for the team. Among them: how to substitute a healthy donor organ for a failed one in a genetically dissimilar recipient. With knowledge of the intricacies of the host responses against foreign tissues advancing in parallel, Murray's research team and a few other investigators were able to improve functional survival of transplanted kidneys with a newly defined immunosuppressive drug.

With gathering clinical experience and the introduction of increasingly effective pharmacologic agents to inhibit host responsiveness, the transplantation of a spectrum of solid organs has become increasingly routine throughout the world, currently saving the lives of tens of thousands of patients. The biologically unexplained but compelling success of the transplantation of composite grafts — hands and faces — has become a recent harbinger of even more dramatic advances to come.

The early laboratory and clinical studies of Murray and his successors (for which he received the Nobel Prize in 1990) revolutionized transplantation, have evoked novel approaches against cancer and immune disorders, and opened a range of applications of biology. This venture has evolved into one of the most important scientific advances of our time. ■



FIRST PROGRAMMABLE COMPUTER

By Michael D. Smith
John H. Finley Jr. Professor of Engineering and Applied Sciences
Dean, Faculty of Arts and Sciences

The laptop tucked away in your backpack, the tablet computer on your coffee table, even the smartphone in your pocket all can trace at least part of their lineage to Harvard. The Mark I, built 8 feet high, 3 feet deep, and 50 feet long, was the first programmable computer in the United States. The brainchild of longtime Harvard Professor Howard Aiken, Ph.D. '39, the Mark I launched the computer age, introducing automated computation as a tool to address problems in the natural, applied, and social sciences.

Consisting of 765,299 parts and 530 miles of cable, the Mark I in 1944 was easily the most complex electromechanical device ever constructed. To build it, Aiken relied on the ingenuity of engineers at IBM, demonstrating the importance of government funding and industry cooperation in large-scale, academic science and engineering projects.

The art of modern programming was also born with the Mark I. Robert Bloch, Robert Campbell, and, most famously, Grace Hopper developed some of the



earliest instances of subroutines, branching techniques, code compression, and debugging procedures while at Harvard. Hopper not only wrote the manual of operation for the Mark I, but she documented the first physical bug — a moth found in the machine's electromechanical relays — and helped usher the term “debugging” into common usage.

Automatic checking and debugging support were critical components of the design of the Mark I, because it produced accurate answers less than 95 percent of the time. Today it is unthinkable that our computing devices would incorrectly sum a column of numbers. But as we make the tiny transistors in modern devices ever smaller and faster, we also make them less reliable and reopen the concerns that Aiken and his team wrestled with 70 years ago. ■

CASE METHOD

By Todd Rakoff
Byrne Professor of Administrative Law
Harvard Law School

On Aug. 31, I started my contracts class by calling on a hapless first-year student to recite the facts of the first case in the book. In doing so, I was following what my predecessors have done for almost 150 years, since Christopher Columbus Langdell, the Dane Professor of Law at Harvard University, published the first casebook: “A Selection of Cases on the Law of Contracts.”

The revolution that Langdell began in 1871 has now become the standard procedure of all law schools — so much so that it is sometimes hard to remember how great its impact is. But teaching the law by analysis of judicial opinions — the Law School case method — is entirely different from teaching by lecture or through textbooks.

Law students work from the same materials that professional lawyers use. They work from the particular facts to general principles and back again. They study opinions that, being the product of controversy, invite controversy. And the work of putting the cases together so they make sense is work that Langdell, and all of us who follow him, expected the students to do.

This is education that is active, skill developing, and, in the hands of its master practitioners, exhilarating. It has had influence far beyond its home ground, inspiring, for example, the case method that has become the standard form in business schools.

Of course, Langdell's method is also old. It is a tribute that it has survived so intact; it is not surprising that it does not answer all the needs of modern legal education. In an age in which most new law comes from the legislature or administrative agencies, it overemphasizes the courts. In an age in which lawyers mediate and arbitrate, draft and negotiate, lobby and monitor regulatory compliance, it overemphasizes litigating.

The Law School is addressing these needs — we now have a required first-year course in legislation and regulation, and a required first-year problem-solving workshop — and we hope that here, too, we are setting the pattern for legal education.

But we have yet to find another pedagogy that, day in and day out, trains students so well to “think like a lawyer.” And so I start my class. ■

LEADING BUSINESS EDUCATION



By Nitin Nohria
Dean, Harvard Business School
Richard P. Chapman Professor of Business Administration

Harvard Business School (HBS) was founded in 1908, in the words of future Harvard President A. Lawrence Lowell, as a “delicate experiment” — a five-year trial, to be exact, as approved by the Harvard Corporation. It began with 15 faculty members, 24 regular students, and 35 “special” students housed in space borrowed from the Graduate School of Arts and Sciences.

While other undergraduate schools of commerce already existed, as well as some institutions that offered graduate courses, HBS was the first to require that entering students possess an undergraduate degree, and it created the master in business administration (M.B.A.) to confer upon its graduates (with, notably, Harvard's first diploma written in English rather than Latin).

Edwin Gay, the School's founding dean, defined business as the activity of making “a decent profit, decently.” From the start, HBS sought to develop general managers — people with competence and character. This meant training students for the tasks of manufacturing and selling, thereby developing in them “a habit of intellectual respect for business as a profession.” It also meant developing in them “a sympathetic tact, a certain kindness of spirit.”

In its first century, HBS pioneered the adoption of the case method for management instruction (as well as the unique tiered classroom to support it), executive education (offering the first “war retraining” course in 1943), a residential campus to enhance the learning environment, and numerous fields of study, including strategy and entrepreneurship.

That spirit of innovation continues today in the School's use of educational technologies, in the development and dissemination of path-breaking management ideas, and, most recently, in the launch of the field method, which seeks to provide students with intensive, immersive, and experiential small-group learning opportunities. It is the School's aspiration to be no less than a beacon of innovation in management education. ■

Photos: (left) by Kris Snibbe, (top) by Jon Chase, (top right) by Rose Lincoln | Harvard Staff Photographers



THE POWER OF THEATER



By Diane Paulus
Artistic Director, American Repertory Theater (A.R.T.)
Professor of the Practice of Theater, Faculty of Arts and Sciences

Throughout its 31-year history, the A.R.T. has been a pioneer in American theater, bringing together distinctive leading artists from across disciplines — composers, visual artists, directors, actors, and playwrights — to create theatrical events that have redefined the form. From Robert Wilson’s “Civil Wars” to Andrei Serban’s staging of “The Juniper Tree,” these productions created unbelievable visual tableaux that told stories in ways that made one question the limits of tradition.

I first encountered the A.R.T. when I was an undergraduate at Harvard in the 1980s. I was exposed to the work of world-class artists such as Wilson, Serban, Julie Taymor, and Philip Glass. Those works revolutionized the way I thought about theater, and opened my eyes to the groundbreaking possibilities that theater could conquer. As A.R.T.’s artistic director, I have devoted my energy to taking A.R.T.’s mission “to expand the boundaries of theater” into the 21st century by

nurturing collaborations with the next generation of artists who are changing the way we think about the theater and its possibilities.

President Drew Faust’s belief that theater and the arts are integral to the cognitive experience has inspired the A.R.T. to become more fully integrated into the life of the University. Recently, we have created innovative courses, such as the course on our recent production of “The Gershwin’s Porgy and Bess,” that give undergraduates the opportunity to experience theater in new ways: studying the texts, learning the history behind the work, observing rehearsals, interacting with artists, and attending performances. Our goal is to rediscover the power of theater, to push our audiences and our students into experiences that challenge their notions of art and of themselves, and ask the question of how they can be more fully engaged as active citizens in a changing world. ■

LITERARY LUMINARIES

By James Russell
Mashtots Professor of Armenian Studies
Faculty of Arts and Sciences

For many years, I taught a House seminar on Vladimir Nabokov, and another on great alienated Cambridge writers among whom he figured. The noted Russian-American writer lived in Cambridge longer than anywhere else in the United States. Here at Harvard he wrote his *ars poetica*, “Fame.” Here he wrote his first great English-language novel, “Bend Sinister.” Here he gave classes the first mimeographs of his translation of the “Igor” epic. Here at the Museum of Comparative Zoology, he classified Lepidoptera.

Vladimir Vladimirovich is one of many extraordinary, creative literary minds who walked Harvard’s halls and meadows and whose spirits hover over us. Jorge Luis Borges, while staying here to lecture, had a ghostly encounter with his double, on a bench on the banks of the Charles. After graduating from Harvard, William S. Burroughs Jr. wrote his first subversive short story, about the sinking of the Titanic, while living on Mount Auburn Street. T.S. Eliot, who lived a few blocks away on Ash Street while teaching at the College, kept a manuscript of “The Waste Land” in a chest at the back of the house. The list goes on: Seamus Heaney, E.E. Cummings, Wallace Stevens, Ralph Waldo Emerson, Henry David Thoreau ...

One of the greatest and least known American writ-



ers of the 20th century, Delmore Schwartz, author of “In Dreams Begin Responsibilities” and other short stories and poems, studied, taught, and wrote at Harvard. Saul Bellow wrote a novel about Schwartz, “Humboldt’s Gift.” My favorite Schwartz abode is 9 Story St., and I often walk home that way from work. It reminds me that out of the incidents of the day, the many lives around the square, the very air (trembling with electricity in autumn, sere in winter, sweet in spring), stories are woven, and each of us can write his or hers. ■

MORE BREAKTHROUGHS

To learn about more Harvard breakthroughs and watch video of faculty members discussing these transformative moments, visit hvd.gs/92752 or scan this QR code.



THE COGNITIVE REVOLUTION

Steven Pinker
Johnstone Family Professor of Psychology
Harvard College Professor
Faculty of Arts and Sciences

SPORTS HELMETS, CATCHER’S MASK

Thomas J. Gill IV
Associate Professor of Orthopedic Surgery
Harvard Medical School
Chief, MGH Sports Medicine Service

DESIGNATED DRIVERS

Barry Bloom
Harvard University Distinguished Service Professor
Joan L. and Julius H. Jacobson Professor of
Public Health, Harvard School of Public Health

RETHINKING THE CLASSICS

David Elmer
Assistant Professor of the Classics
Faculty of Arts and Sciences

REVOLUTIONIZING EGYPTOLOGY

Peter Der Manuelian
Philip J. King Professor of Egyptology
Faculty of Arts and Sciences

THE INVENTION OF GIS

Charles Waldheim
John E. Irving Professor of Landscape
Architecture
Chair, Landscape Architecture



Harvard's year of exile

It's little known, but Harvard wasn't always in Cambridge. During the American Revolution, the College temporarily turned its campus over to the new colonial army, and moved inland to Concord.

By Corydon Ireland | Harvard Staff Writer

Lexington and Concord. April 19, 1775. Where and when the Revolutionary War started is well known.

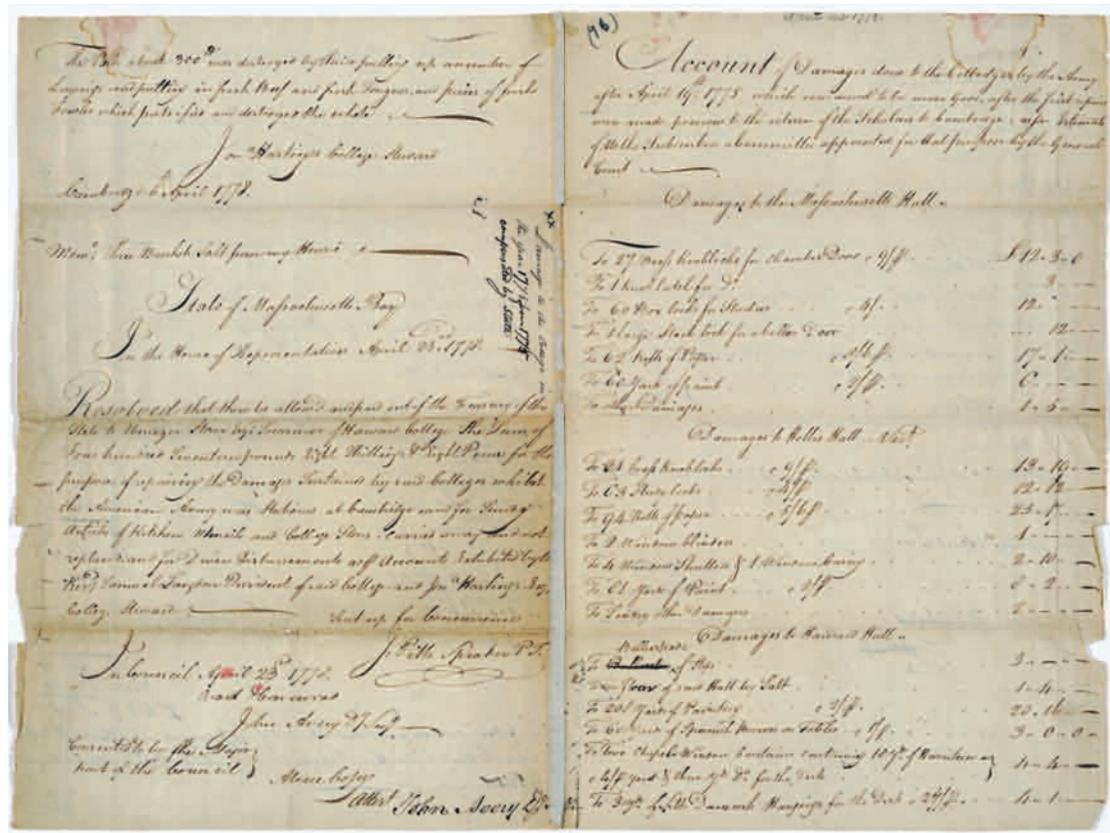
Not so well known is the fact that Harvard played an important, if odd, role afterward in the early days of the Revolution, turning its campus over to the nascent American army. On May 1, 1775, undergraduates were dismissed and given an early summer vacation. Classes resumed on Oct. 5 in Concord, 20 miles away — the beginning of a wartime academic sojourn.

Student safety was a factor in the move, said historian John L. Bell, a specialist in the early days of the war, but so was a worry that students would consort with rough and tumble soldiers. “There was discipline,” he said of the American army gathering in Cambridge. “But it wasn’t college discipline.”

Harvard’s move to Concord also served a practical military purpose. Provincial troops fortifying Cambridge during the siege of Boston needed places to stay. The five Harvard buildings were used to house 1,600 soldiers — more than the population of Cambridge at the time. Hollis and Massachusetts halls each held 640 soldiers; Stoughton Hall (razed in 1781) was home to 240; and tiny Holden Chapel bunked 160. Harvard Hall — the College buttery, library, and social space — served a similar function. Tents and rude barracks sprang up in Harvard Yard, and soldiers built a defensive breastwork on high ground near Quincy Street, where Lamont Library now stands.

Harvard was not on the front lines, said Bell, since most of the nearest fortifications were built in East Cambridge and parts of what is now Somerville. The new war did not bring “physical disruption” to Harvard, he said, so much as “social disruption.”

Social disruption also accompanied Harvard’s move



In 1778, Harvard petitioned the Massachusetts House of Representatives, listing losses down to the shilling and pence. The College was awarded the sum of 417 pounds.

to Concord. The library was shipped there, along with the College fire engine, the museum, and even the Ellicott Regulator Clock, a key item of “philosophical apparatus” valued for its precise astronomical timekeeping.

Harvard students took rooms in Concord where they could, including a dozen who boarded with Dr. Joseph Lee, who was under house arrest as a British spy. Classes — reduced to two recitations a day in winter — were held in a deserted grammar school, and in Concord’s courthouse and the First Parish meetinghouse.

Jenny Rankin, M.Div. ’88, one of First Parish’s current ministers (and the first woman to hold the title), is intrigued by “the thought of this small, sleepy town being invaded by boys.” Harvard’s Concord interlude has been much on her mind, since First Parish celebrates its own 375th anniversary this year. The Concord church opened in 1636, the same year as Harvard College.

The meetinghouse where Harvard’s exiled students gathered burned down in 1900, said Rankin, but a few artifacts remain: an oaken beam, some iron keys, communion silver, and two pews — whose hardness was a source of undergraduate complaints.

What was Harvard’s stay in Concord like? Interpretations vary. Harvard historian Samuel Eliot Morison called the interlude “a not unpleasant Babylonian Captivity at the future shrine of New England letters.” Historian and poet Charles A. Wagner wrote that “one hundred students were spread through little Concord’s taverns, homes, meetinghouse and courthouse, to the unexpected joy of the Concord maidens.”

But some documents intimate that Concord was no

picnic. Students were bored by country life, supplies were scant, smallpox hovered, and the winter of 1775-1776 was harsh. Rented rooms were chilly and distant from makeshift classrooms. The fall and spring vacations were canceled. By April, 1776, a Harvard resolution noted “the prevailing Discontent” among undergraduates “on account of their being detained at Concord.”

Part of the unhappiness was that Concord was crowded. By March, 1776, the town’s population had swelled to 1,900 — 25 percent higher than the year before. The Provincial Congress had ordered towns in Massachusetts to take in Boston’s poor fleeing the British occupation. Concord’s quota for the poor was 66, but it found room for 82. The Harvard undergraduates in many ways were simply among the displaced persons.

The British surrendered Boston in March, 1776, but the American troops who had bivouacked around Harvard Yard inevitably left a trail of damages when they moved south. The soldiers whom Harvard President Samuel Langdon called a “glorious army of freemen,” tore off the roof of Harvard Hall — 1,000 pounds of metal — to melt into bullets. They stripped brass doorknobs and box locks out of the buildings, along with interior woodwork. In 1778, Harvard petitioned the Massachusetts House of Representatives, listing losses down to the shilling and pence. The College was awarded the sum of 417 pounds.

Permission for the College to reoccupy Harvard Yard came on June 11, 1776. The next day, Langdon wrote a formal letter of thanks to Concord town officials. It included the hope that there had been no “incivilities or indecencies of behavior.” That same month, the College elected to pay Concord, for its trouble, the sum of 10 pounds.



Teaching the teachers

Charged with enhancing undergraduate education in the Faculty of Arts and Sciences, the Derek Bok Center for Teaching and Learning annually assists scores of faculty members and teaching fellows.

By Peter Reuell | Harvard Staff Writer

They're the sort of questions that keep public health officials up at night. How can the health system balance the rights of someone with a potentially deadly disease and the rights of the public? Can the sick be detained to avoid or limit outbreaks?

They're also the questions students in one global health class at Harvard are working to answer. As a teaching fellow looks on, students collaborate in small groups to address the case of an American tourist who knew he'd been infected with drug-resistant tuberculosis, but insisted on flying from Rome to the United States, against the orders of public health officials.

It may sound like a scene from any Harvard classroom, but it's not playing out there.

Instead, it's taking place at the Derek Bok Center for Teaching and Learning. Called micro-teaching, each "class" is actually made up of teaching fellows, each of whom takes a turn at the head of the class, followed by a discussion with center staff and experienced teaching fellows about what parts of their lesson worked, and how they might improve.

Established to enhance the quality of undergraduate education throughout the Faculty of Arts and Sciences (FAS), the center annually hosts dozens of programs, seminars,

Photo by Kris Snibbe | Harvard Staff Photographer

and events that bolster the teaching and learning priorities that have been articulated by FAS Dean Michael D. Smith, John H. Finley Jr. Professor of Engineering and Applied Sciences.

"For me, the Bok Center is absolutely critical," Donner Professor of Science John Huth said. "I don't know where I'd be if it weren't for their feedback and help. It's tremendously important to have a resource like that if you really care about your teaching, because no matter how intrinsically good you are, they can make you better."

Huth came to Harvard in 1993, following five years conducting research at the Fermi National Accelerator Lab, and sought out the Bok Center for assistance with his lectures because, he said, "I felt like I was bombing." The solution was to videotape a lecture and allow him to view it with center staff.

"Just 10 minutes of filming and sitting down with the staff there for 30 minutes vastly improved my lectures," he said. "To this day, I remember the tips they suggested to me, and I still practice many of those same habits."

Huth regularly turns to the center with questions. Most recently, he worked closely with staff to develop his popular "Primitive Navigation" class, and he insists that all teaching fellows in his courses take part in at least one micro-

Established to enhance the quality of undergraduate education throughout the Faculty of Arts and Sciences (FAS), the Bok Center annually hosts dozens of programs, seminars, and events that bolster the teaching and learning priorities of FAS.

teaching session before the start of the year to ensure they have at least some experience leading a class.

"The Bok Center is an invaluable resource for all those involved in undergraduate teaching," Smith said. "Whether it is helping faculty members enrich their classes with new materials, methods, and technologies, researching innovative pedagogies and assessment tools, or notifying faculty of important developments in higher education instruction, the Bok Center continues to offer and develop core programs and services that foster the fundamentals of good teaching. Harvard's faculty bring extraordinary creativity and zest to the development of new courses for undergraduates, and the support they receive from the Bok Center plays a critical role in that work."

To underscore the importance of that support, this fall Smith is launching a personnel search for the Richard L. Menschel Faculty Director of the Derek Bok Center for Teaching and Learning. Together with the executive director and his colleagues, the faculty director will be responsible for articulating the teaching mission of FAS and elevating its profile on campus, as well as managing the center's growth and collaborating with staff to develop programs and courses on innovative pedagogies, course and programmatic assessment, and development of teaching skills among all FAS instructors.

"We are at a turning point in how we think about teaching and learning," said Terry Aladjem, executive director of the center and a lecturer on social studies. "We have wonderful scholars at Harvard who are the leaders in their fields, but as a university we haven't yet engaged as fully as we might in a common discussion about teaching. I believe faculty members are eager to have that conversation, and our role is to become a place where that conversation can happen."

ATHLETICS

Women and boxing: They go hand in glove

A required sport in the halcyon days of Theodore Roosevelt, today the Harvard Boxing Club is keeping tradition alive, but with a modern twist — its inclusion of women.

By Sarah Sweeney | Harvard Staff Writer



Susan Seav '12 hails from Los Angeles, and while the molecular and cellular biology concentrator unabashedly admits she's not a big fan of the country's eastern side, one activity has alleviated the burden of homesickness a bit — boxing.

"It's actually a good place to meet boys," she said.

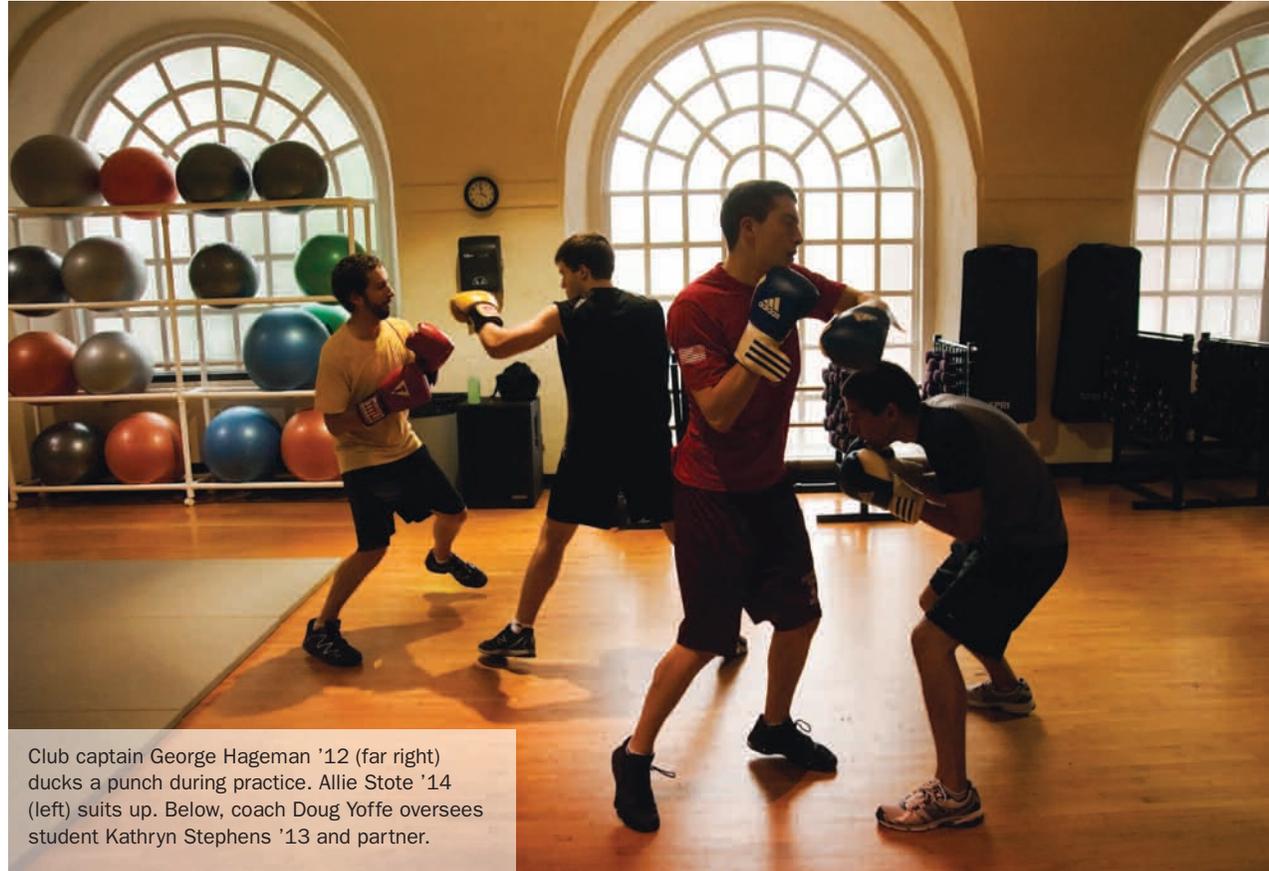
Seav joined the Harvard Boxing Club, which is open to men and women, during her sophomore year. "I was always leaving volleyball practice at the same time that my friend was showing up for boxing practice," she recalled. "And he told me I should join."

Popular on campus since the late 19th century, boxing at Harvard has reinvented itself many times over.

In those halcyon days, the sport was required of every undergraduate, including eventual Presidents Theodore Roosevelt and John F. Kennedy, as well as writer Norman Mailer. In 1941, former lightweight champ Tommy Rawson — and one-time trainer of Rocky Marciano (yes, that Rocky!) — took the helm as coach and oversaw Harvard boxing for six decades until his death in 2003 at age 94.

Rawson witnessed the sport take a lot of punches. In 1961, for instance, the NCAA discontinued boxing as an intercollegiate sport, and so Rawson jump-started the Harvard club. Unruly spectators turned out in

Photos by Jon Chase | Harvard Staff Photographer



Club captain George Hageman '12 (far right) ducks a punch during practice. Allie Stote '14 (left) suits up. Below, coach Doug Yoffe oversees student Kathryn Stephens '13 and partner.

droves to see its matches, and a campus-wide ban of tournaments was issued in 1976. When Radcliffe College merged with Harvard College in 1980, Rawson was suddenly faced with coaching both genders.

"Oh, the girls are fantastic!" he told the Gazette in 2001. "They have better footwork and coordination than the men."

Today, the club is composed of approximately 20 regular male members, and five female regulars.

"The reaction I always get is, 'You box?!'" recalled Allie Stote '14. "But the guys in the club are really supportive. They always tell me, 'Oh, I never want to get in the ring with you.'"

At practice, women do the same exercises as their male counterparts — 100 reps of sit-ups and push-ups, punching bag drills, and more. "Forget about the boxing aspect for a moment," said Seav. "A lot of girls join the club just to get a good workout, and to find a buddy who understands the pain."

Club president George Hageman '12 has never questioned the presence of women. "They're full members of the team, and some of them are pretty good — better than the boys, actually."

Hageman began boxing his sophomore year, too, originally to learn how to defend himself. "But I stayed because boxing pushes you in a way that classes can't," said the government concentrator. "Mentally, there's nothing scarier than going into a ring, and a guy is trying to knock you unconscious. And there's a special bond that comes from fighting your friends — and knowing you'll still be friends."

He's currently compiling a roster of the club's impressive alumni, among them Rosalie Parker, U.S. amateur women's flyweight champion; Peter Blake, an

executive producer of "House, M.D."; Middlesex County District Attorney Gerard T. Leone; Jean-Paul Colaco, senior vice president of advertising at Hulu; Michelle Rhee, former chancellor of the Washington, D.C., public schools and founder and CEO of StudentsFirst; and Alan Jay Lerner, lyricist and winner of three Tony Awards and three Academy Awards.

Boxing is more than uppercuts and jabs, the students agreed.

"It's an intelligent sport," said Stote. "You don't have time to think about what your opponent will do next. You train your mind to pick up on those subtle movements."

"It's a good life lesson," said Hageman. "You take the punch and deal with it."

But, seriously, what's it like to get punched in the face?

"You never get used to it," said Hageman.

"It's awful," Seav admitted. "I've never gotten hurt, but the punch comes out of nowhere. It kind of feels like falling asleep in class. When you awake, you're like 'Oh, wow, that was embarrassing.'"



Health care changes ahead

Open enrollment begins Oct. 27. Until Nov. 9, faculty, staff, and retirees can make changes to their benefits, elect a new vision care plan, and review 2012 rates and features for Harvard's health plans.

By Katie Koch | Harvard Staff Writer

Open enrollment, the annual period when Harvard employees can make changes to their benefit plans, begins Oct. 27. This year, faculty and staff will find a few important changes to their health care offerings, including a new vision care plan, free preventive health services, and increases in emergency room and office visit co-payments.

Employees have until Nov. 9 to make and review changes to their medical and dental coverage or open a flexible spending account, in which money can be set aside on a pretax basis to cover certain health or dependent-care costs. (Visit HARVie for more information or to make changes, which will be effective Jan. 1, 2012.)

But — as Harvard Human Resources (HHR) will be emphasizing over the next few weeks — it's important that employees review their benefits even if they don't plan on making a switch, because some changes to benefits will soon go into effect.

For starters, the University will offer a vision care plan for the first time. The Davis Vision plan — \$5.43 a month for individuals and \$12.49 a month for families — will cover vision exams, glasses, and contact lenses with co-payments.

Most Harvard employees* will also face a few increases in costs to their health care. Co-payments for visits to the doctor will now be \$20, a \$5 increase. Emergency room co-payments will rise from \$40 to \$75, although they'll still be waived if the patient is admitted.

Those in Harvard's Point of Service plans or Preferred Provider Organization plan — an option for out-of-state employees only — will see an increase in their out-of-network deductibles and out-of-pocket maximums. Those changes, however, will only affect the relatively small number of employees who opt for coverage outside Harvard's network of providers.

"Three-quarters of our employees are enrolled in our HMO plans, in part because the HMO plans are so comprehensive and include so many top providers," said Rita Moore, HHR's director of benefits and human resources systems. "A lot of people don't feel the need to go out of network."

By increasing co-pays and deductibles, Harvard has kept medical plan costs lower across the board. Over-

Photo by Jon Chase | Harvard Staff Photographer



all, the increases are smaller than the national average. A recently released study by the Kaiser Family Foundation and the Health Research & Educational Trust shows that health care premiums have risen 8 percent for individuals and 9 percent for families in 2011. By contrast, Harvard plan rates for active employees are increasing by 3 to 5 percent, and dental plan rates are decreasing by more than 4 percent.

Still, the University acknowledges that the costs of health care can be difficult to manage for low-income families.

"If we've got a lower-wage earner who has substantial out-of-pocket co-pays, they may be able to be reimbursed," Moore said, referring to Harvard's Medical Co-payment Reimbursement Program.

In another move to offset employees' out-of-pocket costs, preventive care will now be free to members of Harvard's plans for active employees, a result of last year's federal health care reform. The 2010 Patient Protection and Affordable Care Act mandates that fully insured plans offer annual exams, OB/GYN and maternity visits, routine pediatric visits, and select other services without co-pay.

As health care costs rise rapidly around the country, Harvard has taken several administrative steps in recent years to help slow the growth of ballooning health expenditures. The University has consolidated the number of plans it offers to leverage its buying power to keep costs low, and has moved to a pharmacy benefit manager to help manage costs.

The University spends more than \$420 million a year on benefits, and health care is roughly 40 percent of those costs, according to Marilyn Hausammann, vice president for HHR.

Benefits are a highly valued asset to Harvard employees, Moore said, and the University is mindful of keeping its benefits competitive relative to both other higher education institutions and local employers.

"We're very careful in trying to ensure our plans are a good value to employees and competitive in the marketplace," Moore said. "At the same time, we're trying to balance the financial pressures on the institution with the interests of our employees. We're managing costs not just for this year but for future years."

The distribution of health premium costs will remain the same. Harvard currently pays between 75 and 85 percent of employees' premium costs for active medical plans and 50 to 100 percent of retiree coverage.

*Certain benefits changes for 2012 apply to faculty, non-union staff members, and members of SEIU, Local 26, and HUSPMGU. Because the University is still negotiating with HUCTW, HUPA, and ATC over these changes, members of these unions should refer to HARVie for information about their benefits.

HOT JOBS

PROJECT MANAGER, REQ 23997BR, GR. 059
Allston Development Group, FT

HR CONSULTANT, REQ 25039BR, GR. 057
Harvard Human Resources, PT

SENIOR PRODUCT MANAGER MESSAGING, REQ 24904BR, GR. 059
Harvard University Information Technology, FT

Online ► See complete opportunity listings at www.employment.harvard.edu or contact Employment Services at 617.495.2772.

HOW TO APPLY

To apply for an advertised position or for more information on these and other listings, please connect to our new system, ASPIRE, at www.employment.harvard.edu/. Through ASPIRE, you may complete a candidate profile and continue your career search with Harvard University. Harvard is strongly committed to its policy of equal opportunity and affirmative action.

JOB SEARCH INFO SESSIONS

Harvard University offers information sessions that are designed to enhance a job-seeker's search success. These sessions may cover topics ranging from preparing effective resumes and cover letters to targeting the right opportunities to successful interviewing techniques. Sessions are held monthly from 5:30 to 7 p.m. at the Harvard Events and Information Center in Holyoke Center, 1350 Massachusetts Ave., in Cambridge. More specific information is available online at employment.harvard.edu/careers/findingajob/.



Earning her education by degree

Barbara Elfman, who interrupted her studies to raise her family, is using the TAP program to earn her master's at Harvard.

By Jennifer Doody | Harvard Correspondent

When Barbara Elfman was 18, she had a difficult decision to make. She wanted to pursue her bachelor's degree, but needed to begin earning an income.

"I completed a two-year nursing degree," Elfman said. "I worked as a nurse for 10 years, got married, and started my family. But I always felt this loss at not having a bachelor's degree."

After leaving nursing to raise her children, Elfman returned to her undergraduate studies at Wellesley College in 2001 — when her children were then 8, 11, and 14 — and graduated with a B.A. in art history in 2005. When she joined the Harvard Graduate School of Design (GSD) as administrative director of the Advanced Studies Program in 2006, Elfman was intrigued by the opportunity to pursue her master's degree at Harvard.

"After a year of getting comfortable in my position, I started taking courses," Elfman said. "I was fortunate in that I was not only allowed, but encouraged, to take classes. Richard Light, the Walter H. Gale Professor of Education, and Sally Schwager, former faculty member of the Teaching Education Program at the Harvard Graduate School of Education (HGSE), both strongly encouraged me to pursue a master's degree."

"Their encouragement definitely reinforced my interest in

continuing my education," Elfman said. "There are a lot of people like me who didn't have the opportunity to attain their degrees in the early part of their lives, and students of a nontraditional age have a lot to offer in the classroom as well."

Elfman applied to HGSE to pursue her master's degree parttime, and took advantage of Harvard's Tuition Assistance Program (TAP) to defray the cost. Deciding to continue her education, however, was the easy part.

"My greatest concern was how I would manage it," Elfman said. "It wasn't just being part of a master's program, but also taking the GRE, which was an immense undertaking. I studied for a whole summer to prepare for it. I also had my three children, a husband, a house, and a dog, so I had a lot on my plate. I ultimately felt that, if I was accepted to the program, it would not just be an unbelievable opportunity, but an incredible benefit."

Accepted into the HGSE degree program in 2009, with some of the course work she had already completed at Harvard counting toward her degree, Elfman took three classes per year and became a master of time management.

"The most difficult part of being a full-time employee and pursuing a master's degree parttime is that you just don't have the opportunity to take advantage of a lot of interactions outside of the classroom," Elfman said. "I didn't have

"As an employee, it's wonderful to get to know Harvard from the student perspective — and I'm that much better as an administrator because I can now see things from both sides," said Barbara Elfman.

the opportunity to stay after class and go to lunch with my fellow students, for example, or go out a lot in the evenings, because I have a family. So it can sometimes be a lonely experience in that respect."

In May, Elfman graduated with a master's in education, with a focus in arts and education. "I was so fortunate to have the opportunity to study with some amazing professors, and students in the class added such richness to the experience," Elfman said. "I was very proud that I had the opportunity and that I completed the degree."

Although Elfman takes pride in her achievement, she cautions that the program may not work for those who aren't willing to make sacrifices. "You're going to have to give things up, and you have to be prepared for that," she said. "You have to prioritize. You have to do a lot of soul-searching and make sure that this is something you're going to dedicate a lot of time to. Your family, your work, and your education need to be your top three priorities, and other things may have to fall by the wayside."

Professionally, Elfman said the academic achievement has not only enriched her understanding and appreciation of Harvard, but also her grasp of the student point of view.

"I can now deeply connect with the students I see," Elfman said. "As an employee, it's wonderful to get to know Harvard from the student perspective — and I'm that much better as an administrator because I can now see things from both sides. I've also learned a lot about the pedagogical side of teaching. When students ask me questions, I can draw upon what I've learned to give better answers. And because I've been a student myself, I have a very strong understanding of what they're going through."

"It's lovely that HGSE offers this opportunity to employees," Elfman said.

Asked if she had any interest in pursuing an additional master's or even a doctorate, Elfman laughed. "I oversee two doctorate programs, the Doctor of Design Ph.D. program and the Master in Design Studies program, so I think this is it," she said. "But if I have the luxury of sitting in on a lecture or auditing a class, I'll do it."

Newsmakers



Alhaji Muhammad Sa'ad Abubakar III, the Sultan of Sokoto in Nigeria (above), delivered the Samuel L. and Elizabeth Jodidi Lecture at the Sackler Museum on Oct. 3. In preparation for his visit, a panel of experts convened at the Harvard Divinity School's Center for the Study of World Religions for a discussion on Islam in central Africa. To read the story, see hvd.gs/91551.

EIGHT WIN PECASE AWARDS

President Barack Obama named 94 researchers as recipients of the Presidential Early Career Awards for Scientists and Engineers (PECASE), including eight from Harvard. The PECASE award is the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers.

The recipients from Harvard include **David T. Breault**, assistant professor of pediatrics at Harvard Medical School (HMS); **John S. Brownstein**, assistant professor of pediatrics at HMS; **Jose C. Florez**, assistant professor of medicine at HMS; **Tina A. Grotzer**, associate professor of education at Harvard Graduate School of Education; **Justin C. Kasper**, associate of the Harvard College Observatory and lecturer on astronomy; **Ali Khademhosseini**, associate professor of medicine and assistant professor of health sciences and technology at HMS; **William Nicholas Haining**, assistant professor of pediatrics at HMS; and **B. Price Kerfoot**, associate professor of surgery at HMS.

The recipients will receive the award in a ceremony in Washington, D.C., on Oct. 14.

RESEARCHERS RECEIVE NIH GRANTS TO SUPPORT JUNIOR RESEARCHERS

Two young Harvard scientists will each receive \$2.54 million or more in National Institutes of Health (NIH) grants that will support research and overhead costs through a new program intended to accelerate the entry of

outstanding junior investigators into independent researcher positions.

John Calarco, a Bauer Fellow at the Faculty of Arts and Sciences Center for Systems Biology, and **Harris Wang**, a Technology Development Fellow at the Wyss Institute for Biologically Inspired Engineering, were among the first 10 researchers to receive NIH Director's Early Independence Awards. The awards effectively allow winners to leapfrog over the traditional post-doctoral training period, and are designed to capitalize on the creativity, confidence, and energy of young scientists.

To read the full story, visit <http://hvd.gs/91802>.

ASH CENTER WELCOMES NEW FELLOWS

The Ash Center for Democratic Governance and Innovation at Harvard Kennedy School (HKS) announced more than 60 student and research fellows for the 2011-12 academic year. Fellows hail from around the world to study at the Ash Center — from as far away as Malawi, Japan, and China, to Palestine, Germany, Italy, and India. Their research topics mirror the diversity of the countries they represent: from clean water scarcity in rural Africa and environmental activism in Japan to challenges to China's governance policies and the automotive industry in Mexico.

To read the full story, visit <http://www.ash.harvard.edu/Home/News-Events/Press-Releases/Ash-Center-Welcomes-64-New-Fellows>.

GRAD STUDENT RECEIVES CANADA-U.S. FULBRIGHT

Steven Hoffman has been selected as one of the recipients of a 2011-12 Fulbright Canada Student Award. The grant is allowing Hoffman to pursue a Ph.D. in health policy at Harvard and conduct research into the politics surrounding health systems and global health governance.

REAI OFFERING GRANTS TO FACULTY, STUDENTS

The Real Estate Academic Initiative (REAI) at Harvard is offering its first round of grants of the academic year to support real estate and urban development research by Harvard faculty and students. Grants range from \$1,500 to \$10,000 for student thesis research, and from \$5,000 to

\$15,000 for faculty research. Supported research is broadly defined to include topics in business, economics, history, design, environment, law, political science, public health, sociology, and the sciences.

This is a valuable opportunity not only for faculty but graduate and undergraduate students who may need funding for research, travel, or other costs related to thesis projects. The research committee reviews applications for grants on a rolling basis; the next application deadline is Oct. 14. For more information, to start the online application process, or to view examples of previous grants, visit <http://www.reai.harvard.edu>.

HARVARD FACULTY CONTRIBUTE ESSAYS TO NEW BOOK

Three Harvard faculty members — **Michèle Lamont**, Robert I. Goldman Professor of European Studies and professor of sociology and of African and African American studies; **Sheila Jasanoff**, Pforzheimer Professor of Science and Technology Studies and professor of environmental science and public policy at the John F. Kennedy School of Government; and **Rebecca Lemov**, assistant professor of the history of science — have contributed essays to a new book, "Social Knowledge in the Making," to be published Oct. 14 by the University of Chicago Press.

LOWN, PROCOR GRANT HEART HERO AWARD

ProCor, a global communication program promoting heart health founded by Harvard School of Public Health **Professor of Cardiology Emeritus Bernard Lown**, has awarded the Louise Lown Heart Hero Award to the Kenyan-Heart National Foundation's (KHNF) rheumatic heart disease (RHD) prevention program. Through local initiatives and outreach efforts, the KHNF teaches thousands of people every year how to prevent RHD.

The annual award recognizes innovative, preventive approaches to cardiovascular health in developing countries. The award was established in 2007 by Lown, an internationally renowned cardiologist and Nobel Peace Prize recipient, to honor his wife, Louise, and her lifelong commitment to the well-being of others as a social worker, activist, and writer.



Year Up intern Emmanuel Casseus (center) talks with Robert Rose, IT support manager, during the FAS Year Up Program Partnership Breakfast inside the Thompson Room at Harvard. Harvard Business School is also sponsoring Year Up interns this fall.

For more information, visit http://www.procor.org/about/about_show.htm?doc_id=1620056.

HKS ANNOUNCES NEW CASE STUDY FUND

In response to a growing need for experience-based teaching materials, **Joseph B. Tompkins Jr.** has given \$500,000 to Harvard Kennedy School (HKS) to establish a case study fund and research endowment in his name. Tompkins is a graduate of both Harvard Law School (J.D. '74) and HKS (M.P.P. '75). His gift will enable HKS to nearly double its annual case output to expand and update its collection, which is the largest library of cases on public and nonprofit issues in the world.

SAFRA CENTER SEEKS FELLOWSHIP APPLICANTS

The **Edmond J. Safra Center for Ethics at Harvard** is seeking applicants for the center's graduate fellowships in ethics. Applications are invited from graduate students who are writing dissertations or are engaged in major research on topics in practical ethics, especially ethical issues in architecture, business, education, government, law, medicine, public health, public policy, and religion.

For more information, visit <http://ethics.harvard.edu/fellowships/graduate-fellowships>.

HARVARD RESEARCHERS RECEIVE \$15M IN NIH GRANTS

Nine researchers from across Harvard have received more than \$15

million in special National Institutes of Health (NIH) grants designed to foster innovative research with the potential to propel fields forward and speed the translation of research into improved public health. The researchers include **Florian Engert, Jeff Lichtman, Erez Lieberman Aiden, Markus Meister, Joshua Sanes, Sharad Ramanathan, Thomas Kupper, Vamsi Mootha,** and **Christopher Hug.**

To read the full story, visit <http://hvd.gs/91619>.

HIV PREVENTION GETS \$20M BOOST

A new four-year, \$20 million grant from the U.S. Centers for Disease Control and Prevention (CDC) will enable Harvard School of Public Health (HSPH) researchers to evaluate the impact and cost-effectiveness of a unique combination of HIV prevention strategies in Botswana.

The CDC grant is part of a U.S. President's Emergency Plan for AIDS Relief (PEPFAR) initiative that commits \$45 million to examine the effectiveness of combination approaches to HIV prevention over four years. The largest evaluation of its kind, the HSPH research initiative is poised to help partner countries strengthen their efforts to prevent new HIV infections and save lives.

To read the full story, visit <http://hvd.gs/90814>.

FAS PRESENTS DIVERSITY DIALOGUES

Leadership in a diverse community, unintended bias, and the impact of



Stephen Young (pictured), co-founder of Insight Education Systems, will present "Microinequities: The Power of Small," the first in a series of Diversity Dialogues at FAS.

devaluing messages that can impair productivity are among the issues that will be addressed in **Diversity Dialogues**, a series of seminars to be offered by the Faculty of Arts and Sciences (FAS).

Stephen Young, co-founder of Insight Education Systems, will present "Microinequities: The Power of Small," a seminar on the impact of "devaluing messages which can impair performance and productivity," on Oct. 20 in the Faculty Room in University Hall.

All workshops are 9 a.m.-12:30 p.m. and are free and open to the Harvard community. For a schedule of events, or to register online, visit <http://hr.fas.harvard.edu/diversity>.

— Compiled by Sarah Sweeney

OBITUARIES

Davenport, radar physicist, 95

Lee L. Davenport, a pioneering radar physicist who has been credited for helping to bring an end to World War II, died on Sept. 30, of cancer in Greenwich, Conn. From 1946 to 1950 Davenport served as research fellow at Harvard and coordinated the building of the University's 92-inch cyclotron, which was then the second-largest atom smasher in the world. Davenport also taught physics at Radcliffe College during his time at Harvard.

To read the full obituary, visit hvd.gs/92165.

Handlin, Pulitzer Prize winner

Oscar Handlin, Carl M. Loeb University Professor *Emeritus*, died from a heart attack on Sept. 20 at his Cambridge home. He was 95.

Handlin taught at Harvard for nearly 50 years, and was director of the Harvard University Library from 1979 to 1984. The author of more than 30 books, Handlin was a noted historian, and won the Pulitzer Prize in 1952 for "The Uprooted: The Epic Story of the Great Migrations That Made the American People."

A memorial service will be held on Nov. 16 in the Memorial Church at 11 a.m.

To read the full obituary, visit hvd.gs/91132.

Jan Merrill-Oldham, librarian

Jan Merrill-Oldham, Harvard's Malloy-Rabinowitz Preservation Librarian from 1995 to 2010 and the driving force in developing the renowned preservation programs in the Harvard Library, died Oct. 5 at her home in Cambridge.

It is to her credit that the Harvard Library benefits from a carefully coordinated relationship between collections conservation and special collections conservation.

A memorial ceremony will be held at 1 p.m. on Oct. 15 at the Storey Chapel, Mount Auburn Cemetery, 580 Mt. Auburn St., Cambridge.

To read the full obituary, visit hvd.gs/92644.

Study locally, think globally

A new Harvard Medical School topic helps to train future physicians in the expanding field of global health.

Harvard Medical School students John Heintz (left) and Divya Mallampati share insight on their opportunities.

By Divya Mallampati and John Heintz

It will be news to few when we say that there is a veritable tsunami of youth interested in global health. In universities across the country, students are seeking out classes, organizations, and opportunities to learn, discuss, and act. Harvard is, of course, no exception.

As Harvard Medical School (HMS) students, we often get emails about speaker events, attend student gatherings about global health, or talk with professors about their latest research. For both of us, it seems as if most of our free time (and then some) is spent negotiating how we can engage in these exciting opportunities. Like many of you, we not only care deeply about grave, unjust inequities in our world but want to build lives dedicated to addressing these complex issues.

STUDENT VOICE

What if we were to tell you that, despite being inundated with the discourse of global health, we've still seen educational gaps? Perhaps we're critical or hard to please; certainly we're restless. The truth is that at HMS there is a preponderance of opportunities that focus separately on theory, practice, and discernment — three necessary areas in the development of global health professionals. Lectures educate us. Organizations and projects enable us to engage as students. And our impressive classmates and mentors empower us to consider our roles as physicians. All occupy different spheres and can sometimes fragment the experience.

Enter, a new elective at HMS called “Clinical Topics in Global Health.” Having recently finished its second year, this class was a critical merger of these three areas that we thought necessary for budding physicians. Taught by Patrick Lee, a clinical instructor in medicine, and Brett Nelson, an assistant professor of pediatrics, the elective united a group of students diverse in both prior experience and stage of education. Our classmates ranged from fellow first-years to a third-year resident to an experienced clinical psychologist. As we were instructed on the first day, we were to be our own teachers and mentors, as well as colleagues — a lesson we quickly learned to appreciate.

Over two months, we encountered a wide range of issues, such as models of health care delivery, mental health, primary care, oral health, and cancer. Each topic was explored through several lenses so we could understand the current context of the issue, relevant clinical skills, and the inevitable challenges of implementation. Far from simply discussing topics, the class was hands-on and entertaining. We dove into the first week by resuscitating plastic “infants” replicating acute respiratory distress. Later we proceeded to learning case man-



agement for HIV/TB patients, recognizing infectious parasites under a microscope, and performing ultrasounds on each other.

Through these clinical applications, we constantly stretched our creativity as we considered how we could provide quality medical care with severely limited resources. Who knew a condom not only can prevent pregnancy or sexually transmitted infections, but when inflated with water can also stabilize a post-partum hemorrhage, buying a woman critical time to make it to a medical center?

One of the most unusual facets of the class came in the final evening. We sat with a panel of global health professionals and were able to ask some of the most personally important questions, ones that we frequently ask each other and that lace our conversations about our futures. How do I engage in global health and yet have a family? How do I take care of myself? How can I balance my time between living overseas and in the United States? While there is no correct answer, discussions like this are important for the next generation of global health care professionals, filled with unguided uncertainty yet limitless potential.

It would be preposterous to claim that we covered every clinically relevant issue that challenges humanity around the world. This class, however, came

at a critical moment for some young doctors interested in global health. At a time when we are beginning the process of forming our professional lives, we come out of this class with a broadened ken and clearer conception of how we can be responsible and more effectively leverage our roles. For Divya, every day in rural Liberia this summer working on a women's rights project is a constant reminder of the lectures on maternal mortality and innovation in resource poor settings. For John, working on an ethnography of managed care and skin cancer in Colombia has given him an arena in which to apply the classes on non-communicable diseases as well as begin to build a long-term engagement in the country.

Amid the fertile landscape of global health here at Harvard, this class serves as an interesting model. For us, the gap between student and physician — the global health physician in training — is narrower.

If you're an undergraduate or graduate student and have an essay to share about life at Harvard, please email your ideas to Jim Concannon, the Gazette's news editor, at Jim_Concannon@harvard.edu.

Calendar

HARVARD.EDU/EVENTS

HIGHLIGHTS FOR OCTOBER 2011

su	m	tu	w	th	f	s
october/november				13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5
6	7	8	9	10	11	12

OCT. 24-25

See complete Calendar online ►► news.harvard.edu/gazette/section/calendar

The deadline for Calendar submissions is Wednesday by 5 p.m., unless otherwise noted. Calendar events are listed in full online. All events need to be submitted via the online form at news.harvard.edu/gazette/calendar-submission. Email calendar@harvard.edu with questions.

Oct. 13. "Explore Harvard: The Yard and Beyond" — Photographer Panel Discussion. Harvard Coop, 6 p.m. 375.harvard.edu/photo-book.

Oct. 15. Home Movie Day. Room B-04, Harvard Film Archive, 24 Quincy St., noon-3 p.m. Free. Bring your super 8, 8mm, and 16mm films to share, VHS and DVD formats also welcome. Each film must be inspected for damage before being run on a projector, so please drop off your film as early as you can, no later than 11 a.m., preferably the week prior to the event. 617.496.3211, bgravely@fas.harvard.edu, hcl.harvard.edu/hfa/films/2011octdec/hmd.html.

Through Oct. 16. "Mark Lewis: Three Cinematic Works." Sert Gallery, 3rd floor, Carpenter Center. ves.fas.harvard.edu/lewis.html.

Oct. 17. Music from Terezin, Performed by the Hawthorne String Quartet. Radcliffe Gym, 3:20-4:30 p.m. Mark Ludwig, director of the Terezin Music Foun-

ation, will examine the rich legacy of music composed in the Terezin Concentration Camp in Czechoslovakia during WWII. 617.495.4072.

Oct. 19. Harvard On The Move Community Run. Meet outside on the steps of the Malkin Athletic Center (39 Holyoke St.), 5:15-6:15 p.m. Free. onthemove@harvard.edu, www.harvard.edu/onthemove.

Oct. 20. Ukrainian Film Festival: New Films and New Names from Ukraine. CGIS South Building, Room S-020, 1730 Cambridge St., 6-8 p.m. Yuri Shevchuk, director of the Ukrainian Film Club, Columbia University. Free.

Oct. 21. Harvard-Princeton Football Concert. Sanders Theatre, 8 p.m. Harvard Glee Club. Tickets: \$20; students: \$10. 617.496.2222, boxoffice.harvard.edu, ofa.fas.harvard.edu/cal/details.php?ID=42463.

Oct. 22. Family Day: Mapping the Natural World. Har-

vard Art Museums, Sackler Museum, 485 Broadway, 1-3 p.m. Recommended for children ages 8 and up. Activities will include gallery explorations and art-making experiences. Free; space is limited. 617.496.8576, erin_loeb@harvard.edu, harvardartmuseums.org/calendar/detail?id=39184.

Oct. 24-25. "Pain: A Night of One-Acts at the Oberon." 2 Arrow St., 8 p.m. \$10-\$20. cluboberon.com.

Oct. 26. Aesthetic Toleration: Lucretius and the Survival of Unacceptable Ideas. Thompson Room, Barker Center 110, 12 Quincy St., 6 p.m. Stephen Greenblatt, Cogan University Professor at Harvard. Free. 617.495.0738, mahindrahumanities.fas.harvard.edu.

Oct. 27. Thursday Midday Recital Series. Adolphus Busch Hall, 29 Kirkland St. 12:15-12:45 p.m. Free; audience members are encouraged to bring a lunch. 617.495.5508, memorialchurch.harvard.edu.

THROUGH OCT. 16



A look inside: Quincy House

Staying centered in making pottery

After slipping a wire through a damp block of white stoneware clay, Caroline Lowe '12 shapes it into a ball and drops it onto the pottery wheel. "The most important thing is staying centered," she says, working carefully. Although she is speaking about technique, her pottery time is also meditative. "It's really

relaxing, and it allows me to be creative in a different way than academics ... I like to just forget about everything."



Deborah Gehrke, Co-Master of Quincy House, explains the sense of balance produced by spinning pots at the Mimi Aloian Pottery Studio. "I like the art aspect — that they're using the other side of their brains. They can relax and use their hands, and get a sense of feel of something other than a pencil or a computer. We open the event to all the Houses, so it brings people here: We are the people's House." Since the early '90s, students have added to the archive of pots, vases, and sculptures displayed in the studio with the hope of inspiring future students. Former studio director Jack Cen '10 donated a lizard-green glazed teapot, complete with a hippo head spout and bamboo handle.

Photos and text by Kris Snibbe | Harvard Staff Photographer

During a studio class, Hunter Richard '12 accelerates his wheel. The edges of his bowl wobble and collapse into the shape of a clay dumpling. After struggling to keep the walls of the bowl straight, he adds water and flattens the clay into a plate.

Studio director William Murphy '13 offers words of consolation about the creative process. "I have found that frustrations and stress will always make their way into my piece," he said. "In order to create something worth keeping, I have to slow down, calm down, and take my time to be steady on the potter's wheel — a mindset I rarely inhabit during normal Harvard life."

Online ▶▶ View photo gallery: hvd.gs/92772