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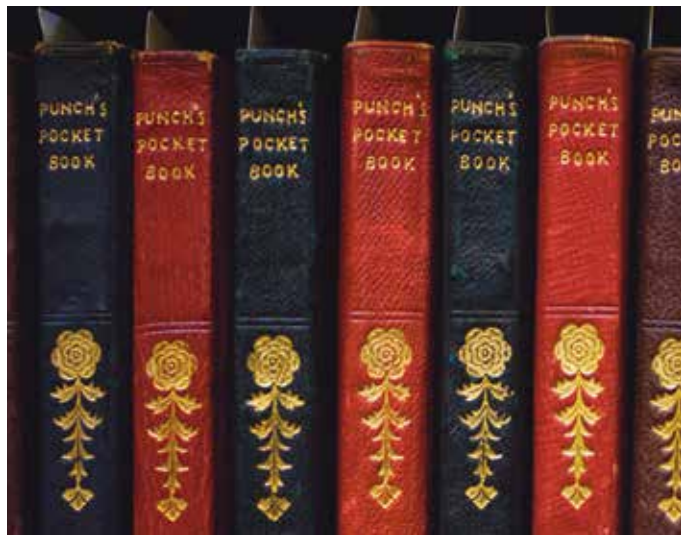

363rd Commencement // LEADING CHANGE

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LATEST | EDITOR'S PICK | AUDIO/VIDEO | PHOTOGRAPHY | POPULAR

Hidden in plain sight

Photography
Editor's Pick

April 8, 2014

For more than 375 years, the core of the University has involved teaching students. Here, Zena Mengesha, a senior in the Department of Visual and Environmental Studies, demonstrates a thesis project in the Carpenter Center. harvard.edu/news-photography

Polly want a vocabulary?

Audio/Video
Editor's Pick

December 4, 2013

Research is fundamental to Harvard and its Schools. Irene Pepperberg has been working with African grey parrots for many years to determine fundamentals about the origins of intelligence. harvard.edu/news-audiovideo

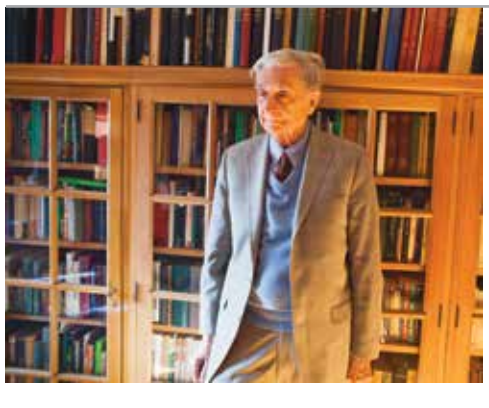
GLOBAL HARVARD

Brick by brick

Audio/Video
Editor's Pick

October 15, 2013

Harvard has programs worldwide in science, business, arts, and other fields. An ongoing University program in coastal Chile has helped villagers to rebuild and start fresh after the deadly 2010 earthquake and tsunami. harvard.edu/news-global



EXPERIENCE

'Search until you find a passion'

Popular
Editor's Pick

April 15, 2014

Harvard is a large institution that nonetheless continues to be defined by its people, including Edward O. Wilson, the Pellegrino University Professor *Emeritus* whose landmark work on insects defines the field, and whose childhood defined him. harvard.edu/news-experience

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363rd

Cover story
Harvard is deeply immersed in exploring and understanding the world and changing it for the better. Inside is an in-depth look at where this complex University is likely to be 10 years down the road in five key areas: health, science, education, arts, and globalization. In many cases, the examples inside suggest, the future is now, and the road ahead is already well-marked. **2-7**

Photo by Rose Lincoln | Harvard Staff Photographer

Photos: (cover and interior pages) by Jon Chase, Rose Lincoln, Stephanie Mitchell, Kris Snibbe | Harvard Staff Photographers; Ned Brown | Harvard Senior Multimedia Producer; and Katherine Taylor | Intern

BEYOND THE HORIZON

Harvard, a university deeply immersed in exploring and understanding the world and changing it for the better, is on the cutting edge in myriad fields. Harvard is making a difference now, and is working to lead the way in the next decade.

Here's a look at where the University and the world that it embraces are likely to be in 10 years in five key areas: health, science, education, arts, and globalization. In many cases, as the examples that follow indicate, the future is now, and the road ahead is already well-marked.

Rapid gains against vexing diseases

HEALTH

By Alvin Powell | Harvard Staff Writer

Is the long-envisioned future of health care finally coming? You know the one: full of high-tech wizardry, miracle drugs knocking out tumors with precision, medical care tuned to your DNA, and your DNA tuned to improve your health.

It's the future where stem cells affirm the vast interest in them and help you get well, where aging is delayed, and where medical gains continue against AIDS, tuberculosis, and malaria, while perhaps eliminating an age-old enemy, polio.

Harvard specialists in health and medicine say that dramatic advances in tools, technology, methods, and basic knowledge over the past 20 years will make some of that future a reality over the next 10 years. In some cases, it's already here.

The future won't be all roses. Despite expected advances, age-old impediments to good health will remain. Institutional inaction still will allow preventable diseases to kill millions. Some neglected diseases will continue to bring death and disability to millions more. People will continue to undermine their own health, smoking, eating too much, and exercising too little. In a pernicious wrinkle, the obesity and diabetes epidemics may morph into afflictions of the poor.

Amid this mix of hope and heartbreak, health experts say that the labs, faculty, and students at Harvard and its affiliated institutions will keep breaking new ground, nurtured by the region's academic brainpower, biotech prowess, and pharmaceutical research. Even experienced scientists, assessing recent research and looking at the decade to come, are excited by what they see.

"If you look at the pace of progress and of discovery over the last few years, and if it continues to move at the same pace, it's very exciting," said Daniel Haber, the Kurt J. Isselbacher/Peter D. Schwartz Professor of Oncology at Harvard Medical School (HMS) and head of the Cancer Center at Harvard-affiliated Massachusetts General Hospital (MGH).

CUSTOM-TUNED TREATMENT

One shift that seems certain is that patients will get ever-more-personalized care, based on their genetic profiles — and those of their ailments.

George Church, the Robert Winthrop Professor of Genetics at HMS, said that decoding a person's genome will get dramatically cheaper. As that cost goes down and the reliability goes up, Church expects genetic analysis to become common.

"It probably will happen all at once," Church said. "There will be a change in thinking by physicians, by doctors, and hospitals. And if patients read in the paper that a parent got an answer for their kids' illness, others will want it. [There may also be a change] if health care providers see ways to save money."

Church expects exponential improvements in DNA technology to allow analyses of our microbiome and of our environment, and for genomics' tools to be bent toward prevention as well as treatment. New genome-editing technology — already in use in his lab — may one day edit harmful genes, such as the mutations that cause breast and ovarian cancers, out of the genome entirely.

A deeper understanding of disease genetics will help scientists at Harvard and its affiliated hospitals devise treatments in major areas such as cancer care, according to Haber, who a decade ago was among the first to trace a lung cancer drug's effectiveness to the tumor's genetic profile. Haber said researchers have just tapped the tip of the iceberg of that targeted approach. He also predicts an expansion of immunotherapy, which mobilizes the body's immune system against tumor cells, and advances in early detection by finding cancer cells circulating in the blood — a focus of his lab.

Leonard Zon, professor of stem cell and regenerative biology at Harvard and a researcher at Harvard-affiliated Boston Children's Hospital, said the future of stem cell–based regenerative medicine appears bright. Stem cells already have sparked a revolution in the lab, easing the study of diseases by allowing researchers to create cell lines afflicted by various ailments. Zon is cautious about overpromising treatments based on stem cell work, but said that it's appropriate to get excited about recent developments concerning induced pluripotent stem cells.

"What's going on is very impressive," Zon said, adding that the atmosphere at Harvard makes it an exciting place for such work. "One of the things that is unique about Harvard is its collaborative nature. The interactions are going to pay off."

HMS Genetics Professor David Sinclair wants to address several conditions at once by attacking aging.

Sinclair, named one of Time magazine's 100 most in-

fluential people in April, tracked the longevity effects of caloric restriction and the red wine molecule r esveratrol on DNA. He found a set of genes, called SIRTs, that are activated by resveratrol and caloric restriction. Sinclair believes that small molecules developed to mimic and magnify their function will work to fight some effects of aging.

Promising drug candidates are being tested in human trials, and Sinclair is hopeful one will prove itself within the next decade.

WE'LL STILL BE WHAT WE EAT

The global obesity epidemic has a less promising future, according to Walter Willett, Frank Stare Professor of Epidemiology and Nutrition at the Harvard School of Public Health (HSPH). The well-off and better-educated appear to be heeding advice about healthy eating and exercise, but there's no slowdown in weight gain among poorer populations, here or abroad.

In the coming years, Willett expects science to continue to inform medicine and the public. The long-term Nurses' Health Study and its successors have great potential to shed light on health. New cohorts are enrolling as the original ones now highlight ailments of aging, such as Alzheimer's disease. Modern analytical tools give researchers more ways to explore findings, using blood samples and cheek swabs for DNA analysis, and fecal samples that permit analysis of the microbiome.

Though lifestyle-related ailments and chronic diseases are growing fields of interest, infectious disease remains a major concern. Dyann Wirth, the Richard Pearson Strong Professor of Infectious Disease, director of the Harvard Malaria Initiative, and chair of HSPH's Department of Immunology and Infectious Diseases, said age-old scourges and newer plagues, such as AIDS, will be part of the infectious disease landscape over the next decade.

Still, modern scientific tools are illuminating pathogens, disease vectors, and the immune response as never before, Wirth said. Drug-discovery efforts are expanding hope for new treatments against tuberculosis, malaria, and other ailments, and eradication of polio and guinea worm disease appear possible. Political will, however, is as important as medical advancement, Wirth said.

"I think the next decade is going to be a very exciting time because the tools and methods developed over the last two decades are really being brought to bear on infectious disease," Wirth said.

A decade of discovery, from outer space to inner thoughts

SCIENCE

By Peter Reuell | Harvard Staff Writer

Astrophysicist Dimitar Sasselov likes to say that all science is a quest to answer three basic questions: What is the origin and nature of the universe? What is the nature of life? Where does consciousness come from? Researchers across Harvard, from physicists to neurobiologists, are working to answer those questions, and many say that the next decade may offer breakthroughs in a host of fields, from the development of robotic exoskeletons designed to help people walk to novel, renewable methods of generating energy.

Sasselov, the Phillips Professor of Astronomy and director of the Harvard Origins of Life Initiative, has dedicated much of his professional life to the search for exoplanets, which lie beyond the bounds of our solar system.

Recent research, he said, shows there may be as many as a billion exoplanets resembling Earth in our galaxy, opening the door to much closer exploration of some of their atmospheres, and possibly finding answers to questions about life itself.

"We don't actually have a definition of the nature of the phenomenon we call life," he said. "What we have is only one example — ours — and we know in science [that] that can lead us to create paradigms that suggest it will always look the same."

To help answer those questions, Sasselov said that over the next decade Harvard researchers will turn to two new space telescopes. The Transiting Exoplanet Survey Satellite, or TESS, will enable researchers to perform a wide-reaching survey aimed at identifying potentially habitable planets nearby. The James Webb Space Telescope, meanwhile, will serve as a replacement for the Hubble scope, and will explore the atmosphere and other characteristics of nearby planets.

"In order to conduct a search for alien life successfully, we need to learn more about what life is," he said. "We created the Origins of Life Initiative to facilitate collaboration between astronomers and biologists, biochemists, and molecular biologists."

UNDERSTANDING THE INNER BRAIN

While Sasselov predicts that the next decade will hold vast insights into our place in the universe, Jeff Lichtman, the Jeremy R. Knowles Professor of Molecular and Cellular Biology and the Santiago Ramón y Cajal Professor of Arts and Sciences, believes those 10 years also will bring an unimagined new understanding of the brain's inner workings.

Using the "high-throughput" electron microscopy technique developed in his lab, Lichtman and his colleagues hope to produce a connectome, or wiring diagram, of the brain that illuminates everything from how memory is stored to how certain degenerative diseases affect the brain. With today's technology, Lichtman said, the process is fast enough to capture approximately a billion pixels of data per second, enough to soon map the brains of small mammals like mice.

"With today's technology, it's still out of the question to do a human brain. But if we look 10 years into the future, then one could begin to think about doing even larger brains," he said. "At some point, we hope to get to a level of detail where it's predictable what's going to be in the next piece we haven't yet cut. We hope to see enough of the wiring diagram that the structure will begin to pop out from the noise."

When Patterson Rockwood Professor of Energy Dan Nocera thinks about the next decade, two words come to mind: distribution and storage.

As the cost of renewable technologies continues to fall — photovoltaics could soon drop below 50 cents per kilowatt hour — Nocera anticipates that their adoption will continue to grow, leading to a far better-distributed system of energy generation.

"I think the most transformative thing that will happen in the next decade is energy is going to get more distributed," he said. "As that happens, there are going to be large social consequences that come with it. There will be new business models that will be developed, as well as new issues of policy and law that will have to be understood. And Harvard is in a position to play a role in all those areas."

In recent years, Nocera has led the charge toward solar fuels, with the development of his "artificial leaf," a device that uses artificial photosynthesis to create renewable fuels. Synthetic biologists at Harvard Medical School (HMS), meanwhile, have focused on new methods for generating liquid fuels. Researchers at Harvard's School of Engineering and Applied Sciences (SEAS) have made strides in developing flow batteries and have proposed a device that could take advantage of Earth's infrared emissions to generate electricity.

As energy generation becomes more distributed, Nocera said, the issue of storage — not just in batteries — will become ever more pressing.

In the developed world, families one day may generate the electricity they need through roof-mounted solar cells or fuel cells in the backyard, but a key part of the technological picture will be the ability to store excess energy in the grid. By comparison, the developing world has relatively little infrastructure, so Nocera predicts that technologies for generation will be matched with those for local storage of power.

"Storage, in my estimation, is the key to renewables," Nocera said. "There is no question in my mind [that] that will be a major area of development for renewable energy, because once you can store energy, it becomes a commodity. ... The energy challenges of the next decade are global, and Harvard will have a large role in addressing them."

ROBOTICS ON THE CUSP

"We're at a tipping point," said Conor Walsh, assistant professor of mechanical and biomedical engineering, about the current state of robotics. "I started working on robotics and exoskeletons as a graduate student at MIT [the Massachusetts Institute of Technology], and it seemed as though the real-world applications were a very long way off. Walking robots weren't walking in labs, they were falling. And exoskeletons were good exercise machines."

In the past decade, however, the field has grown by leaps and bounds. It is now poised, Walsh believes, to enter an age of development and application. While the vacuuming Roomba is still the most common robot with which humans interact, Walsh predicts that the next decade will go a long way toward changing that.

"As a field, robotics has been around for a long time," he said. "Robots are pervasive in industry and manufacturing settings. Robots are welding and painting cars. They are very widely used in industry. But they're not commonly used in settings where they have to interact with people, and I think we'll see that change in the next 10 years."

Recently, researchers have demonstrated concepts as varied as robotic exoskeletons that help injured people walk and robotic "bees" that are capable of controlled flight. In the next 10 years, Walsh predicts that such "co-robots" will become increasingly common, with one potential application being to assist people with limited mobility by helping them walk farther or faster than they otherwise could.

MOVE TOWARD QUANTUM COMPUTERS

While such robots are on the cusp of the future, the technology that most people interact with on a daily basis is the computer, and Amir Yacoby, professor of physics and applied physics, expects the next decade to bring important changes to the digital devices.

Yacoby is one of several researchers at Harvard working to create quantum computers, which take advantage of quantum mechanics to encode bits of information as both one and zero simultaneously, and to perform multiple computations in parallel, making the devices far more powerful than conventional computers.

"We are at a place today that is far ahead of where we anticipated we would be," Yacoby said. "Today we have several ways of implementing quantum bits" — units of quantum information — "all of which look very promising."

At present, he said, researchers are investigating a handful of systems. They range from those that use electron spins in semiconductors, to systems that find atomic-scale impurities in diamond crystals called nitrogen-vacancy centers, to those that rely on superconducting circuits to trapped ions, and within each implementation researchers have created several working quantum bits. Researchers in recent years also have developed new materials, called topological insulators, which are at the heart of a design for topological quantum computers.

"Right now, we're pushing the forefront on all the different applications," Yacoby said. "Harvard is very much at the forefront in using spin quantum bits and in research into NV [nitrogen vacancy] centers and applications using them. Harvard is also among the leaders in research into the topological approach. The field is growing exponentially, and I can only see it expanding further and further into the future."

Sea of change in technology

EDUCATION

By Christina Pazzanese | Harvard Staff Writer

After centuries of relative torpor, technology breakthroughs have begun to reshape teaching and learning in ways that have prompted paradigm shifts around pedagogy, assessment, and scholarly research, and have upended assumptions of how and where learning takes place, the student-teacher dynamic, the functions of libraries and museums, and the changing role of scholars as creators and curators of knowledge.

"There are massive changes happening right now," said Robert A. Lue, the Richard L. Menschel Faculty Director of the Derek Bok Center for Teaching and Learning and faculty director of HarvardX. "What has brought it into particularly tight focus now is that the revolution in online education has raised a whole host of very important questions about what do students do with faculty face-to-face; what is the value of the brick-and-mortar experience; and how does technology in general really support teaching and learning in exciting, new ways? It's been a major catalyst, if you will, for a reconsideration of how we teach in the classroom."

While the Web is 25 years old, education has been slower than most fields to embrace the Internet's transformational power. Traditional ways of thinking about how humans learn and about which teaching strategies are most effective had dominated educational discourse for centuries.

"I think in education there is, perhaps understandably, a conservatism built around the privileging of how knowledge is communicated and the concern that new modes of communicating, of connecting, of sharing, may somehow lose or diminish the rigor of the exchange," said Lue.

DYNAMIC, PRACTICE-BASED LEARNING

Classrooms of the future are likely to resemble the laboratory or studio model, as more disciplines abandon the passive lecture and seminar formats for dynamic, practice-based learning, Harvard academicians say.

"There's a move away from using the amphitheater as a learning space ... toward a room that looks more like a studio where students sit in groups around tables, and the focus is on them, not on the instructor, and the instructor becomes more the 'guide outside' rather than the 'sage onstage,' facilitating the learning process rather than simply teaching and hoping people will learn," said Eric Mazur, the Balkanski Professor of Physics and Applied Physics at the Harvard School of Engineering and Applied Sciences.

It's a shift that's changing teaching in the humanities as well. "It's a project-based model where students

learn by actually being engaged in a collaborative, team-based experience of actually creating original scholarship, developing a small piece of a larger mosaic — getting their hands dirty, working with digital media tools, making arguments in video, doing ethnographic work," said Jeffrey Schnapp, founder and faculty director of metaLAB (at) Harvard, an arts and humanities research and teaching unit of the Berkman Center for Internet & Society.

Massive open online courses, peer-to-peer learning and mentoring, computer-based testing, and flipped classrooms will make for a newly dynamic and individualized classroom experience.

The flipped classroom, where students view lectures before attending sessions focused on problem-solving and group activities, will become widely integrated, predicted Sherri Rose, assistant professor of health care policy at Harvard Medical School, one of dozens of faculty who gathered in April for a workshop sponsored by the Harvard Initiative for Learning and Teaching to consider and share ideas about teaching statistics and machine-based learning and curricula.

"This type of teaching is already being embraced, but becomes increasingly feasible given the continuing technological leaps that allow faculty to record lectures in their offices and share videos easily via various online platforms," Rose said in an email. "Interactive classroom frameworks are adaptable to many disciplines, and can be particularly useful in STEM [science, technology, engineering, and math] courses where students are forced to confront the boundaries of their knowledge and grasp of the material while learning from students in other concentrations."

How and when learning is measured also are likely to undergo a major shift.

"I do think testing will change and become more focused on testing higher-level cognitive skills — problem-solving, writing, open-ended questions, and the like," said James E. Ryan, dean of the Harvard Graduate School of Education, in an email.

"I also think that the uses of testing will expand and that we will see more frequent, low-stakes assessments that will help guide instruction and will be one way to make instruction more personalized," he said. "So instead of once-a-year, high-stakes tests, we are likely to see more weekly, or even daily, brief assessments to gauge mastery of a topic, which, once reached, will allow a student to move to the next topic."

Too often, officials say, exams still test skills such as memory and rote problem solving that are no longer necessary, because smartphones and computers have taken up those tasks.

"I think in higher education, particularly at an institution like Harvard, we should focus on higher-order thinking skills, skills that are related to judgment, analysis, creativity, and not the lowest-order thinking skills like memory and procedures," said Mazur. "I think that will force us to completely reconsider our approaches to assessment, especially in the sciences."

AN EXPANSION OF THE I-LAB

Learning that takes place outside the classroom will play a more critical role, as projects now underway — such as the renewal of 12 undergraduate Houses to include wired, dedicated spaces and expansion of the Harvard Innovation Lab (i-lab) — will broaden the collaborative possibilities.

Now three years old, the i-lab has proven a wildly popular beehive, where students and faculty nurture the spark of entrepreneurial ideas through lectures and workshops, work and meeting spaces, and connections with partners. This summer will see the opening of the Harvard Launch Lab, a new space that offers the i-lab experience for alumni, and plans are afoot to bring the i-lab concept to locations beyond Cambridge, and online.

For scholars, the growing importance of statistics and big data are altering the way ideas are studied and communicated both inside and outside the academic community. As tools such as data visualization and text mining penetrate research, scholars will learn by doing and will become the curators of physical and digital collections, producing visual artifacts in what will be a newly critical skill set in scholarship, said the metaLab's Schnapp, a Dante scholar.

"Those artifacts that are created, if they're well-designed and well-conceived, not only can convey forms of knowledge that are being argued about, interpreted, and produced, but they are also artifacts that are very accessible and sometimes appealing even to all kinds of audiences that might not be engaged by a standard narrative, argumentative scholarly form of practice."

The boundaries that separate the library, the museum, and the classroom are likely to dissolve as the first two entities continue to evolve from a knowledge-repository model to an activity and services model.

The old notion that libraries generally exist to support research and that learning only happens in the classroom, Schnapp said, "is giving way to a model where the walls are very porous, and where the teaching and research happens all over the place; it's ubiquitous, and it happens right in the presence of physical collections that may be housed over in the library, or they may be housed in the museum. But the sense is that all of these institutions are engaged in a common endeavor."

Moving to center stage

ARTS

By Colleen Walsh | Harvard Staff Writer

Half a century ago, a sweeping, curved concrete structure opened next to the iconic Georgian Revival-style Fogg Art Museum. Architectural purists howled. The Carpenter Center for the Visual Arts, architect Le Corbusier's only building in North America, defied a beloved aesthetic. But it also set off a critical discussion about creativity and helped spur an exciting era for the arts at Harvard. By 2024, the arts at Harvard promise to be equally daring, with myriad changes in how they are practiced, studied, and displayed.

According to several scholars and administrators, the University's future curriculum is likely to feature courses that fuse traditionally disparate areas such as music and neuroscience, building on current efforts to incorporate art and art-making into a range of formerly walled-off disciplines. It is likely that undergraduates will find new arts concentrations and secondary fields beyond the visual arts, theater, and architecture. Graduate students will have more arts-related courses and more ways to incorporate the arts into dissertations and theses.

Students will connect to Harvard's collections in original, dynamic ways, officials say. The University's physical campus will evolve too, with new spaces for viewing, studying, and making art. Interdisciplinary collaborations will explore ways in which the arts at Harvard can help change the world by fueling the next generation of cultural entrepreneurs.

IN THE CURRICULUM

In 2007, Harvard President Drew Faust assembled a task force to explore how the arts could fill a greater role in campus life. The following year, the committee released a report saying the arts needed to be an "integral part of the cognitive life of the University." In the years that followed, in line with those recommendations, scholars began offering a range

of courses that merged art-making with the humanities, the sciences, and the social sciences.

"If I were to imagine the University in five, 10 years' time, it would be one in which artistic and humanistic practice is incorporated in the discrete fields that practice the arts and humanities, whether it's literature or filmmaking or art-making or art criticism, but further, in which humanistic and artistic practices are in dialogue with other fields," said Diana Sorensen, Harvard's dean of arts and humanities.

"It could be engineering and the visual arts; it could be science and philosophy; it could be questions of economics and the study of local cultures. ... The University of the future has to think of intellectual problems, which are in and of themselves worthy of disinterested attention, but also — this I would underline — the world as posing problems that can only be addressed and resolved by bringing all the disciplines together.

"In five or 10 years' time, Harvard would really look like an arts school in addition to being everything else that it is already," Sorensen said.

Art as scholarship will play a role in Harvard's future, according to Robb Moss, chair of the Department of Visual and Environmental Studies. As professors increasingly incorporate art into their classrooms, he said, encouraging students toward creative outlets like making a film instead of writing a paper, the very nature of scholarship can be potentially redefined.

"There's a thought out there that's gaining some kind of momentum that it might be possible for visual and audio of a different sort, work that we traditionally think of as art, to move into the arena of scholarship that perhaps offers differing ways of knowing the world," said Moss. "It's an open possibility, and the work itself will begin to define the field in the next 10 years."

For much of Harvard's history, the arts have been considered part of the extracurricular realm, with thousands of students participating in more than 100 student-led musical, performance, and visual arts groups supported by the Office for the Arts. But this year, for the first time, students received College credit for participation in the Harvard-Radcliffe Orchestra. Many observers consider that change a milestone for the intellectual legitimacy of the arts.

"This migration represents a validation of this work as a serious, University-worthy, academic endeavor," said Jack Megan, who directs the Office for the Arts.

On the near horizon for Harvard students is a new concentration in theater, dance, and media that blends historical and theoretical study with arts practice. The future may bring a master of fine arts program or graduate programs in the arts that would capitalize on Harvard's strengths in areas such as documentary film or creative writing and would encourage artists to work across various fields.

THE PHYSICAL SPACES

In the future, Harvard will have even more performance, exhibit, and art-making spaces. One suggestion is to organize an arts corridor along Garden Street with housing for artists in residence, a creative-writing center, art studios, and greater collaboration among the nearby Harvard Dance Center, Arts @ 29 Garden, and the American Repertory Theater (A.R.T.).

Arts officials expect to see more public art installations on campus, building on the success of the Common Spaces initiative that introduced a collection of colorful chairs and theater and music performances into the Old Yard and the renovated Science Center Plaza.

In November, the renovated and expanded Harvard Art Museums will allow students, faculty, and the public to engage with and study their vast collections in dynamic new ways.

"I'd like to see more art all around us," said Lizabeth Cohen, dean of the Radcliffe Institute for Advanced Study, who helped develop a biennial public art competition in which students from across the University compete to build a site-specific installation in Radcliffe's Yard.

AN INTERNATIONAL RIPPLE

Ten years out, more artists will be at Harvard for broader residencies, bringing with them more global perspectives. Musicians have led the way. Jazz artist Herbie Hancock delivered this year's Norton Lectures, an arts tradition since 1924. Over the past four years, trumpeter and lecturer Wynton Marsalis connected listeners to the cultural currents and critical history behind decades of groundbreaking music and dance.

Scholars see a bright future for the Deans' Cultural Entrepreneurship Challenge, which awards grants for projects that help promote and sustain the arts. Developed in partnership with Harvard Business School, the division of arts and humanities in the Faculty of Arts and Sciences, and cellist Yo-Yo Ma's Silk Road Project, a nonprofit inspired by the cultural exchange along ancient Eurasian trade routes, the competition has spawned a host of creative start-ups, including last year's grand prize winners, who developed an online platform that connects users to art and artists in their area.

Improving the world is a driving ethos for A.R.T. Artistic Director Diane Paulus. In planning her performance season, Paulus told the Gazette last year, she searches out works that will "catalyze dialogue, catalyze debate; shows that will reach beyond the stage into an energy that will bring a community together around an issue, a topic, a point of view." She is pushing the boundaries of the stage, collaborating with departments and Schools from across the University. "It's not arts in a silo," said Paulus. "It's arts actively reaching across to crack open the most important issues of our times."

Harvard's impact registers far beyond its gates

GLOBALIZATION

By Corydon Ireland | Harvard Staff Writer

On May 9, 1761, Harvard Professor John Winthrop packed up two telescopes and a pendulum clock and boarded a sloop in Boston Harbor. He and two students were on their way to a hilltop in Newfoundland to observe a rare astronomical event, the transit of Venus, when that planet crosses between the Earth and the sun. Their 13-day journey was the first international trip sponsored by Harvard. In his journal, Winthrop reflected on the next transits — in 1874, 1996, and 2004. He wrote, "How Astronomy transports us into distant futurity!"

Winthrop, the Hollis Professor of Mathematics and Natural Philosophy, could hardly have envisioned how international Harvard would become. During the presidency of Charles W. Eliot (1869-1909), Harvard moved to increase the diversity of its students. Still, the Class of 1914 included only eight international students; the Class of 2014 includes more than 400, counting dual citizens. University-wide, the number of international students since 1998 has shot up 35 percent. Today, there are nearly 55,000 international alumni from 180 countries, a fifth of all living graduates.

Harvard Business School (HBS) has the most international alumni of the University's Schools, more than 50,000. In its first year, 1908, HBS accepted its first two international M.B.A. students, from

Harvard's global scholarship goes far afield. Studying a document among ruins of the Maya city of Yaxchilan in Chiapas, Mexico, is William L. Fash Jr. (above), the Charles P. Bowditch Professor of Central American and Mexican Archaeology and Ethnology.

Paris and Shanghai. Today, students from 68 other countries constitute a third of M.B.A. students in the Class of 2014.

HBS also has eight global centers on five continents, and more than 60 percent of its faculty-written case studies have a global perspective, from treatises on French wines and Japanese earthquakes to privatized power in Nigeria.

NEARLY 900 INTERNATIONAL RESEARCH PROJECTS

More broadly, Harvard as a whole sponsors 13 international offices, 113 international alumni clubs and contacts, close to 300 study abroad and exchange programs, and nearly 900 international research projects.

But to use Winthrop's prescient word, what about the "futurity" of global Harvard? A dozen University voices say that the short answer is that within a decade there will be more, including more students from abroad, more students going abroad, more classes taught abroad, more research in more countries and regions, more outreach to do more good around the world, and more global influences on a Harvard education.

"There are any number of ways the University's wings will span the world even more 10 years into the future than today," said Jorge Dominguez, Harvard's vice provost for international affairs. "Harvard will come to be seen as the world's first public university." That means "universal access," he said, with acceptance of the world's brightest students that is "passport-blind, need-blind, and all degrees."

To be the world's University also means expanding what Harvard is known for already, offering "a public good for the world," he said. "We are generating knowledge. New ways to cure Parkinson's will be just as good to a Swede as to someone in the United States.

"Harvard also has a geographic bet," he said, "and it's called the world." So instead of establishing international branch campuses, Harvard is more likely to reach deeper into the world through research centers and courses. "There is no region in the world we are writing off, none," said Dominguez, who hopes for larger footprints in the Middle East, Africa, and Eastern Europe. "We're not doing any of this backing away or reducing."

Comparative literature scholar Martin Puchner, the Byron and Anita Wien Professor of Drama and of English and Comparative Literature, as well as general editor of "The Norton Anthology of World Literature," said, "There is an intense international interest in what we do. And at the same time there is an immense need to send our students out into the world and make them learn about the world."

Expanded reach for the humanities

The University's global reach in the humanities will leap outward in the next decade, Puchner said. The Harvard-based Institute for World Literature holds monthlong summer intensives abroad for graduate students, a model "that could extend to undergraduates tomorrow."

Extending Harvard's reach internationally is not only exciting, but vital too, said Felix Oberholzer-Gee, the Swiss-born senior associate dean for international development at HBS. The flow of knowledge no longer streams exclusively from mature economies to developing ones, and by 2024 this cross-fertilization will be "quite dispersed geographically," he said, a trend suggesting there will be many more HBS research centers around the world. At the same time, "The class we graduate every year will be more global," said Oberholzer-Gee, who is also the Andreas Andresen Professor of Business Administration.

By 2024, there will also be more global outreach through online courses, "but the nature of the courses will have changed," he said, by answering a crucial question that bedevils distance learning today: How do you produce commitment in students? Normally that results from their being on campus together, responding in class, taking exams, and otherwise interacting. Real-time, online analogs are being developed at HBS.

Reaching out globally means grasping another dimension, he said, "the big shift from knowing to doing ... getting better at using the knowledge that we have to really contribute to the solution of world problems." The curriculum of 2024, said Oberholzer-Gee, will be "very rich in experiential learning," which in turn often means travel abroad to understand the cultural challenges of working together.

Dominguez extolled the learning at Harvard that takes place abroad, often mixed with the business of doing good. For instance, public health initiatives in Botswana and Tanzania have been underway for years, as has biodiversity fieldwork in Kenya.

Instructing — and learning from — the world

The field of design also will extend its reach in the next decade, sharing Harvard's research and in turn learning from other cultures. "Our engagement is going to intensify globally," said Ali Malkawi, a Jordan-born professor of architectural technology at the Graduate School of Design (GSD) and director of the new Harvard Center for Green Building and Cities.

"GSD already has a footprint all over the world." That will get larger, he said, in part because the research-based center will be sharing what it learns about design simulation, sustainability, and energy efficiency in the built environment. By next summer, inaugural programs in sustainable design practices will be in place in Norway, Sweden, and Denmark. Research is underway in China to reduce energy consumption in fast-growing cities.

Merilee Grindle, the Edward S. Mason Professor of International Development at the Harvard Kennedy School (HKS) and director of the David Rockefeller Center for Latin American Studies, said that 10 years from now, "My dream would be that every student and every faculty member would be extraordinarily adept at crossing borders," whether of geography, culture, time, or intellectual engagement.

When Winthrop sailed to Newfoundland, Harvard was a parochial college for New England's ministers, merchants, and lawyers. By its 200th anniversary in 1836, it was self-consciously a national place of learning. By 1936, Harvard proclaimed itself a world university, eager for an expanded global profile.

Today, that trend has hit warp speed. For students and faculty alike, spending all their time on campus is already "almost unthinkable," said Oberholzer-Gee, and will be more so by 2024. "This idea of staying put in one place will look very antiquated."

Photo by Justin Ide

A giant jewel box, lit by the sky

The Harvard Art Museums will open a greatly expanded and renovated home this fall, aligning the Fogg, Sackler, and Busch-Reisinger museums under a massive glass roof.

By Colleen Walsh | Harvard Staff Writer

When officials began planning the future of the Harvard Art Museums several years ago, they envisioned vibrant teaching and learning centers that would foster new paths of inquiry and understanding for 21st-century art lovers and curious community members alike.

A new 205,000-square-foot museum building will open Nov. 16, bringing together the Fogg Museum, the Arthur M. Sackler Museum, and the Busch-Reisinger Museum under a magnificent, shining glass roof designed by Italian architect Renzo Piano. In addition to 40 percent more gallery space and state-of-the-art climate controls, the renovated and expanded facility will encourage visitors to engage with Harvard's vast collections in fresh, dynamic ways.

"We want to make our collections far more accessible than they have been in the past," said Thomas W. Lentz, the Elizabeth and John Moors Cabot Director of the Harvard Art Museums. "We want to put them to work for all students, faculty, and the community, not simply specialists. And most importantly, we want to do all this with models, mechanisms, strategies that encourage not simply just working across different fields and disciplines, which is very important to us, but also using the collections in new and different ways."

In the revamped museums, students and faculty will work with curators to create visual arguments in the University Galleries using works of art from the collections. Art and technology will collide in the Lightbox Gallery on the top floor, programmed in partnership with Harvard's metaLAB. A comprehensive Art Study Center will offer visitors the chance to view an artwork from any of the three museums' collections up close.

"A belief in the value of close, sustained looking and observation is a hallmark of this institution," said Lentz. "It's rather extraordinary what flows out of that process. It removes things from simply the realm of the abstract and theoretical into something that's more physical, more participatory."

For another hands-on experience, visitors can head to the lower level's Materials Lab to explore the properties and potentials of products such as plaster, said the museums' chief curator Deborah Martin Kao. Visitors might then bring that new insight to an examination of a vivid fresco on the first floor, or a plaster sculpture in the museums' contemporary gallery.

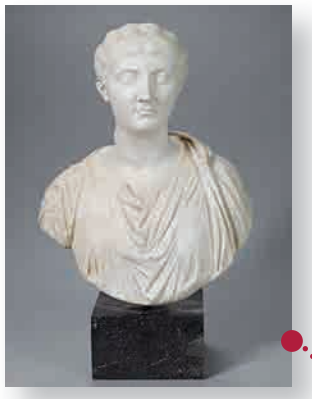
"In many ways, the power of the new Harvard Art Museums will come from the aggregated use of these special galleries, art study centers, labs, and unique programs," said Kao. "There will be a continual loop of testing and probing and always returning to the great objects, coming back with new questions and new perspectives."

To help viewers see the works anew, the galleries will include works from Harvard's other museums and galleries and will mix paintings and sculptures with photographs and prints, present American works next to European and Native American items, and display ancient works next to contemporary pieces. Smaller, more intimate galleries will encourage viewers to slow down and look more closely.

The building's thoughtful layout encourages a kind of dynamic dialogue between different types of artwork and new ways of seeing and engaging with that material. Piano's design not only showers the iconic Calderwood Courtyard — the starting point of the museums' central circulation corridor and a kind of public piazza — with sunshine, thanks to the massive, rooftop skylight, but the design also offers interesting new juxtapositions.

Stepping off the elevator on the fourth floor, for example, a visitor has immediate views of the Straus Center for Conservation and Technical Studies and the museums' Art Study Center, but a quick glance at the galleries below reveals much more.

"You are looking down into an ancient gallery, and in the arcades below those ancient sculptures are 17th- and 18th-century European paintings that are reviving an interest in ancient art," said Kao. "These juxtapositions are happening in galleries from floor to floor. The architecture was designed in such a way that it supported the kind of curatorial desire to find ways to break down old silos and bring these powerful collections into a generative dialogue with each other for the first time."



Art lovers will find permanent and special-exhibition galleries, as well as University Galleries that encourage expanded use of the collections for teaching and learning. One of the Sackler galleries will include the Roman "Bust of Antonia the Younger" (36 BCE – 39 CE). The head and sections of the bust are ancient and were combined with "modern" fragments in the 17th century.

BUST OF ANTONIA THE YOUNGER

Available for hands-on study in the Art Study Center is a range of items like this rare 11th-8th century BCE Chinese jade cup with bird handles, derived from a type of bronze ritual vessel.

JADE CUP WITH BIRD HANDLES

The Lightbox Gallery unites art and technology through multimedia platforms. Thanks to a glass wall in the Straus Center for Conservation and Technical Studies, visitors will be able to peek in on conservation work and research.

LIGHTBOX GALLERY AND THE STRAUS CENTER FOR CONSERVATION AND TECHNICAL STUDIES

There is also a display from the Forbes Pigment Collection, more than 2,500 samples of color that range from rare bits of Egyptian blue glass to contemporary fluorescent hues.

MATERIALS LAB

A painting titled "Krishna Fluting in the Forest" (c. 1720-40) can be seen in the Art Study Center, where visitors can request up-close viewings of a range of works of art from all three museums. In this vivid painting from India, Krishna, an incarnation of the Hindu god Vishnu, plays his flute on the banks of the River Jumna.

KRISHNA FLUTING IN THE FOREST

One of the Fogg Museum galleries will include "The Lamentation over the Dead Christ" (c. 1300), a tempera and gold-covered painting by an early Renaissance painter known as Master of the Fogg Pietá. The work will be displayed in a new frame crafted by conservators to resemble the original 14th-century original, which at some point had been replaced by a more modern, rectangular frame.

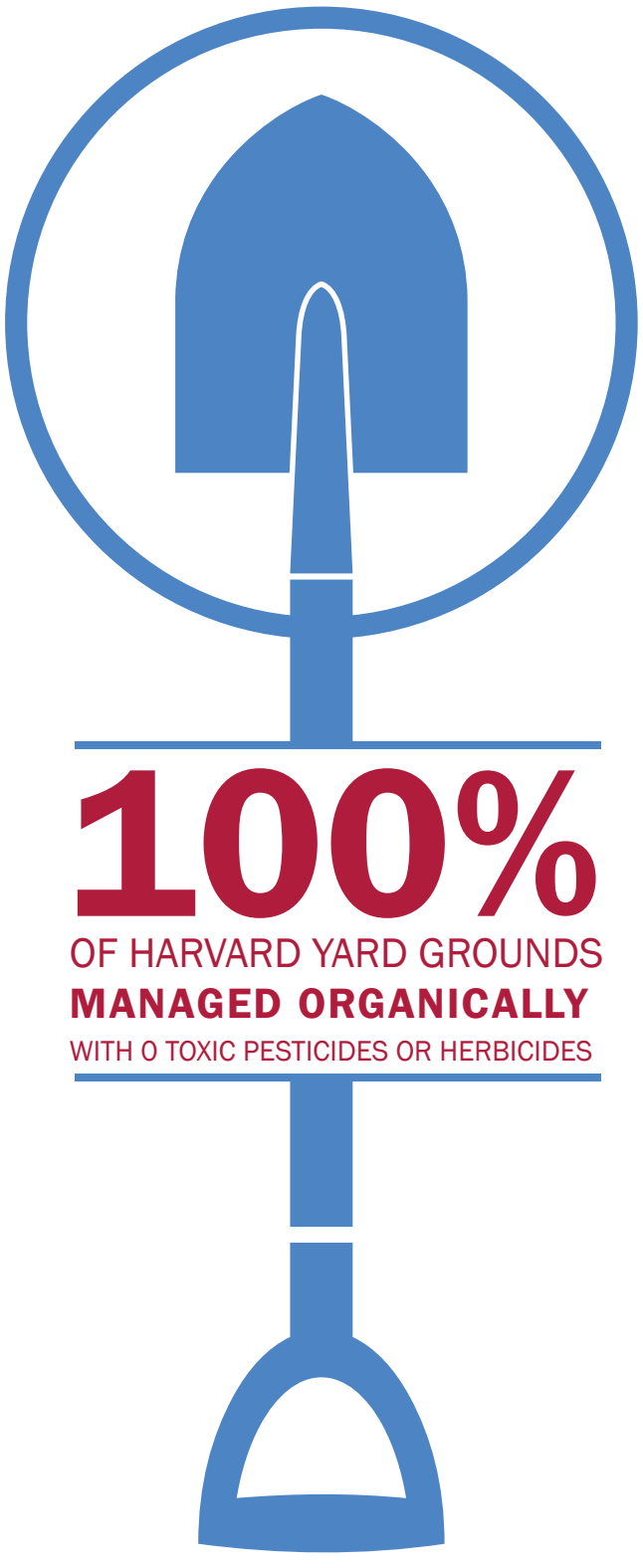
THE LAMENTATION OVER THE DEAD CHRIST

The galleries include objects from the three museums' rich collections, like this 1920 self-portrait by German Expressionist painter and printmaker Ernst Ludwig Kirchner, featuring his cherished cat Boby. "Self-Portrait with Cat" will be on view in one of the Busch-Reisinger galleries. Visitors can also access the first floor's café, museum shop, a new entry on Prescott Street, and the Calderwood Courtyard, which has been repointed and opened on its fourth side.

SELF-PORTRAIT WITH CAT

363rd COMMENCEMENT DAY

SUSTAINABILITY

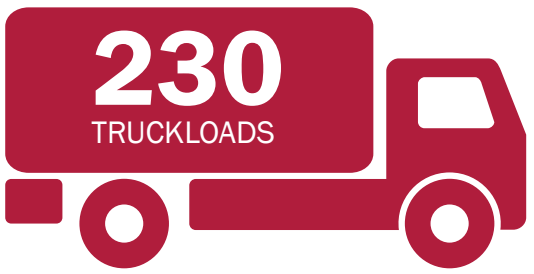


100%

OF HARVARD YARD GROUNDS
MANAGED ORGANICALLY
WITH 0 TOXIC PESTICIDES OR HERBICIDES

6,000

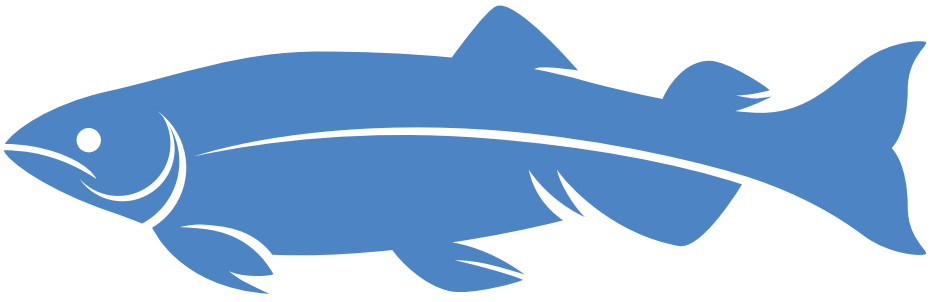
LOCALLY SOURCED
HARVARD "H" ICE CREAMS



of student move-out furniture, books, clothing, and dorm furnishings recovered for recycling or re-sale to benefit Harvard Habitat for Humanity and other charities

6

ZERO WASTE
COMMENCEMENT EVENTS
ACROSS CAMPUS



1,500 pounds of sustainable salmon

109

RECEPTACLES FOR RECYCLING, COMPOST, OR TRASH PLACED IN THE YARD ALONE FOR COMMENCEMENT

16,875 Cookies for Commencement day lunches

1,150 lbs Backyard Beauty tomatoes

14,400 Cage-free eggs

Eight to receive honorary degrees

Former New York Mayor Michael R. Bloomberg, the principal speaker at Afternoon Exercises, will be joined onstage by a former U.S. president, a singer, an economist, a novelist, and other leading lights.

By Corydon Ireland, Christina Pazzanese, Alvin Powell, Colleen Walsh | Harvard Staff Writers

Bloomberg
Allende
Bush
Franklin
King
Raven
Slive
Stiglitz

MICHAEL R. BLOOMBERG
Doctor of Laws

Michael R. Bloomberg, an entrepreneur, politician, and philanthropist, served as New York City's 108th mayor, ending his third term in 2013.

Bloomberg was elected shortly after the September 2001 terrorist attacks in New York. As mayor, he balanced the city budget, reformed education, and boosted economic development. He also led high-profile campaigns to improve New Yorkers' health, expanding anti-smoking regulations and proposing a ban on "super-size" sugary beverages, which was ultimately struck down in court. He took action to fight climate change, reducing New York's carbon footprint by 19 percent and taking a leadership role among global urban leaders on the issue.

Bloomberg was born and raised in Massachusetts, growing up in Medford before attending Johns Hopkins University and then Harvard Business School. In 1966, he was hired by the Wall Street firm Salomon Brothers, where he rose through the ranks, overseeing equity trading and sales and then information systems.

Bloomberg left Salomon after the company's 1981 sale. He launched Bloomberg LP in a one-room office as an information technology company with a vision of bringing transparency and efficiency to financial information. Today, Bloomberg LP is a global financial information and media company with 15,000 employees in 73 countries.

After leaving office earlier this year, Bloomberg returned to his self-named firm and also focused his efforts on philanthropy through Bloomberg Philanthropies, a data-driven charity with five areas of focus: public health, arts and culture, the environment, education, and government innovation. Earlier this year, United Nations Secretary-General Ban Ki-moon appointed him U.N. special envoy for cities and climate change.

Among his causes, he has supported his alma mater, Johns Hopkins University, where the School of Hygiene and Public Health was renamed the Bloomberg School of Public Health in recognition of his support. All told, he has donated more than $2.4 billion to a variety of causes.

ISABEL ALLENDE
Doctor of Letters

From her debut novel in 1982, "The House of the Spirits," author Isabel Allende's work has been a savory charquicán of history, fable, politics, passion, and family that embodies the ethos of magic realism.

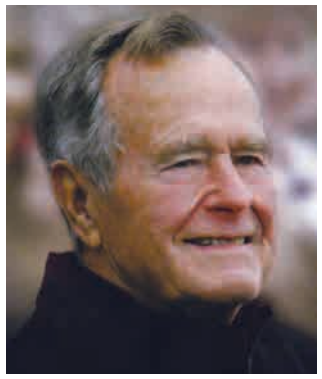
Since then, Allende's 20 books reflect her unstoppable work ethic (she starts a new novel every Jan. 8) and sample from a broad palette of literary influences and styles, from the tragic romance "Of Love and Shadows" to "Paula," a memoir, to her most recent, the mystery "Ripper." Allende's work has been translated into 35 languages and has sold more than 60 million copies.

The daughter of diplomats, Allende was a noted television and magazine journalist in Chile during the late 1960s and early 1970s. She fled Chile in 1975, living in exile in Venezuela following the brutal military coup by Gen. Augusto Pinochet. The uprising led to the death of her cousin, Salvador Allende, then the nation's first socialist president. Now a U.S. citizen, Allende lives in Northern California with her husband, the writer William C. Gordon.

Long one of Latin America's most prominent feminist voices, Allende formed the Isabel Allende Foundation after the death of her daughter in 1992. The foundation works with nonprofits in Chile and the San Francisco Bay Area to protect and empower women and girls.

For decades, she told The Guardian last year, Allende has sustained a daily letter writing exchange with her 93-year-old mother who still lives in Chile.

"The most important things about my life happened in the secret chambers of my heart and have no place in a biography," she once wrote. "My most significant achievements are not my books, but the love I share with a few people, especially my family, and the ways in which I have tried to help others."



PRESIDENT GEORGE H.W. BUSH
Doctor of Laws

The Honorable George Bush was 41st president of the United States, serving from 1989 to 1993. During his White House tenure, the Cold War ended with the fall of the Berlin Wall and the dissolution of the Soviet Union; Germany was reunified; and the Gulf War — involving an unprecedented coalition of 32 nations — was executed to liberate Kuwait after it had been invaded by Iraq.

In a lifetime of public service dating to 1964, Bush, a Republican whose father had served in the U.S. Senate, was also the 43rd vice president of the United States from 1981 to 1989 under President Ronald Reagan. Before that he was a congressman, ambassador to the United Nations, chairman of the Republican National Committee, chief of the U.S. Liaison Office in China, and director of the Central Intelligence Agency. At 89, he is the oldest living former president and vice president. During World War II, he piloted a U.S. Navy torpedo bomber, starting at age 18. Bush married the former Barbara Pierce in January 1945 and then completed an accelerated program at Yale, where he graduated Phi Beta Kappa in 1948 with a bachelor's degree in economics.

Bush was born on June 12, 1924, in Milton, Mass., grew up in Greenwich, Conn., and in 1948 began his oil business career as a sales clerk in West Texas. George and Barbara Bush have five children, 17 grandchildren, and three great-grandchildren. Son George W. Bush was 43rd president of the United States; son Jeb was governor of Florida from 1999 to 2007.

In 1990, Bush signed into law both the Clean Air Act and the Americans with Disability Act. He also started negotiations for the North American Free Trade Agreement, which became law in 1994, during the Clinton era. Since leaving office, President Bush has raised millions of dollars for charity and lent his name to relief efforts after catastrophic hurricanes, earthquakes, and other disasters. The aircraft carrier USS Ó (CVN 77) was commissioned in 2009. In 2011, President Obama awarded Bush the Medal of Freedom.

ARETHA FRANKLIN
Doctor of Arts

Her famous voice has vaulted her into the select realm of superstars known by only one name: Aretha.

An amazing vocal range and flexibility and unmatched musicianship are the trademark talents that have led Aretha Franklin, "The Queen of Soul," to a career spanning more than five decades and encompassing myriad styles. A musical chameleon, Franklin made her first recording as a gospel singer at age 14. She captivated crowds with R&B hits through her teens and early 20s. By the late 1960s and early 1970s Franklin had redefined the sound of soul with chart-topping classics including "I Never Loved a Man (The Way I Loved You)." Her iconic version of the Otis Redding song "Respect" became a musical sensation and an anthem for the feminist and civil rights movements. In the 1980s Franklin's career was marked by a string of hit duets with artists such as George Michael, Elton John, and Whitney Houston.

Other career highlights: her unforgettable turn in "The Blues Brothers," a last-minute appearance in place of Luciano Pavarotti during the 1998 Grammy Awards when she sang the ailing tenor's signature Giacomo Puccini aria "Nessun Dorma," and her inspiring version of "My Country, 'Tis of Thee" during the 2009 inauguration of President Barack Obama.

Aretha Louise Franklin was born in Memphis, Tenn., in 1942. She moved to Detroit with her family as a young child. Her love for music blossomed in New Bethel Baptist Church where her father was the minster and where she sang in the choir. She began her career in gospel music as a teen, later making the switch to secular music as singer, songwriter, and accomplished pianist.

Franklin's list of awards is a long as her list of hit songs. She was the first woman inducted into the Rock and Roll Hall of Fame, in 1987. She received the Kennedy Center Honors in 1994, and the Presidential Medal of Freedom in 2005. She is the winner of 18 Grammy Awards.

PATRICIA KING
Doctor of Laws

Patricia A. King, J.D. '69, an expert in medical ethics and family law, is the Carmack Waterhouse Professor of Law, Medicine, Ethics, and Public Policy at Georgetown University Law Center. From 2005 to 2012 she was a member of the Harvard Corporation, the University's top governing board. King is a pioneer in the legal realm of bioethics related to both stem cell research and experimentation involving human subjects.

A longtime trustee of her undergraduate alma mater, Wheaton College (Mass.), King had arrived there in the fall of 1959 as a 17-year-old scholarship student from the segregated South. After college, King worked at the U.S. State Department before arriving at nearly all-white and all-male Harvard Law School in 1966.

Early in her career, King was a lawyer in the federal government. She served as special assistant to the chair of the Equal Employment Opportunity Commission, deputy director of the Office of Civil Rights of the Department of Health, Education, and Welfare (HEW), and deputy assistant attorney general in the Civil Division of the Department of Justice. Today, King is a member of the American Law Institute and the Institute of Medicine and a fellow of the Hastings Center.

Related to bioethics and the law, King served on the HEW's Recombinant DNA Advisory Committee, the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, and the Ethics, Legal, and Social Issues Working Group of the Human Genome Project.

King and her husband, Pulitzer Prize-winning journalist Roger Wilkins, live in Washington, D.C., where he is the Clarence J. Robinson Professor of History and American Culture Emeritus at George Mason University.

PETER H. RAVEN
Doctor of Science

Peter H. Raven, a botanist who created the concept of coevolution and whose hand guided the noted Missouri Botanical Garden for more than 39 years, is the George Engelmann Professor of Botany Emeritus at Washington University in St. Louis.

Raven is a staunch advocate of conservation and biodiversity. His early career focused on the biology of Onagraceae, known broadly as evening primrose, as well as on biogeography, folk taxonomy, and pollution studies. He published an influential paper in 1964, co-authored with biologist Paul Ehrlich, in the journal Evolution, which first introduced the term and concept of "coevolution."

Coevolution is the process through which changes in one species — or a unit at another level of biological organization — influence the evolution of another. An example would be the ongoing evolutionary partnership between flowering plants and pollinating insects.

Raven was born in Shanghai in 1936 and raised in San Francisco. He received a bachelor's degree in biology from the University of California, Berkeley, in 1957 and a doctorate in botany from the University of California, Los Angeles, in 1960.

He became the director of the Missouri Botanical Garden in 1971, gaining the title of president and director in 2006. Over the course of his tenure, he guided the institution as it became a world-class center for botanical research, education, and horticultural display.

He has written numerous books and papers, including the popular textbooks "Biology of Plants" and "Environment," both with co-authors. He is the recipient of many awards and honors, including a MacArthur Foundation "genius grant" in 1985 and the National Medal of Science, the nation's highest scientific honor, in 2001. He was named by Time magazine a "Hero for the Planet" in 1999 and has held leadership positions in numerous scholarly societies, including the American Association for the Advancement of Science, Sigma Xi, and the American Institute of Biological Sciences.

SEYMOUR SLIVE
Doctor of Arts

Art historian Seymour Slive understands the brilliance of 17th-century Dutch masters like Rembrandt, Frans Hals, and Jacob van Ruisdael — along with their rich landscapes and evocative portraits. He is Harvard's Gleason Professor of Fine Arts Emeritus and former director of the Fogg Art Museum.

Among Slive's publications are "Rembrandt and His Critics: 1630-1730" (1953), "The Rembrandt Bible" (1959), "Frans Hals" (three volumes, 1970-74), "Jacob van Ruisdael: A Complete Catalogue of His Paintings, Etchings, and Drawings" (2001), and "Rembrandt Drawings" (2009).

This son of Russian immigrants was born in Chicago in 1920 and received both his bachelor's degree (1943) and his Ph.D. (1952) at the University of Chicago. He put his graduate studies on hold to serve in the Pacific Theater with the U.S. Navy during World War II.

Before his arrival at Harvard in 1954, Slive taught at Oberlin College in Ohio and later at Pomona College in California, where he served as assistant professor of art and chair of the department. Slive became an associate professor at Harvard in 1957 and a fine arts professor in 1961. He was appointed chair of the Department of Fine Arts in 1968 until 1971. In 1973, Slive was appointed Gleason Professor of Fine Arts at Harvard. He was the director of the Fogg Art Museum from 1975 until 1991.

During his directorship, Slive helped establish the Arthur M. Sackler Museum to house Harvard's collections of ancient, Asian, Islamic, and (later) Indian art in 1985.

During his career, Slive was also an exchange professor at the University of Leningrad (1961) and Slade Professor of Fine Arts at the University of Oxford (1972-73.) He is a fellow of the American Academy of Arts and Sciences, and a corresponding fellow of the British Academy and of the Dutch Society of Sciences.

JOSEPH E. STIGLITZ
Doctor of Laws

By the 1940s, the once-proud steel town of Gary, Ind., had been beset by poverty, discrimination, and unemployment, prompting a young Joseph E. Stiglitz, whose parents were born and spent most of their lives there, to ask why and what could be done about it.

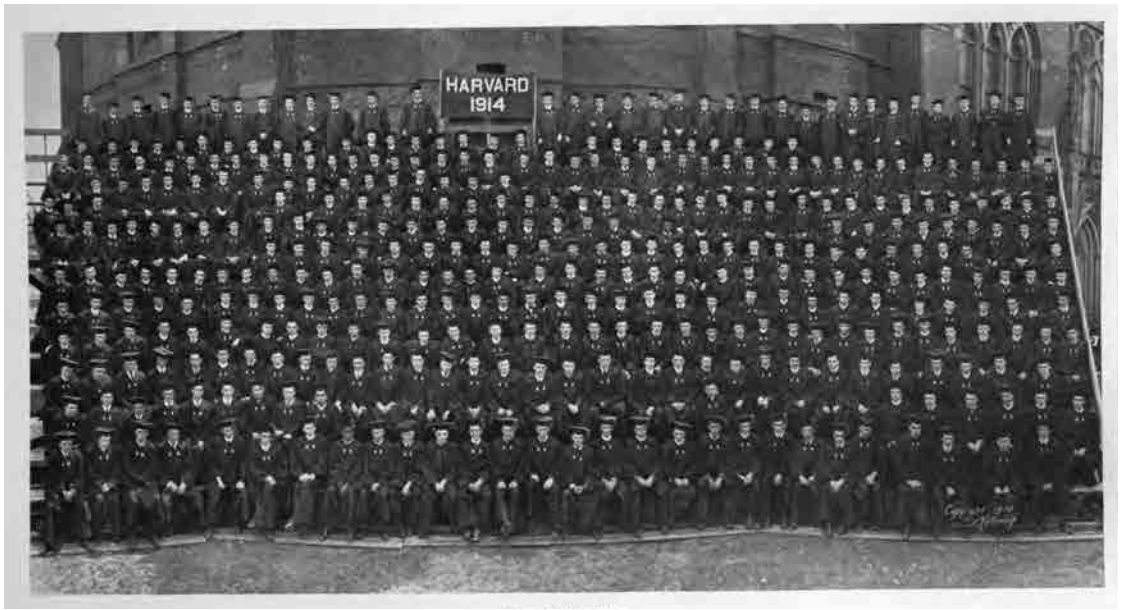
Now, as one of the world's leading economists and economic educators, those questions still remain sharply in his focus. In his 2012 book, "The Price of Inequality," Stiglitz posits that the nation's growing wealth disparity is the deliberate-but-reversible result of a political system that rewards a rich and powerful elite, not an inevitability caused by technological advances or social change.

Stiglitz helped develop a new area of study, the "economics of information," that considers the broad effects of decision-making in transactions where one side has better information than the other, work that led to his 2001 Nobel Prize in economics.

Stiglitz attended Amherst College in 1960, but left after just three years at the urging of faculty who had arranged for him to attend the Massachusetts Institute of Technology (MIT) with a modest fellowship. He went on to earn a Ph.D. in economics in 1967. Later, Stiglitz was awarded an undergraduate degree and an honorary doctorate from Amherst College.

During the Clinton administration, he was a member of the Council of Economic Advisers from 1993 to 1995, and then served as the council's chairman from 1995 to 1997 before moving on to the World Bank, where he was the senior vice president and chief economist from 1997 to 2000.

Stiglitz is currently a University Professor at Columbia University and has held professorships at Princeton University, Oxford University, Stanford University, Yale University, and MIT. The author of several influential textbooks and best-sellers, he has received numerous honors, including the John Bates Clark Medal for economics and France's Legion of Honor.



One hundred years ago this June, Harvard's Class of 1914 (left) posed next to Memorial Hall. At Radcliffe that same year, a few graduating seniors (above) sat for an informal portrait.

The last, lost innocence of 1914

Students joyously graduating a century ago were soon drawn into a rising world conflict, in which some of them would die.

By Corydon Ireland | Harvard Staff Writer

> *"Seldom has fortune deserted the Class of 1914."*
>
> — FROM THE HARVARD CLASS ALBUM, 1914

On June 18, 1914 – a sunny Thursday – Harvard opened its gates (though not to women) for a Commencement celebration that would launch an unusually large undergraduate class of 604 into the world.

Among those receiving diplomas that morning at Sanders Theatre was a future U.S. senator (Leverett Saltonstall, descended from a line of graduates dating back to 1642), a future bestselling novelist (Edward Streeter), and a future foreign policy adviser to President Franklin Roosevelt (Benjamin Sumner Welles).

Hope marked both the day and the class. "A burst of song, a trumpet blast rings clear," read a poem by Pitman Benjamin Potter 1914 on the penumbral page of the class album that year. "We close old records but to open new."

The day before, Radcliffe College, celebrating its 20th year, held its own graduation ceremony at Sanders. In the Class of 1914, numbering 125, 17 seniors graduated *magna cum laude*, and five *summa cum laude*. According the "Book of the Class of 1914," graduates had taken 1,199 courses; had written more than half of the articles in Radcliffe Magazine; and had even broken the Radcliffe College strength record.

Those sweet Commencement days a century ago marked a last, soon-lost innocence for Harvard, for Radcliffe, and for students everywhere. The world was on the verge of the first global war, which killed 16 million people and lit the fuse on a hundred years of wars to follow. Just 10 days after Harvard's diploma ceremony, a dour European royal with a curlicue mustache and a feathered helmet was gunned down with his wife in Sarajevo. Archduke Franz Ferdinand's death by a single pistol shot quickly triggered the official advent of World War I on Aug. 1, 1914.

Harvard, like the world around it, was swept into the conflict, even though America delayed its entry until the spring of 1917. By Nov. 11, 1918, 11,319 Harvard alumni, students, and faculty had served in the military, two-thirds of them as officers; 373 died as the result of service, including 16 from the Class of 1914. British citizen Clyde Fairbanks Maxwell 1914 left for England barely a month after graduation. He was killed in combat in 1916, and lies in an unmarked grave. Others waited. William Barry Corbett 1914, a high school English teacher in Boston, joined in May 1917. He died charging a machine gun nest north of Verdun 11 days before the war ended.

Still others suffered prolonged deaths. Harvey Rexford Hitchcock Jr. 1914, a three-sport athlete and All-American tackle for the Crimson, saw combat in the summer of 1918 as an artilleryman in France. In 1920, old alumni records say, he was admitted to the "McLean Hospital for the insane" in Waverley, Mass., where he died in 1958. For the 1921 class report, Hitchcock listed his occupation as "Reflection."

Three Radcliffe graduates died in the war too, all from disease and all nurses: one each from the classes of 1910 and 1911 and the third a special student from 1908 to 1913. Add four other young men also to the roll of Harvard dead; they died in service to Germany. Two of them received their Harvard degrees that day in 1914, one in divinity and the other in dental medicine.

On that June 18 the traditional procession of graduates, old and new, wended its way to Sever Quadrangle for Harvard Alumni Association festivities. Records show that in the procession were 36 surviving members of the Class of 1864, whose 99 graduates included Robert Todd Lincoln, Abraham Lincoln's eldest son. Thirty-five of their number had fought for the Union, and six for the Confederacy. The Civil War-era classmates had earlier gathered at Phillips Brooks House to celebrate the class's 50th anniversary. Their presence was a reminder – just 43 days from the start of World War I – that the business of war and the graduates of Harvard had never been very far apart.

AT PLAY, 1910-14

Still, an air of innocence had held sway over all four years of study for the classes of 1914 at both Radcliffe and Harvard. "Seldom has fortune deserted the Class of 1914," read the first few words of the history of the freshman class in the 1914 Class Album. In 1910, the official class dinner at the Student Union (now the Barker Center) was "the great event of the year," wrote Robert Treat Paine Storer 1914 (despite Henry James getting an honorary degree that spring). Speeches given at the dinner reveal both teenage preoccupations and a college culture not yet interwoven with grave concerns. Topics included finance, football, crew, hockey, track, baseball, music clubs, and – grudgingly, perhaps – "debating."

Glimpses from a century ago: The cast of Radcliffe's "Taming of the Shrew," 1914 (above). Workers remove books from Gore Hall (right), loading them into an electric truck, 1912. A typical undergraduate room (below) at Harvard College, circa 1910.

The atmosphere at Harvard College in that era had drawn a warning from incoming President A. Lawrence Lowell in 1909 about a "painful defect" in higher education at large. "No one will deny," he said in his inaugural address, "that in our colleges high scholarship is little admired now." No blame went to the star-studded Harvard faculty. Josiah Royce taught philosophy; so did George Santayana. Celebrated Shakespeare scholar George Lyman Kittredge dazzled during lectures. Frederick Jackson Turner, with his culture-shifting notions of how the frontier shaped America, taught history.

Meanwhile, brilliance simmered as well among the undergraduates in those days. James Bryant Conant, a future Harvard president, started with the Class of 1914, but graduated in 1913. John P. Marquand 1915 went on to write "The Late George Apley." John Dos Passos 1916 became a famous novelist too.

But the remaining yearbook histories for the Class of 1914 still celebrate the lightness and frivolity Lowell had decried. The history of the sophomore year noted football, "smokers" (official class parties), track, baseball, and a new subway, "that subsoil marvel." The junior yearbook recorded more smokers as "things of joy," victories in crew and track, and the move into Harvard Yard dormitories, where electric light had just been installed.

The history for senior year identified the class clowns (James Ripley Osgood Perkins and Albert Franklin Pickernell). It also mentioned football rallies, "movies," multiple victories over Yale, more smokers, and in March a "long-to-be-remembered" Hot Dog Night. Left out of the histories was the construction of the president's new house (now Loeb House) in 1912; the disappearance of Harvard Yard's elm trees – thick in 1910 and absent in 1914; and the fact that old Gore Hall, a Gothic pile of wedding-cake spires, came down (1913) and monumental Widener Library went up in its place (1913-1915).

REMOTE IN TIME, REMOTE IN CULTURE

The innocence of Harvard in those days – call it cultural remoteness – took other forms too. The football coach, a rugged taskmaster by the name of Percy Duncan Haughton, wore a straw boater. The Peabody Museum was heated for $200 a year. A one-year course in architecture cost $20. Gifts to the College often came in small packages. (One check for $23 merited two lines in the Corporation of 1910.) President Lowell made $6,000 a year, and Kittredge, the Shakespeare scholar, only $500 less.

At Radcliffe, the Class of 1914 celebrated its glee and mandolin clubs in print, along with dozens of drama productions (with 151 parts played in four years, records show). Its class history, outlined in the Radcliffe Fortnightly of June 17 (price: 5 cents) noted a party the class threw for new freshmen in 1912 that featured a visit by three "grand-opera stars." One of them, Freddie Gilbert, sang "Toreadore – Smoka Da Bum Cigar!" Later that fall, a house party featured the equivalent of ghost stories, with two classmates "describing the horrors of the working girl." Another wrapped things up by singing "darky songs."

The Radcliffe class book of 1914 also noted a streak of athletic prowess: basketball championships in 1912 and 1913, and capable teams in field hockey, lacrosse, tennis, and swimming. (Undergraduate spectators wore big hats and full dresses.) The book also recorded class statistics, including the tallest and shortest student, and calculated that its average graduate was age 22, 5 feet 5 inches tall, weighed 130 pounds, and had brown hair and blue eyes. Other Radcliffe statistics were in order a hundred years ago: Two of the class had already married and eight others were engaged. One married on June 4; the second – 1914 Jonathan Fay Prize winner and *magna cum laude* graduate Eleanor Stabler Brooks – tied the knot with a new-minted Harvard Ph.D. on June 15, two days before graduation. She missed the Radcliffe ceremony.

In that seemingly more innocent age a century ago, Radcliffe's Class of 1914 seems innocent now too. It was proud of the crocuses it had planted outside the gymnasium, and the class color, yellow, which the flowers represented. (In the class book, graduates bragged they had "put the yell in yellow.") The book also listed 14 class "innovations" since 1910. One was planting the crocuses. Others established a freshman class photo, a class supper, and class pins.

The Radcliffe yearbook included an innocent rhyme that could have applied equally to Harvard of that era, unknowing as it was of the murderous difficulties to come: "So give three cheers, and one cheer more, for the glorious class of 1-9-1-4."

Photos: courtesy of Harvard University Archives (Harvard) and Schlesinger Library (Radcliffe)

Breakthroughs

The Harvard Stem Cell Institute is now 10 years old. What began as an idea embracing cross-disciplinary research quickly became a generator of scientific discoveries.

By B. D. Colen | Harvard Staff Writer

It may be hard to fathom now, but just a decade ago, when today's graduating college seniors were entering middle school, research using embryonic stem cells, building blocks that can become every cell and tissue type in the human body, was at the center of a political and religious firestorm.

Just three years earlier, in 2001, the White House had issued an executive order barring the use of federal funds for embryonic stem cell research.

Yet some Harvard officials rallied behind the vital nature of research that held promise of ultimately producing treatments and cures for a host of intractable, often fatal diseases, from diabetes to cancer to Parkinson's disease to heart disease to Alzheimer's disease. Lawrence H. Summers and Steven E. Hyman, who were then, respectively, Harvard's president and provost, asked: If not Harvard, where? If not now, when? With the help of Harvard scientists and a core group of dedicated philanthropists, they launched the Harvard Stem Cell Institute (HSCI) as a bold new experiment in interdisciplinary, cross-institutional research.

What began with a group of about two dozen principal investigators in Harvard's Schools and affiliated hospitals as a pragmatic solution to a political and funding problem now is a world leader in the exploding field of stem cell biology, with 100 principal faculty members, and more than 1,000 scientists from the undergraduate to postdoctoral level.

And as HSCI enters its second decade, many of the scientific dreams of 10 years ago are close to fruition.

Doug Melton, Harvard's Xander University Professor and HSCI founding co-director (with Massachusetts General Hospital hematologist and oncologist David T. Scadden), who has been dedicated since the early 1990s to curing type 1 diabetes (with which his son and daughter live), has said, "My diabetes work would be impossible without the collaborations made possible by HSCI's unique model — because HSCI isn't a place. It isn't a building or a group of buildings. Instead, it's an idea — the idea that if we could gather together the brightest minds in developmental biology, in neurobiology, in bioengineering, in genetics, and in clinical medicine, from all the myriad parts of the Harvard system, and add to that collective genius the best scientists we could attract to Harvard from other institutions, we could advance stem cell biology and unlock its promise at a record-breaking pace. And that's what we've done."

Not only do Harvard's stem cell scientists and their collaborators publish more papers in the field, and more influential ones, than any other group of scientists in the world, but in just the past 18 months they have made the following significant advances:

Photo by B. D. Colen | Harvard Staff

Not only do Harvard's stem cell scientists and their collaborators publish more papers in the field, and more influential ones, than any other group of scientists in the world, but in just the past 18 months they have made the following significant advances:

- Melton and colleagues have succeeded in using induced-pluripotent stem cells (iPS) to produce limitless quantities of insulin-producing human beta cells. (The work is now awaiting peer-reviewed publication.) While there is still much work to be done, including collaborating with bioengineers on a device for implanting cells in patients, the latest work has the potential to become the treatment for Type I diabetes that Melton and his collaborators have been working toward for two decades.
- In a series of experiments during this same time period, HSCI scientists Amy Wagers, Lee Rubin, and Richard Lee, a research cardiologist at Brigham and Women's Hospital, have demonstrated that the protein GDF11, present in high quantities in young animals and humans, and in much lower quantities in older animals and humans, has the ability when given to older animals to make aged hearts appear younger, to help aged muscle to repair itself and function like that in younger animals, and to even improve cognitive function in older animals. The three researchers, who also are faculty members in Harvard's Department of Stem Cell and Regenerative Biology (which grew out of HSCI), predict that GDF11 will be in some form of clinical trials within three to five years.
- HSCI researchers Kevin Eggan and Clifford J. Woolf of Boston Children's Hospital, who head the institute's Nervous System Diseases Program, recently published a paper demonstrating that a drug already approved for treating epilepsy shows promise as a possible treatment for amyotrophic lateral sclerosis (ALS). They are already working with physicians at Massachusetts General Hospital and Boston Children's on plans for a clinical trial.

Perhaps the most important advance of the past decade, though, was the discovery of the apparently limitless mutability of cells, which has allowed one form of adult cell to be turned into another. Coupled with HSCI work that has allowed human diseases to be studied in human cells in laboratory dishes, that development promises far more breakthroughs in the understanding and treatment of diseases in the coming decade.

The Harvard Campaign on track

More than 100,000 donors have supported the effort to date.

"How do we lead change?" Harvard President Drew Faust asked alumni at a recent gathering in New York City. "How do we sustain Harvard's commitment to leadership in an unsettled environment for higher education, and in a rapidly changing world? How do we propel Harvard into new opportunities, and help forge leaders and craft solutions for the future we share?"

These challenges underscore the inspiration behind The Harvard Campaign, a seven-year effort, publicly launched last fall, to garner financial support for University priorities and increase alumni engagement.

Today, Harvard reported that donors have contributed more than $3.8 billion — $1 billion since the public launch in September — for everything from financial aid to common spaces on campus, to faculty chairs, to cross-disciplinary research and arts programming. The current tally puts the University more than halfway to its $6.5 billion goal and includes more than 100,000 donors.

"Campaigns typically have ebbs and flows to them," noted Tamara Elliott Rogers '74, vice president for alumni affairs and development. "But the progress that we've seen so far is a testament not only to the generosity of our alumni and friends but also to the vision that the University has for the future."

Since the campaign kickoff, all of Harvard's 13 Schools have held or are planning to launch events for their own campaigns. This is the first University campaign in which all of Harvard's Schools will participate for the duration.

At the launch, Faust laid out a number of aspirations, including pioneering new approaches to learning and teaching, attracting and supporting the most talented students and faculty, and creating a campus for decades to come.

Within each of the School's campaigns are goals for fundraising to meet their own specific needs. Each School aims to achieve more funding for student financial aid and faculty support, among other priorities.

Thus far, the School of Public Health, the Faculty of Arts and Sciences, the School of Engineering and Applied Sciences, the Radcliffe Institute for Advanced Study, the Divinity School, the School of Dental Medicine, the Business School, and, most recently, the Kennedy School have launched their respective campaigns. The remaining Schools are slated to launch over the next year.

In addition to fundraising, the University is using this opportunity to further engage with alumni around the world.

The regional "Your Harvard" series began in London in January and has since convened gatherings in Los Angeles and New York. At each event, alumni were given the chance to hear from Faust about her vision for Harvard and the campaign, and to listen to some of the University's leading faculty members. "Your Harvard: New York City" alone drew more than 600 attendees to the USS Intrepid, docked in the Hudson River, earlier this month.

Paul Finnegan '75, M.B.A. '82, a past president of the Harvard Alumni Association (HAA) and currently a member of the Harvard Corporation and co-chair of The Harvard Campaign, was one of those in attendance.

"One of the most exciting aspects of the campaign is that it engages everyone — alumni of all ages, parents, and friends of Harvard from around the world," he said. "I, personally, find it so inspiring to be part of this effort that ensures Harvard will innovate and lead as a global institution for generations to come."

Early signs of the campaign's progress can already be seen around campus. House renewal has transformed Old Quincy into Stone Hall, with Leverett's McClintock Hall slated to open for the upcoming academic year. Work has begun on the Richard A. and Susan F. Smith Campus Center (formerly Holyoke Center), which will transform the centrally located structure into a campus hub. Across the river, Tata Hall opened at Harvard Business School, and ground has been broken for the Ruth Mulan Chu Chao Center.

Likewise, funding for research, 56 new faculty chairs, and more than $430 million for financial aid will soon make an impact across the University.

The last University-wide campaign, called The University Campaign, took place during the 1990s and raised $2.6 billion, a record for higher education fundraising efforts at the time.

"At nearly 400, Harvard ... remains a work in progress," Faust observed. "[It] is called upon to meet and seize an uncertain future. Harvard endures because Harvard changes. And this work of change and progress is the work of the campaign."

Photo by Scott Eisen

House renewal and rebirth

One of the largest and most ambitious capital improvement campaigns in Harvard College history aims to transform the student experience by ensuring that each House can strongly support the learning and living needs of the modern undergraduate.

By Colin Manning | Harvard Correspondent

In the lower level of Stone Hall, the "smart" classroom and the Rothenberg Conference Room have hosted classes throughout the academic year, bringing faculty into the House to teach and interact with students.

Photos: (above, right) by Stephanie Mitchell | Harvard Staff Photographer

After years of gathering input from students, faculty, and staff, after lengthy and meticulous planning, and after 15 months of intense construction, the first House renewal project, Quincy House's Stone Hall, opened to students last fall, revealing invigorating social and academic spaces. Based on student reactions, the renewal is proving to be a success.

"This has drastically exceeded my expectations," said Kevin O'Donnell '16 as he sat in Stone Hall's bright, spacious Kates/Tobin Community Room, which previously had been dark, underutilized basement space.

House renewal is one of the largest and most ambitious capital improvement campaigns in Harvard College history, aiming to transform the student experience by ensuring that each House can strongly support the learning and living needs of 21st-century undergraduates, enhancing their education for generations to come.

"It's really amazing. My first thought when I saw all of this was that people put a lot of careful thought into this building, and I just feel lucky to be here," said Rose Whitcomb '16 of Quincy House upon seeing the reconstructed Stone Hall. "It just feels like home. It gives me such an empowered feeling."

In the lower level of Stone Hall, the "smart" classroom and the Rothenberg Conference Room have hosted classes throughout the academic year, bringing faculty into the House to teach and interact with students. New music practice rooms allow students to pursue their art, and the Kates/Tobin Community Room has been a popular space for study as well as for gatherings.

The exterior was painstakingly restored to preserve the historic character of the House. In fact, Stone Hall was recognized with a preservation award from the Cambridge Historical Commission.

McKinlock Hall, the neo-Georgian portion of Leverett House, will be the second project to come online when students return in late August. As with Stone Hall, McKinlock's transformation will better connect the entire House community, provide new spaces for collaboration, feature state-of-the-art technology, and preserve the historic character of the building.

"There will be lots of new or significantly modified common spaces that we can only begin to imagine. The currently underutilized common space below the dining hall will contain a much enlarged and modernized student kitchen, pool table, and hang-out or meeting space," said Howard Georgi, co-master of Leverett. "A gallery corridor, below-grade but with skylights, will lead across the courtyard to the Old Library and the art and music rooms. We anticipate great fun next year developing new Leverett traditions to go with the new common space."

Harvard's residential Houses — where undergraduates, graduate students, and faculty live, eat, work, and learn together — are the foundation of the College experience, as 97 percent of upperclassmen call one of the 12 Houses their home. As multigenerational communities, each House provides residents with an intellectual as well as a

physical home.

Renewal is guided by five principles: preserving the historic character of the Houses; invigorating House life; connecting spaces and nurturing community; providing modern accommodations and sustainable operations; and accommodating the future.

Because the House system is so critical to the student experience, renewal is one of the six funding priorities of the FAS Capital Campaign, which launched in October.

"House Renewal is about more than just bricks and mortar," said Michael D. Smith, dean of the Faculty of Arts and Sciences. "House Renewal is about reinvigorating the heart of Harvard College for future generations of undergraduates. Thanks to the help of generous alumni, as well as the many faculty, students, and staff who have helped plan this effort, we are reinforcing President [A. Lawrence] Lowell's vision of the Houses as the center of our students' intellectual and extracurricular life."

This substantial investment in the Houses reinforces the College's commitment to a residential liberal arts undergraduate experience.

"We're all dedicated to residential life and the Houses because it defines so much of what we do," said College interim Dean Donald Pfister, a former master of Kirkland House. "The idea behind the Houses was to break the community into smaller groups to allow students to interact more easily with peers, with tutors and faculty. Even with advancements in technology, we could argue that this is needed as much now as it ever was."

Immediately following Commencement, Dunster will become the first full House to undergo renewal, with students living in swing housing centered around the former Inn at Harvard during the 15 months of construction. Winthrop House is to be renewed after Dunster. The House Program Planning Committee, composed of students, faculty, and staff, created the principles that guide House renewal.

When the leadership of Harvard College changes hands from interim Dean Donald Pfister (left) to incoming Dean Rakesh Khurana, undergraduates are likely to find that while the life experiences and research backgrounds of the two are quite different, their focus on the job is the same.

By Colin Manning | Harvard Correspondent

The community builders

When the leadership of Harvard College changes hands later this summer from interim Dean Donald Pfister to incoming Dean Rakesh Khurana, undergraduates will find that while the life experiences and research backgrounds of the two couldn't be more different, their focus on the job of dean is the same.

Both Pfister and Khurana believe strongly that an important role for the dean is to foster and build the College community of learning.

"My goals were modest in a way, but they were really about reaching out and connecting with the students, and working within the College to make sure we weren't merely in a transition, but moving the College forward," said Pfister, the Asa Gray Professor of Systematic Botany. "When I think about the year, a lot of what we have been able to do has been about community, which is good because that is where I started when I came in."

Pfister was named interim dean in July, taking over for Evelynn M. Hammonds, who completed her five-year term as dean shortly after Commencement 2013. As Faculty of Arts and Sciences Dean Michael D. Smith put together a search committee to find a replacement, he appointed Pfister on an interim basis.

Immediately, Pfister, who has taught at Harvard for 40 years and had served as master of Kirkland House from 1982 to 2000, sought to connect directly with students by word and action. He began sending all undergraduates periodic email messages touching on a wide variety of topics, such as some of the incredible things College students were doing, the latest book he was reading, and — he's a botanist — the trees of the Yard and certain fungi he had come across.

"Nearly every conversation I have had with a student has almost always started with, 'I just love your emails.' I was a surprised because when I send an email out to students in my class, they never read them. But these emails seem to have been very widely read," Pfister said. "I was thinking emails were kind of retro, but they worked, and I think they worked because it set the tone that someone was listening. It goes back to community."

In addition to his emails, Pfister made it a point to be out around the campus, visiting the Houses, attending festivities and performances, and meeting with students as much as possible. One winter morning, he rode the shuttle, where he interacted with students and even handed out bookmarks with his office hours listed on the back.

"I was concerned office hours were just going to be a thing where students would come in and complain, but it was really an opportunity to help students, and to direct them to resources," he said. "And it was a great way to hear what was really on the minds of the students."

While his research interests are different, Khurana is coming into the job on a path that has some similarities to that which Pfister traveled. Both are highly respected teachers, veterans of various committees, and have served as House masters. In fact, as dean, Khurana will continue to serve as co-master of Cabot House. His vision for the future of the College builds on the foundation that Pfister has laid.

"We want to ensure we are providing students a deeply transformative experience, one that is transformative intellectually, socially, and personally, that will prepare them for a life of service and leadership," Khurana said. "Our students have the opportunity to interact with the best faculty in the world, who are doing research that is changing the way we think about and understand the human condition. They are asking fundamental questions about the nature of life and where we come from, and imagining new futures."

The Marvin Bower Professor of Leadership Development at Harvard Business School (HBS) and professor of sociology in the Faculty of Arts and Sciences (FAS), Khurana said that for nearly 400 years Harvard has produced leaders and shaped academia, and that should continue.

"Harvard College should be seen as the leading College in the world and will set the standard for liberal arts colleges for the next 100 years. We should be providing a model for other schools to revitalize and reenergize their programs," Khurana said. "This is who we are. Our students leave here and exert ripples across the world."

7,334

DEGREES, CERTIFICATES AWARDED AT 363RD COMMENCEMENT

Today the University awarded a total of 7,301 degrees and 33 certificates. A breakdown of the degrees and programs is to the right. Harvard College granted a total of 1,662 degrees.

909	HARVARD BUSINESS SCHOOL	900	Master of Business Administration
		9	Doctor of Business Administration
1,003	GRADUATE SCHOOL OF ARTS & SCIENCES	329	Master of Arts
		83	Master of Science
		1	Master of Engineering
		590	Doctor of Philosophy
380	SCHOOL OF PUBLIC HEALTH	186	Master of Public Health
		155	Master of Science
		39	Doctor of Science
71	SCHOOL OF DENTAL MEDICINE	16	Specialty Certificates
		8	Master of Medical Sciences
		36	Doctor of Dental Medicine
		11	Doctor of Medical Sciences
750	HARVARD LAW SCHOOL	167	Master of Laws
		7	Doctor of Juridical Science
		576	Doctor of Law
1,662	HARVARD COLLEGE	1,611	Bachelor of Arts
		51	Bachelor of Science
197	MEDICAL SCHOOL	33	Master in Medical Science
		164	Doctor of Medicine
661	GRADUATE SCHOOL OF EDUCATION	13	Certificate of Advanced Study
		576	Master of Education
		44	Doctor of Education
		28	Doctor of Education Leadership
566	HARVARD KENNEDY SCHOOL	86	Master in Public Administration
		204	Master in Public Administration (Mid-Career)
		66	Master in Public Administration in International Development
		210	Master in Public Policy
700	EXTENSION SCHOOL	5	Associate in Arts
		152	Bachelor of Liberal Arts in Extension Studies
		4	Certificates
		539	Master of Liberal Arts in Extension Studies
323	GRADUATE SCHOOL OF DESIGN	103	Master in Architecture
		37	Master of Architecture in Urban Design
		69	Master in Design Studies
		65	Master in Landscape Architecture
		5	Master of Landscape Architecture in Urban Design
		39	Master in Urban Planning
		5	Doctor of Design
380	SCHOOL OF ENGINEERING AND APPLIED SCIENCES	180	Bachelor of Arts*
		51	Bachelor of Science*
		1	Master in Engineering**
		83	Master of Science**
		65	Ph.D.**
			*Awarded by Harvard College
			**Awarded by Graduate School of Arts and Sciences
112	DIVINITY SCHOOL	42	Master of Divinity
		1	Master of Theology
		66	Master of Theological Studies
		3	Doctor of Theology

All figures include degrees awarded in November 2013 and March and May 2014

Their memories and their hopes

A budding mathematician, an international thinker, and a creative achiever are the student speakers at Harvard's 2014 Morning Exercises.

By Christina Pazzanese | Harvard Staff Writer

With so many deserving students graduating each year, the Commencement Office has the unenviable task of selecting just three speakers to address the nearly 32,000 students, faculty, alumni, parents, and guests who assemble for Morning Exercises in Tercentenary Theatre.

Each spring, a competition is held to find one undergraduate and one graduate orator to deliver five-minute speeches from memory, in English, and — in a nod to one of Harvard's oldest traditions — one student to give a speech in Latin.

For many years, the orations were thesis defenses given in Latin, Greek, and Hebrew. The Latin remains, but now the speakers representing the Class of 2014 will proffer addresses that encompass the personal and the global, presented with wit and wisdom.

Timothy Barry-Heffernan | Latin

Timothy Barry-Heffernan has spent most of his years at Harvard College immersed in his concentration, mathematics, and his secondary concentration, computer science. So it might seem surprising that the siren call of Latin would prove irresistible to him.

"My thought process was, I've been taking Latin since middle school and I figure I'm going to get nothing out of it unless I did something like this," said Barry-Heffernan, 22, who completed four upper-level language classes to earn a citation in Latin. "I figured it would be nice to have one concrete accomplishment so I could not have wasted 10 years studying a language."

A percussionist in the Harvard University Band, Barry-Heffernan has spent every Commencement since freshman year performing at graduation events. After seeing some talented Latin orators

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

who seemed to be having loads of fun, Barry-Heffernan said he was inspired to give it a go.

Barry-Heffernan said his Latin was probably not what earned him distinction from the judges, since he hadn't studied it in a year. He credits James Engell, Gurney Professor of English Literature and professor of comparative literature at the Faculty of Arts and Sciences, with whom Barry-Heffernan took "Elements of Rhetoric" this semester. "He really, really coached me a lot with delivery and emotion and pauses and tone and pitch and all sorts of stuff."

After winning the honor, he knew that at least one person was owed a phone call. "One of the first people I contacted was my high school Latin teacher, Mr. [Wells] Hansen," said Barry-Heffernan, who attended Milton Academy, a private school in Milton, Mass., that counts T.S. Eliot, Robert F. Kennedy, and Edward M. Kennedy as graduates. "He was psyched; he was sort of like, 'Oh, good, I taught you those subjunctives well!'"

Almost immediately after Commencement, the Winthrop House resident will pack up his belongings and move with a friend to Kendall Square to start a job writing computer code for Hewlett-Packard.

Barry-Heffernan's speech, which cheekily compares Harvard to Julius Caesar's beloved Legio X Equestris, or 10th Legion, made famous during the Gallic Wars, is titled, "De Septuagensima Secunda et Trecentensima Legione," which translates to "On the 372nd Legion." It opens with "Mihi gaudium magnum est vos compellare lingua hac utilissima et quam plurimis grata," or "It is my honor to address you in this profoundly useful and applicable language, beloved by so, so many."

"It's really quite goofy," he admitted. "The Latin oration would be really hard to bear if it weren't comedic or fun or upbeat."

Sarah Abushaar | Undergraduate

Born in the United States but raised in Kuwait, Sarah Abushaar has always had one foot planted in the East and one in the West. The daughter of a Syrian father and a Palestinian mother, Abushaar spent her childhood roaming the hallways of a Sheraton hotel in Kuwait City, where her father worked, surrounded by visiting political dignitaries from the West. It was there that at age 7, upon meeting George H.W. Bush, she dutifully informed the former president that she planned to take his job someday.

An economics concentrator with a strong interest in politics, Abushaar, 21, said that Harvard initially seemed like a nation unto itself, with its own government and museums and even a bus system. But soon, it wasn't just the historic institutions that moved her, but the creative and social vitality, driven by the formal and informal groups and connections on campus that seemed to embody the University's soul.

Her speech, titled "The Harvard Spring," is an homage to the 2010 political uprisings known as the Arab Spring. The address draws on the everyday freedoms that students take for granted, such as public debates in the pages of The Crimson, along with cultural events and artistic performances. She calls upon graduates to bring such esprit de corps back home with them and initiate change.

"I think each of us comes here, and we encounter something that strikes us or something that's so different from the status quo back home," said the Leverett House resident. "The little revolutions that happen behind Chipotle burritos or Starbucks coffee cups in Harvard Square. I saw revolutions happen at tables where I saw some of my Palestinian and Israeli friends eating and working together on projects, and then you sit down and think: Why can't our governments act this way?

"My whole idea about Harvard as an agent for change comes from the fact that it changed my family a lot. It pushes whatever frontier that was initially set a bit further out. After one person comes here, it changes the way their family thinks, and it changes the way their school thinks."

Having taken a semester off in 2012 to work at the White House, Abushaar will graduate in December. After that, she plans to pursue her interest in international business and attend business school down the line. Eventually, she'd like to create bilingual, coed schools like the one she and her younger brother attended back in Kuwait City and use that movement as a platform for long-term political change.

"I think there's a tendency to say, 'We want to build schools in places like Afghanistan,' and they build schools, but they don't build curriculums, they don't build something that's far more important than the actual hard structure."

Philip Harding | Graduate

Given his plan to be just another long-distance student studying part-time toward a degree at Harvard Extension School, you might say Philip Harding has been an epic failure.

Married and running a marketing and design firm in his native California, Harding was five years removed from college when he first considered going back to school. "Life was comfortable, I was really engaged in the community, and really loved what I was doing," said Harding, 30.

But his interest in politics and government called, so in 2010, Harding signed up for a January session at the Extension School and met with student government members who urged him to move to Cambridge. Before long, Harding found himself running for student body president strictly by Web, video, and social media — and winning.

Harding has held eight elective offices since coming to Harvard, and launched the Masquerade Ball, a pan-Harvard fall gala that's grown to attract nearly 2,000 people this year. "I really just dove in head first and just absorbed the community," he said.

Now president of the Harvard Graduate Student Government, Harding graduates with a master's in public policy from Harvard Kennedy School. "I enjoy bringing people together and helping them redefine themselves and what they're capable of doing," he said.

Last summer, Harding worked as a legislative fellow in Washington, D.C., and organized "Connected Congress," a tech-in-government conference. It's an intersection he plans to pursue after Commencement. Harding has been awarded a Presidential Management Fellowship, a two-year placement to work on technology in the federal government. In July, he and his wife, Rachelle, are expecting their second child. They have a 2-year-old daughter, Chantel.

In his address, Harding looks to American history and a personal hero, George Washington. Titled "A Kind of Destiny," Harding draws from a letter that Washington wrote to his wife, Martha, when he first came to Harvard Yard in July 1775. It was an inauspicious moment for Washington. He wasn't feeling well, it was raining, his welcome reception was canceled, and the ragtag militia he had come to lead against the British army was in makeshift tents in the Yard.

"So [it's] this idea of some great, world-changing event can come from a really humble beginning," an analogy for how students may come to Harvard feeling unworthy or unprepared for the daunting road ahead, Harding said, but leave with a feeling of accomplishment and unity, ready to take on the world's challenges.

"It's not just what you take with you, but who you take with you," he said, "and this sense of the community that you've built here that you're going to take with you for the rest of your life and change the world."

Celebrating the intellect

The traditional Phi Beta Kappa Literary Exercises featured awards, music, and advice from a poet and a novelist.

By Corydon Ireland | Harvard Staff Writer

For the 224th Phi Beta Kappa Literary Exercises, President Drew Faust (center) hosted novelist and short story writer Andrea Barrett (left and above) and poet, translator, and critic Donald Revell (at podium), who read from his collection "Pennyweight Windows."

The sky was as gray as flint, and a cold wind bit hard like a March memory. But all else was celebratory at the first public event of Commencement Week, the 224th Phi Beta Kappa Literary Exercises. The weather inside Sanders Theatre was sunny, with a chance of advice.

Harvard President Drew Faust headed the procession of dignitaries, Phi Beta Kappa officers, and honorees into Sanders for the celebration of letters and passionate intellectual exchange.

Invited to speak were novelist and short story writer Andrea Barrett, who teaches at Williams College, and poet, translator, and critic Donald Revell, who teaches at the University of Nevada, Las Vegas.

Revell, whose work for three decades has drawn praise for its joy and sincerity, offered up six poems from his collection "Pennyweight Windows." He lived through the tumult of the 1960s, and began and ended with poems inspired by protest. "Survey" professed nostalgia for the 20th century, a time that "told everyone to strike back." In "Vietnam Epic Treatment," that same epoch became:

The 20th-century?
It was a war
Between peasants on the one side,
Hallucinations on the other.

Barrett, who trained as a biologist and whose traction as a writer only started when she was in her 30s, has written nine novels and short story collections. "Ship Fever" (1996) won the National Book Award; "Servants of the Map" (2003) was a finalist for the Pulitzer Prize in fiction.

In her address, "The Ether of Space," Barrett told how a story may unfold from history, and how the logic of science can set off a chain of impressions that in the end accomplish what the liberal arts are designed to do: make the world seem like a streaming, ether-like, continuous whole, instead of something knowable only by the academy's divisions of investigation.

She called Ralph Waldo Emerson, a man of both poetry and natural science, "the presiding spirit of this gathering."

There were other Harvard Phi Beta Kappa traditions to satisfy during the 90-minute ceremony, which three times was joyfully interrupted by the Commencement Choir.

First came the awarding of the Alpha Iota Prizes for Excellence in Teaching. Recognized were Philip Fisher, the Felice Crowl Reid Professor of English, who drew praise for his "close readings and wide-angle reflections on life"; Alison Simmons, the Samuel H. Wolcott Professor of Philosophy and Harvard College Professor, who "can make a class of 70 feel like a seminar," the citation read; and biologist Thomas Torello, assistant director of undergraduate studies in the life sciences, "a caring mentor" praised for his senior-thesis workshop.

The awards are given each year to members of the Faculty of Arts and Sciences, with the nominations coming from undergraduate members of Harvard's Phi Beta Kappa chapter.

In another tradition, honorary members were named to the chapter, starting with Daniel Aaron, Ph.D. '43, the Victor S. Thomas Professor of English and American Literature *Emeritus*. He arrived at Harvard as a graduate student in 1933 and still goes to his office in the Barker Center every day, lately to husband his latest book, which is due out in a few months.

Barrett and Revell were also named honorary members of Phi Beta Kappa, along with five graduates of the Class of 1964: Lowell K. Halverson, a Seattle-area lawyer, artist, Tlingit Haida tribal judge, and "heavy equipment operator"; Sheila Sen Jasanoff, Pforzheimer Professor of Science and Technology Studies at Harvard Kennedy School; Barbara Ricks Krimgold, an advocate and policymaker on health care policy and its disparities; Robert Harris Mnookin, Samuel Williston Professor of Law at Harvard Law School, and an authority on dispute resolution; and Rabbi Mark Leonard Winer, an interfaith advocate.

Photos by Kris Snibbe | Harvard Staff Photographer

The Rev. Jonathan Walton and Harvard President Drew Faust led a procession of seniors (left) to the Memorial Church for the annual Baccalaureate Service. Kate Hernandez (below, left) and Caroline Davis share in the excitement.

The import of 'Breaking Good'

President Drew Faust bid farewell to the Class of 2014 on Tuesday during the annual Baccalaureate Service in Harvard's Memorial Church.

By Alvin Powell | Harvard Staff Writer

Walter White, the central character of the television series "Breaking Bad," is a middle-aged chemistry teacher who becomes a drug dealer after learning he has terminal cancer. During an on-campus public discussion with President Drew Faust last month, the show's creator, Vincent Gilligan, said that White's terminal illness freed him from the fear that had held him to the straight and narrow.

Harvard College's Class of 2014, whose members will receive their diplomas at Thursday's Commencement ceremonies, should consider their own futures with a similar fearlessness, Faust said. But where White's selfish motivations led him into a downward spiral, she urged graduates to "break good," "face outward," and act for the betterment of the larger community.

Faust addressed the graduating class during the annual Baccalaureate Service in Memorial Church. Dating to Harvard's earliest days, the service is restricted to members of the graduating class and is a personal farewell from the president and clergy.

Good work, Faust said, doesn't just accomplish admirable aims through a task; it can also bring out the best in others. She quoted South African leader Nelson Mandela, who admitted being fearful during his long struggle for freedom, but who also said that by appearing brave, he inspired others, and it was their hopeful response that ultimately gave him the strength to conquer his own fear.

"We are interdependent. Our work and our lives depend on others, as theirs do upon us," Faust said. "With the right combination of luck and learning, humility and compassion, we do not break bad. Instead we can create moments of grace with and for one another."

The Baccalaureate also served as something of a dress rehearsal for Thursday's Commencement ceremonies. Seniors wore their caps and gowns and lined up in the Old Yard in front of Holworthy Hall just before 2 p.m. They processed past University Hall and the John Harvard Statue, and into Tercentenary Theatre before entering the church.

The service was presided over by Jonathan Walton, Plummer Professor of Christian Morals and Pusey Minister in the Memorial Church. Speakers read scripture selections from several religions in their originating languages, as well as in English, causing the church to echo with holy words in Hebrew, Arabic, Chinese, Sanscrit, Punjabi, Greek. and English.

Walton opened and closed the service, offering welcoming words and a reminder to the newly minted graduates that although they may feel as if they're nearing an end, their graduation is really a beginning.

"This week is neither one of culmination nor conclusion," Walton said. "It is Commencement. It is just the beginning."

Seniors were anticipating their hard-won graduation with a mixture of feelings. Emily Hu, a Currier House human evolutionary biology concentrator, said she was excited that Commencement was at hand. After graduation, she plans to work in a laboratory at Massachusetts General Hospital.

Margaret Wittenmyer, a Kirkland House government concentrator, enjoyed the diversity of religions represented at the service, particularly since some of her friends gave readings. Whittenmyer, who is heading to law school at the University of Texas at Austin in the fall, admitted being a bit nervous herself.

"It's just kind of shocking to find yourself at the end," Wittenmyer said.

Wittenmyer is part of a class that traversed a winding path through Harvard. In her speech, Faust recounted some of the important events that marked the seniors' tenure, including the Boston Marathon bombings, Japan's earthquake and tsunami, and superstorm Sandy. The students attended Harvard's 375th anniversary celebration, turning a rainout into a muddy dance party. They studied through last winter's polar vortex, and sent some classmates to the Olympics. The football team beat Yale in The Game four years straight to bring the streak to seven years, and the men's basketball team went to the NCAA tournament three times.

Through it all, Faust said, the class has put its stamp on the University, as it will on the world in the years to come.

"Visitas gets canceled, so you reinvent it. The 375th is hit by a deluge — you dance in the mud. A cheating scandal rocks the College, so you successfully advocate for an honor code. Bombs strike the marathon, so you take care of one another and you run again," Faust said. "Reach beyond what you do for yourselves to what you do for another. If any class can do this, it is yours. The world has never needed you more."

Photos by Rose Lincoln | Harvard Staff Photographer

Moving on to the military

Ceremony launches 7 ROTC graduates in Marines, Navy, Air Force

By Colleen Walsh | Harvard Staff Writer

"You will honor the service and sacrifice of those who came before you through your own commitment," said President Drew Faust (left) in her remarks at the ROTC Commissioning Ceremony, where seven soon-to-be Harvard graduates (below) received their first military assignments.

The mood was warm and welcoming, despite damp and chilly weather, at the Harvard's Reserve Officers' Training Corps (ROTC) commissioning ceremony Wednesday, as seven soon-to-be Harvard graduates received their first military assignments in Tercentenary Theatre.

As he waited for the proceedings to begin, Marine Corps 2nd Lt. James S. Brooks of Baltimore posed for pictures with his family next to Memorial Church and reflected on the occasion and his decision to join the military.

The ceremony, he said, "means everything to me. My grandfathers are the reason I first thought about serving. ... They are role models to me. I wanted to be like them. That's why I decided to join."

Brooks said his military experience informed his time at Harvard. "You just have to live every second knowing that you are living for a bigger purpose, and you are living for someone else and for your country."

His grandfather James S. Smith '49, who served in the Navy during the Korean War, pinned the new rank on Brooks' uniform during the ceremony.

"I am so proud of him," Smith said.

Besides Brooks, a chemical and physical biology concentrator, the new Marine 2nd lieutenants included Catherine A. Brown from Mystic, Conn., who will graduate with a degree in government and East Asian studies; Taylor B. Evans, a history concentrator from Colorado Springs, Colo.; and Peter Machtiger, a history concentrator from Bronxville, N.Y. They are bound for the Basic School in Quantico, Va.

New Navy ensigns are Christopher J. Curtis, a Near Eastern languages and civilizations concentrator and San Diego native who will return there for his first assignment, and Catherine M. Philbin, an environmental engineering concentrator from Evergreen, Colo., who will be assigned to the USS Chancellorsville in San Diego.

Air Force 2nd Lt. Madison Coveno of Groton, Mass., an East Asian studies concentrator, will head to Mildenhall Air Force Base.

During the ceremony, guest speaker Gen. Darren W. McDew, head of the Air Mobility Command at Scott Air Force Base in Illinois, thanked Harvard President Drew Faust for fostering an inclusive atmosphere toward the military and for her efforts to bring ROTC back to campus after a 40-year absence. McDew also thanked the commissioning class of 2014 "for your service and what you will do for our nation."

"You will lead in interesting times. You have a great opportunity to shape and better our military," said McDew, who urged the new officers to live by core military values that include honor, integrity, and selfless service.

"As you continue to refine the kind of leader you are, decide who it is right now, and then be it every single day. Not in moments of convenience, not when you feel like it, not in the things you enjoy ... every day."

Faust recalled the hundreds of former Harvard students who died in World War I and whose names and memories are preserved in the Memorial Church. She also recounted the words of Capt. Constant Cordier, commander of the new 1,000-student Harvard Regiment, precursor of the Army ROTC, who said in 1916: "In all this land, there is no better material for officers than is found in the student body of Harvard."

"With your commissioning today, you become part of that tradition," said Faust. "You will honor the service and sacrifice of those who came before you through your own commitment."

Photos by Stephanie Mitchell | Harvard Staff Photographer

Past, present, and prologue

In the profiles that follow, new graduates of Harvard College and the graduate Schools reflect on their backgrounds, their experiences, their milestones, and their dreams as they move out into a changing world.

From Tonga to Tercentenary

Moana ʻUluʻave, a Tongan-American who is getting her master's from the Graduate School of Education, is bringing her storytelling culture to a wider world.

By Christina Pazzanese | Harvard Staff Writer

Many students come from great distances to learn at Harvard, but few have traversed such disparate worlds as Moana ʻUluʻave. You might even say her journeys would make a fantastic story.

Born to parents and grandparents from the South Pacific island nation of Tonga, ʻUluʻave, 26, grew up among the frosty peaks of Salt Lake City, Utah, where her family settled in 1986 to find better economic and educational opportunities and to be close to the spiritual heart of their Mormon faith.

Her grandfather once farmed taro and manioc (cassava) roots; her mother, Losaline, works at a book bindery; her father, Alama, was until recently a maintenance worker at the University of Utah. All set high expectations for ʻUluʻave and her five sisters.

"He used to drive us around and point out the law school and the medical school and say, 'One day you're going to come here,'" said ʻUluʻave, a spoken-word storyteller and writer in the Arts in Education program at Harvard Graduate School of Education (HGSE), who is receiving her master's degree. "I always thought it was strange that he didn't have that dream for himself."

Despite living half a world away, Tonga's rich cultural history and oral traditions were always close at hand. ʻUluʻave's grandmother is known as "a keeper of stories," while her father often makes videos of storytelling to preserve them for future generations. "I grew up with them telling me stories," she said. "I didn't know I was learning those things, but the stories were everywhere. I just had to pick them up and tell them as well."

Beyond class, ʻUluʻave helped lead a weekly writing course at a women's prison in Framingham, Mass., as part of a program run by Boston University.

"For me, prison means something different. I come from a working-class background. I have friends who are in prison. I look around and I think: These women could be any of my relatives in a lot of ways," she said. "For a lot of women there, education is redemptive. You've been punished, that's why you're in prison, and the only thing of your own that you have is your mind. And here you are, exerting that power that you have to obtain a piece of paper that says 'Hey, you're still valuable in society.'"

A Gates Millennium Scholarship winner, ʻUluʻave graduated from Brigham Young University in 2012, leaving the familiar, communal comforts behind to live in Cambridge, "a place that has no context for me," she said. "I was so surprised at how much the relationships here meant to me. I didn't know I'd find community."

"Moana has got this incredible joy and humor, but she is a deeply and profoundly serious person," said Steven Seidel, the Patricia Bauman and John Landrum Bryant Lecturer on Arts in Education and director of HGSE's Arts in Education Program. "She's enormously intellectually curious and hungry," with a very clear sense of the importance and power of community, he said.

ʻUluʻave received the Intellectual Contribution award, an honor given annually to one student in each HGSE master's program.

"So many of her peers nominated her for that award and spoke about being inspired by her as … one of the few Tongan students to ever come to Harvard," said Seidel, "but also just as someone who is both growing and curious and evolving and also so deeply rooted in her values and the values of her culture. It's been inspiring to all of us — certainly inspiring to me."

As the first in her family to earn an advanced degree, ʻUluʻave said dozens of far-flung relatives will join her here to celebrate.

"In terms of my community and my family, this is making real a lot of dreams that they've had for generations. And when I say, 'I am graduating,' the indigenous 'I' is always the 'We.' So, 'We are graduating.' I appreciate all the sacrifices that were made even before I stepped on this campus."

Photos: (below) by Jon Chase, (right) by Stephanie Mitchell
Harvard Staff Photographers

High-stepping through life

Rossi Lamont Walter Jr. ’14 graduates with a passion for dance, the history of science, and Jewish culture. He plans to help others see and develop their strengths.

By Colleen Walsh | Harvard Staff Writer

Rossi Lamont Walter Jr. remembers his experience with Harvard Summer School in 2009 as “a frolicking good time.”

It was the Texas native’s introduction to Harvard, and its energy inspired him. “I’ve always been very sensitive to my environment and to things that are contributing to the energy and the mood of the space,” he said. Later, when considering college, Walter was certain that if he attended Harvard, something important would happen and that the people and the environs “would change my life in ways I could not foresee.”

That’s just what happened. He will graduate with a concentration he didn’t know existed, a passion for dance he never expected, and a post-College fellowship to spend a year in a country that wasn’t on his radar four years ago.

Like many Harvard freshmen, Walter arrived on campus with a list of interests, in his case math, science, the visual arts, dance, and electronic music, among others. But during his sophomore year, the ground began “shifting pretty dramatically,” and he needed to prioritize. School, dance, and his connections with a group of friends topped his list.

Walter considered concentrating on neurobiology, but “I remember thinking, ‘Oh, no, no. This is much too planned for me.’” On a whim, he took an introductory class in the history of science, and fell in love.

He also fell in love with Jewish history, culture, and religion through his relationships with Alpha Epsilon Pi (“the Jewish fraternity”) and Harvard’s Hillel and Chabad houses. “They provided me with a supportive network of friends and peers who are diverse in their interests and can engage in deep conversation about their experiences and what they are learning today.”

With support from the Center for Jewish Studies at Harvard, he traveled to Jerusalem last summer to learn about history, and he will leave campus with a secondary concentration in Jewish studies.

Walter’s third passion was dance. Energized by Jill Johnson, director of the Harvard Dance Program, he performed in several new works, including “SEESAW,” which will be presented by the Harvard Dance Project at the Jacob’s Pillow Dance Festival in June. He was also introduced to Gaga movement language, a contemporary style of dance that originated in Israel, and traveled to Tel Aviv to study with its founder.

Johnson called Walter a gifted artist, thinker, dancer, choreographer, and performer.

“He has an unlimited desire to explore artistic expression in his dance studies and in areas beyond the field with tireless energy, curiosity, rigor, and focus.”

Dancing with Johnson and other students helped Walter combine what he calls his “physical, creative, and academic intellects. It was unlike anything I’d ever done. Jill helped me see what dance had been and could be.”

Walter has a busy summer ahead. After graduation, he begins training for “SEESAW,” and then heads back to Dallas to spend time with family and friends. In August, he will travel to North Carolina as a 2014 Byron Fellow to participate in a weeklong session on leadership. He then will head to Israel for a year as a Benjamin A. Trustman Fellow, with support from Harvard’s Office for the Arts.

That year will be something of a soul-searching mission. He plans to live in Tel Aviv; practice Gaga; dance; visit synagogues, churches, and mosques, “and the sea.” He seeks adventures, “all with the purpose of putting myself in a different context and allowing a different tree to grow out from within my identity.”

A Quincy House affiliate, Walter is reflective when asked to consider what Harvard has meant to him. After a pause, he offers up a single word: people. “I’ve always said that Harvard is just a place, and it’s really the people that make it what it is. Everyone has something to bring to the table.”

Accordingly, he envisions a career that combines dancing and choreography with the visual arts, education, social activism, and his desire to help people “articulate what they think is important.”

“I expect people to prove me right in a way. I want to help them show me that they do have something to offer, something to bring to the table. I’d like to help people channel that somehow.”

Reflecting on the last four years, Walter also offered a note of thanks to his father, Rossi Lamont Walter Sr. ’86.

“My father has always been so supportive of me pursuing the things that interest me. He has never pressured me to do anything, including coming to Harvard. For that, I am eternally grateful.”

Tough as a rugby player

A fierce field general on the women's rugby team, Harvard College senior Shelby Lin is also a math and economics star with a bright future.

By Christina Pazzanese | Harvard Staff Writer

Small in stature but packing a punch, Harvard College senior Shelby Lin has a fitting nickname bestowed by her teammates on the women's varsity rugby team: "Mighty Mouse."

She's an All-Ivy star scrum half, a quarterback-style role requiring scrappy play and bold direction of team offense and defense from midfield.

"I feel like I don't have a very demanding general personality, but when it's for the team, on the field, I'm screaming the entire time, which is what you want a scrum half to be doing," said Lin with a laugh. "I think something about sports for me in general is that it's always been one of the things where I'm more challenged to be a leader than in other things I do."

Lin, 21, assumed the position only last fall, but now she is one of about 50 players nationwide invited to try out this summer for the Women's Collegiate All-American team, a stepping-stone to future international play.

"She has gone from virtually zero experience at that position and has through her own personal work ethic and her commitment to understanding the game, to become one of the best in the country at that position," said coach Sue Parker. "It's not just that she's an awesome player, but Shelby is absolutely the kind of player who raises the level of everyone around her because her joyfulness in playing is so contagious."

Lin was instrumental in pushing for the team's elevation this year from club to varsity status.

Rugby has "been a huge part of what I've done here, and a lot of the people I'm closest to at Harvard are my teammates. It's kind of amazing the relationships you have with people after you've been on the field protecting each other and laying your body down on the line," said Lin, an Adams House resident.

An applied mathematics concentrator within the field of economics, Lin wasn't entirely certain how her College years would unfold, and says her path to graduation has been a bit surprising.

"Math would come naturally, I was good at problem-solving, but what I was looking for was a field where I could use that to do something more closely related to society or what I see every day," she said. "So applied math fits with that concept, and I think economics in particular also does because you're studying questions that I can really care about but using methods I really trust, which are quantitative methods."

A John Harvard Scholar from 2010 to 2012, Lin took her junior year off to complete a graduate-level microeconomics course and to work as a research assistant at Harvard's Lab for Economic Applications and Policy, a position usually filled by graduating seniors. One project, with rising star economist Raj Chetty, looked at variations of economic mobility between generations in the United States and made the front page of The New York Times.

"The whole year was a good way to see how much I liked research and jumping in at a really high level from undergrad," Lin said of the detour.

This summer, she and some friends will make a 68-day bike trek from Washington, D.C., to San Francisco. In the fall, she will head to Pembroke College at the University of Cambridge in England to study public health on a Harvard-Cambridge Scholarship. She plans to return to the United States in 2015 to begin work at Massachusetts Institute of Technology on a Ph.D. in economics, with a focus on health.

"She's a person who has true integrity because she doesn't hold herself to a standard of excellence in one facet and then mediocrity is OK in other areas of her life," said Parker. "In academics, in athletics, in her personal interactions with people, in all facets, Shelby is truly an outstanding person."

Photos: (above and right) by Rose Lincoln
Harvard Staff Photographer

Partners from grade school to Medical School

Fraternal twins have shared much of their lives, including at Yale as undergraduates and later at Harvard Medical School. Now they're anticipating diverging careers.

By Alvin Powell | Harvard Staff Writer

When Rosh and Roshan Sethi were small, their mother used to bring them to work with her. A physician, her days were long. The boys, fraternal twins born minutes apart, would bring sleeping bags and nap under her desk.

Today, the two are still together, preparing to graduate from Harvard Medical School and contemplating futures in clinics of their own.

"It's just like no other profession, in terms of what you get to do — like science, like stories, like people." Roshan said. "You just learn a lot about the world through medicine. You meet all kinds of people who've had all kinds of lives."

Roshan is planning to attend a one-year internal medicine residency program at Harvard-affiliated Brigham and Women's Hospital, followed by a radiation oncology program that spans several Harvard-affiliated hospitals. Rosh, who is interested in otolaryngology (head and neck surgery), is planning on a one-year surgical internship at Massachusetts General Hospital (MGH), followed by a residency at Massachusetts Eye and Ear Infirmary, both Harvard affiliates, in a program that also involves other Harvard-affiliated hospitals.

"I can't pinpoint early on why I wanted to be a surgeon, but to me it was just a unique way to impact a patient's life," Rosh said. "Especially for ENT [ear, nose, and throat surgery], it's a very big impact on a patient's quality of life, which was important to me."

The twins were in the same classes through grade school and high school and attended Yale University as undergraduates, rooming together for two of their four years. Today, they share an apartment in Brookline, and they'll continue to live together during this next phase of training.

They also were together during a time both recall as influential. As teenagers, they volunteered at a local cancer clinic near their hometown of Calgary, Canada. They pushed a cart through the palliative care ward, serving high tea on fine china to patients undergoing cancer treatment. Neither had met patients with cancer before.

The experience influenced Roshan's interest in cancer medicine and Rosh's in head and neck surgery, which can be employed in cancer care.

They took similar trajectories through medical school, with each taking time off to expand their horizons, though in different directions. Rosh spent a year at the Harvard School of Public Health, earning a master's in public health, traveling to Rwanda to work with the nonprofit Partners In Health, and working with David Roberson at Boston Children's Hospital on a quality-improvement collaborative around tracheostomy care.

During his first year, Rosh also spent time working on the nonprofit Family Van, which brings medical services into Boston's disadvantaged neighborhoods.

HMS Dean for Students Nancy Oriol, the Family Van's founder, said that Rosh's essay reflecting on his experience there caught her eye. In it, Rosh said that the van program taught him that even though cases are handled by following medical routines and specific technical steps, each case is a person first, with whom one must connect to build trust. Oriol spoke with him recently and, although the crush of medical school can cause once-meaningful experiences to fade over time, Rosh told her that the Family Van's lesson was one he has carried with him.

"The common element [among students working on the Family Van] is that they want to take care of patients," Oriol said. "They're both excellent students. They've been fantastic from the beginning."

Roshan spent a year on a Doris Duke Fellowship conducting research at MGH, and has been exercising his writing chops working with Amy Holden Jones, creator of the ABC television series "Black Box" about a neurologist secretly dealing with bipolar disorder. Roshan has served as a medical consultant on some of the episodes for its premier season, and said he enjoyed the experience enough to keep writing, though he doesn't see that as ever supplanting medicine as a career.

Roshan conducted research in the lab of Shannon MacDonald, assistant professor of radiation oncology at MGH and Harvard Medical School. She said it was a pleasure to work with him and play a part in his professional development.

"Roshan possesses all of the attributes you could hope for in young physician: compassion, intelligence, true excitement for the field of medicine, a hunger for learning, and, despite his many talents, humility," MacDonald said. "Roshan will touch many lives in a positive way regardless of what he ultimately chooses to pursue in his career."

An immigrant triumph

After leaving Brazil at age 11 for the United States, economics honors graduate Eric Westphal ’14 learned English and started climbing life’s ladder.

By Corydon Ireland | Harvard Staff Writer

Eleven years ago, young Eric Westphal boarded a plane in his native Brazil and flew to Miami and then on to frozen Boston. Behind him was Tubarão, the subtropical city of his birth, where a narrow river of the same name eases its way through a low-rise downtown to the nearby ocean.

Soon after his world-shifting flight, Westphal, 11, walked into a fifth-grade classroom in Somerville, Mass., unable to speak a word of English. After that hurdle came a cheerful boyhood in nearby Everett, where his father was a cable installer and his mother a housecleaner. Westphal became a strong student, athlete, and debater.

Then came marriage at age 18, in the fall of his senior year at Everett High School. (“It forced me to mature extremely fast,” said Westphal.) Then came — improbably, he said — admission into Harvard College. “I had some serious confidence issues,” Westphal said of his feelings at the start. “I figured: I’m not going to fit in; I’m from a public school; I’m going to have to work really hard to just barely make it.”

But Westphal is graduating, likely summa cum laude, with a Phi Beta Kappa key, a Hoopes Prize, and the Harris Prize for best undergraduate thesis in economics. (It’s a study of discrimination against residents of urban slums in Rio de Janeiro, and it has already made waves in Brazil.)

Looking back, Westphal’s advice to freshmen is: “Believe in yourself a little bit. Hard work and effort and a good attitude go a long way.”

Hard work runs in his family, he said, starting with his parents, who opened a small store in Tubarão that in 20 years grew into a supermarket, a prosperous business until an economic downturn. As a young immigrant to the United States, Eric showed the same enterprise in learning English, though first, he admitted, “I felt despair.” In six months he could converse with his new friends, and in 18 months he was a confident master of his new language. (“At that age,” said Westphal, “you learn you have to get out of your comfort zone.”)

He learned to read partly by haunting online Boston Celtics fan sites and to write by posting comments. In high school Westphal played varsity soccer, and also started a debate club. He immersed himself in American history with teacher Dominic Rinaldi, the mentor who later encouraged him to apply to Harvard. Until then, Westphal said of the College, “I can’t even say it was a dream.”

In Everett, Westphal and his wife, Cheryl, a florist who has since gotten her R.N. degree, moved in with her parents, since his had returned to Brazil. Once at Harvard, Westphal lived first in Matthews Hall and then at Currier House, always in a single room so Cheryl could visit.

“It’s been easier than I expected, to be honest,” he said of being a married undergraduate. “There’s a degree of sacrifice, but Everett is so close.”

If there was sacrifice, it involved turning down summertime international travel to be close to home. Westphal spent his first college summer working in Boston at Accion, a microfinance nonprofit, and the next two summers in New York City’s financial district (where he has a job lined up after graduation).

He founded the Harvard Undergraduate Brazilian Association as a freshman, played House soccer (Currier took the 2014 championship), managed a small stock portfolio with a student business group, and spent all four years with Harvard College Faith and Action, a gospel-centered Christian group. Arriving at the College, Westphal remembered thinking, “I’m not going to find any believers.” Now that he’s ready to leave, he knows that belief is a far wider experience than he imagined as a teenager.

His expanded worldview grew out of a “culture of mutual respect” learned over four years, said Westphal. Add this lesson to everything else, he said, and the sum is: “Harvard completely transformed me.”

A laser focus on freedom

Jieun Baek, who is graduating from Harvard Kennedy School with a master's in public policy, is dedicated to opening North Korea to the world.

By Christina Pazzanese | Harvard Staff Writer

North Korea is a harsh and isolated dictatorship, but Jieun Baek is not about to let that minor detail get in her way.

"My obsession, my life passion, is with this idea of trying to bombard this country with information about the outside world," said Baek. "To get people to not only think about what's outside their reality, but also trying to build mental capacity to act on that. I'm not trying to start a revolution, because the regime has no qualms about wiping ... people out, but trying to inform that citizenry is something I'm really interested in."

Baek's parents were born in South Korea, but her interest in the North began when she arrived at Harvard College. "It was November of freshman year, and some cute guy asked me to come to a talk at Kirkland House. I didn't even know what Kirkland House was at that time. I went, and speaking was Kang Chol-Hwan, who was sentenced to a prison camp [in North Korea] at the age 9 for 10 years. He was talking about how he was being tortured and all these awful things, and it was just a shock to my system," she said.

Following a gap year working at the U.S. State Department, Baek graduated in 2010 and took a job in her native California with Google, managing ad sales and researching projects to help North Korean defectors access information.

Despite the job's enviable prestige, Baek, 27, always intended to return Cambridge and the Harvard Kennedy School (HKS), where she has earned a master's degree in public policy.

"There are lots of amazing kids at Harvard, obviously, but she's a very amazing one," said Graham Allison, director of the Belfer Center for Science and International Affairs at HKS. "She is determined that North Korea is going to be free. She's determined that this is going to happen sooner rather than later, and if you tell her anything she could do to make that more likely, I'd say watch out, she'll probably do it."

Baek started "Inalienable," a blog that provides a conduit for North Korean defectors to freely tell their remarkable and often heartbreaking stories, and she co-produced "Divided Families," a documentary about families torn apart by the icy relations between North Korea and most of the world.

"Trying to instill human dignity on a one-to-one basis, it's a very powerful experience. Hearing people's individual stories ... the shocking, haunted element of every story, has not worn off," she said.

Last August, Baek led a group of Harvard students on an eight-day trip to North Korea. Despite the worries of family and friends, she forged ahead, the first of her relatives to visit since the country formally split.

"It was very emotional experience for my relatives, especially for my grandfathers who were from North Korea and separated from their families, [and] haven't seen their families since 1948," said Baek.

Baek is mulling a Belfer Center fellowship offer to work after graduation with Allison; Gary Samore, the center's executive director of research; and Stephen Bosworth, former U.S. ambassador to South Korea. She plans to write a book about her experiences talking to dissidents and the ongoing efforts to pierce North Korea's veil of secrecy.

Reflecting on her six years at Harvard, Baek said she has been regularly inspired by her fellow students. "One thing I think about often that I'm grateful to this giant institution for is that ... the realm of possibilities for me has exploded exponentially. 'I can't' has been stripped from my vocabulary," she said.

"I see individual people around me doing work that is pretty impossible to do, but they're just doing it on a daily basis. And that kind of thinking has really penetrated my psyche. It's been a hell of a ride."

Photos: (left and above) by Jon Chase
Harvard Staff Photographer

A hand up to a better future

Graduating senior Jesse Sanchez has come a long way from the poor streets of San Diego's City Heights neighborhood, and now wants to help those struggling toward college.

By Alvin Powell | Harvard Staff Writer

During his four years at Harvard College, Jesse Sanchez has been a continent away from the troubled streets of San Diego's City Heights neighborhood where he grew up, but in his heart he never really left.

Sanchez, a senior, said the struggles of kids growing up amid poverty, drugs, and gangs have never been far from his mind. Coming from a similar background, he credits his own success to his mother's tireless work ethic and her selfless dedication to him and his brother, and to the intervention of people working to bring a better future to neighborhood kids.

"I owe everything to her," Sanchez said of his mother, Julia Sanchez, a housekeeper. "All the work I put in has only been modeled on her hard work. All the sacrifices I made were only modeled on the sacrifices she made."

A social studies concentrator, Sanchez wants to mirror the dedication that helped him find his way from City Heights to Harvard and help others to succeed despite tough backgrounds.

In fact, he has already begun that work. Sanchez, who lived in Adams House, took a year off to return home and work with Reality Changers, the nonprofit that was instrumental in his own growth. The organization seeks to provide support and resources to put kids from disadvantaged backgrounds on the path to college or, as Sanchez described it, put them in a community of like-minded individuals who have college as a goal.

Here on campus, he has worked to make Harvard a home for people like him, founding the Harvard College First Generation Student Union, a student group that provides support for students who are the first in their families to attend college.

He also spent summers working with high school youth from Cambridge and Boston in the Crimson Summer Academy, which provides mentoring and instruction to help put students on the path to a four-year college.

With Commencement, Sanchez is fulfilling what he once thought was an impossible dream of his own: completing college after growing up in a place where poverty was widespread and drugs and gang violence were "as close as close can be."

"College was something I thought would be impossible ... because there were no examples of people going to college from my neighborhood," Sanchez said.

He said his Harvard experience has been "paradigm-shifting" and "incredibly full of growth," giving him the motivation and inspiration to continue to work toward change in places like City Heights. His senior thesis focused on issues raised by his own experiences, both at home and at Harvard, examining what happened with first-generation students attending elite universities.

At 140 pages, the thesis was the longest work Sanchez had ever completed. It provided a capstone to his time at Harvard, which challenged him in a variety of ways, from the snow he encountered that first winter in Cambridge to the intellectual stimulation in the classrooms.

"I felt awe-inspired and enthusiastic about the amazing opportunities here at Harvard," Sanchez said. "As a freshman, I wanted to make sure I made the most of the opportunity. I always kept my community in mind. ... I did not get here alone. Nobody gets here alone."

Lecturer on Social Studies Chiwen Bao, Sanchez's academic adviser, said Sanchez was engaged and passionate in the two classes he took with her. They had long conversations about his other activities and, more generally, how to change the community.

"Whenever we discuss ... possibilities for growth and liberation for individuals and communities, Jesse always says to me, 'So, then what can we do? How can we start to create change?'" Bao said. "Jesse will continue making that positive change. ... In other words, Jesse's future presents immense possibilities for growth and goodness."

After graduation, Sanchez plans to return to City Heights and reconnect with his family and community. He will begin a Fulbright Scholarship to teach English in Mexico next year. After that, he wants to work in education, improving access and helping students reach their full potential — a road he has traveled himself.

Photos: (below) by Kris Snibbe, (right) by Stephanie Mitchell
Harvard Staff Photographers

Learning from nature, native peoples

The Graduate School of Design's Natalia Gaerlan, a world-class athlete who has earned a master's in urban planning, studies how green infrastructure can protect coastal cities.

By Corydon Ireland | Harvard Staff Writer

Search the whole world over, and you would be hard pressed to find one person who could do each of these: run 100 meters in 11.84 seconds, design a public park, identify the native plants of North America, chat in Ukrainian, pole vault, bake a cake that looks like a watering can, recite plot lines from both "Downton Abbey" and "The Walking Dead," and win $20,000 on the game show "Wheel of Fortune."

But there is such a person: Natalia Gaerlan, a daughter of immigrants from Ukraine, who is graduating from Harvard with a master's degree in urban planning from the Graduate School of Design (GSD). Married and the mother of 9-year-old Malaya, she is a landscape architect whose early enjoyment of small-scale community spaces blossomed into an interest in planning at the scale of cities. "We can shape these places," said Gaerlan of a realization she had. "Someone has created all this."

Her first dream was to be a physical therapist, inspired by an athletic girlhood in suburban Detroit. (She left Regina High School with nine school records in track and field.) But while training for sprints as an independent runner in Michigan, she met James Gaerlan, a molecular biologist who coaches elite and Olympic athletes. Away from the track, he helped her see what her true interests were, she said: plants, gardens, and designed landscapes. Gaerlan moved west and earned a bachelor's degree in landscape architecture at University of California, Davis, in 2002, the year she married James.

He encouraged Gaerlan in track and field, a sport that gave her desire, discipline, and perspective. (She likes to say "Push past comfort zones.") In 2008, during the International Association for Ultra Multievents competition in Germany, she became women's world champion in the tetra decathlon: 14 events over two days, starting with the 100-meter hurdles and ending with a 3-kilometer run. Gaerlan still works out, she said, twice every day. She never competed for Harvard, but her personal bests in the 200 meters (23.86 seconds) and the long jump (20 feet and one-half inches) top the University records.

At the GSD, Gaerlan became intrigued by coastal cities in developing countries that will be hardest hit in an era of rising seas, stronger storm surges, fiercer floods, and other consequences of climate change. She arrived at Harvard in the fall of 2012, and three dramatic events marked her first year: Hurricane Sandy (October), winter storm Nemo (February), and the Boston Marathon Bombing (April). "It made me think more about disasters," natural and otherwise, she said. As for climate change concerns internationally, Gaerlan asked, "How do you protect these large coastal cities that continue to grow and expand?"

To help answer such questions, at the GSD she has studied risk and resilience, including green infrastructure mitigations such as wetland buffers, barrier islands, and sand dune restorations.

The idea, said Gaerlan, is to design cities with "resilient, adaptive architecture" that works in concert with traditional infrastructure like seawalls. "A little bit of both is probably best," she said. "It's not just going to take a landscape architect or a planner or an engineer to fix a problem. If you only look through the eyes of one discipline, you miss a lot of issues."

Gaerlan did fieldwork in the Philippines and Thailand both before and during her time at Harvard. These "awakening" trips offered another lesson, she said: Look for solutions through the eyes of the people affected. During three months in Bangkok last summer, working for the United Nations, Gaerlan was impressed with how poor residents in unprotected parts of the city had gotten themselves ready for a catastrophic flood in 2011.

"They prepared on their own," she said, building footbridges to the highlands, stockpiling food, setting up cooking stations, moving household electrical outlets higher, making sure key players had boats, and knowing who was elderly or sick.

After Harvard, Gaerlan hopes to earn a Fulbright scholarship to spend nine months surveying how the poor perceive housing materials in the disaster-prone Philippines. The goal fits her life motto of pushing past comfort zones. Lovingly, she wishes the same for Malaya (pictured), who has already skipped two grades, swims, dives, plays soccer, and studies piano and guitar.

"I want to teach her," said Gaerlan, "to always dream big."

The man came into the emergency room of St. Louis' Barnes-Jewish Hospital complaining of abdominal pain. Having no insurance, he had avoided medical care as long as he could, but the pain had finally become too intense.

The gastroenterologist called in to consult that day was Darrell Gray, a young physician from Baltimore doing a fellowship at the hospital, which is affiliated with Washington University School of Medicine in St. Louis.

The patient, in his late 40s or early 50s, had blood in his stool and a mass in his stomach.

"It didn't take much more diagnostic work to understand that...this was likely a cancer," Gray recalls. "Here's a young guy who comes in with what was later found to be metastatic cancer. At that point I really couldn't do much for him."

That experience, and others like it, prompted Gray to continue his already extensive training, which included the fellowship, a residency at Duke, and medical school at Howard University. To top that off, he spent the last year at the Harvard School of Public Health (HSPH).

Gray got a taste of public health work during his fellowship. While in St. Louis, he designed a bridge program to connect disadvantaged populations with the health care system. His target population was African-American men, who have a higher incidence of colorectal cancers than the general population, a reality that, in poorer neighborhoods, is compounded by other barriers to health care, such as a lack of insurance, a lack of knowledge about preventive measures, and chronic unemployment. The experience was satisfying, but also made him realize how much he didn't know.

"I realized from that program that there were some areas I needed strengthening in: health policy, public health, population health," Gray said. "While I enjoy seeing a patient in the office, I want to be able to impact populations."

Gray, who graduates this spring with a master's in public health, said he has benefited greatly from his year at HSPH. In addition to his academic work, he met several health care leaders, including Jonathan Woodson, the assistant secretary of defense for health affairs.

"I had high expectations coming in, but it has exceeded my expectations," said Gray, who is at HSPH on a Mongan Commonwealth Fund Fellowship in Minority Health Policy.

Through his discussion with Woodson, Gray began working on the Defense Department's "telehealth" initiative, run out of the National Center for Telehealth & Technology. With staff there, Gray evaluated the efficiency and effectiveness of telehealth interventions, in which telecommunications are used to extend the reach of health care professionals to soldiers suffering from traumatic brain injury and psychological issues.

"It's something novel, that I could use in the future practice of gastroenterology," Gray said.

Gray grew up in Baltimore, his mother a teacher and father a physician. He recalls accompanying his father as he visited hospitals and clinics, and always being impressed by his father's rapport with his patients.

After graduating, Gray expects to continue his work linking the medical community to disadvantaged populations through an appointment as an assistant professor at Ohio State University Wexner Medical Center. There, in addition to his clinical duties, he will be director of a new program focusing on community engagement and equity in digestive health.

"I'll be trying to integrate efforts and ensure we have the community in mind, enhancing programs and working toward equity in health care delivery," Gray said.

House calls, without visits

With a master's from the School of Public Health, physician Darrell Gray hopes to use telecommunications to extend care to endangered groups in underserved neighborhoods.

By Alvin Powell | Harvard Staff Writer

A man of many talents

Harvard Law School graduate Elliot Schwab studied Talmudic law and thought about entering the music industry before coming to Cambridge.

By Colleen Walsh | Harvard Staff Writer

Let's just say that Elliot Schwab knows how to multitask.

While at Harvard Law School (HLS), he worked for an Israeli supreme court judge, raised two small children with his wife, studied Talmudic law, labored on a U.S. Supreme Court petition, served as a project manager for an international legal and policy consulting firm, took classes at Harvard Business School and Harvard College, and prepared for a career in real estate law, all while doing *pro bono* work with aspiring musicians.

Oh, and he's a songwriter too.

"I have a hard time turning down cool opportunities that arise," said Schwab, who will head to New York with his family for a job with the firm Simpson Thacher after graduation. "And in a place like Harvard, cool opportunities arise all the time."

The New York native's route to Cambridge was less traditional than the average HLS student's. Schwab had studied exclusively in yeshivas in the United States and Israel, educational institutions whose prime focus is on ancient Jewish law. The work perfectly prepared him for HLS and beyond, he said, teaching him how to analyze theoretical underpinnings and providing him with "a strong foundation in moral, religious, cultural, and ethical spheres.

"That sort of an education turns out to be excellent training for law school and life."

But Schwab's life could have taken a very different turn during his first HLS year when the music production team behind artists such as Lady Gaga, Moby, and Linkin Park came calling after hearing one of his demos.

Schwab's formal musical training amounted to a few years playing the piano as a child, but he always loved "thinking holistically about chords and the relationships between notes." As a teen, he taught himself the guitar, harmonica, and ukulele, and dabbled in songwriting.

In 2009, as a first anniversary present to his wife, Aliza, he recorded her a song in Israel. She begged him to do another. He recorded a handful of songs and then reached out to local music producers, hoping they might produce his work with other artists.

"I was persistent. I kept recording more songs and harassing their email inboxes until somebody started listening."

Listen they did. Schwab knew he'd found success when he hopped into a Jerusalem taxi during a clerkship for an Israeli judge last summer, and one of his songs started playing on the radio. "It has been both humbling and encouraging to shoot for a seemingly unattainable goal, work hard to realize it, and then watch my efforts reach fruition and snowball," he said.

His musical experience came in handy at HLS. He provided free counsel to music industry artists and producers through the School's Recording Artists Project clinic. He also helped craft a petition to the U.S. Supreme Court with HLS Professor Charles Nesson that urged the court to hear the case of Joel Tenenbaum, a Boston University student sued by the recording industry and fined by federal courts for illegally downloading and distributing songs.

It also was a priority for Schwab to maintain his Talmudic studies. And he worked closely with HLS professors Alan Dershowitz and Noah Feldman, helping them with research and book projects.

There were many opportunities to seize at HLS. For the man who always loves to do more, Harvard was the perfect fit, though he didn't necessarily know that coming in.

"I was very excited, but also a bit nervous, and didn't know what to expect," said Schwab. "My experience here has surpassed my very high expectations. I know that sounds cliché, but it's really true."

Photos: (left) by Kris Snibbe, (above) by Stephanie Mitchell
Harvard Staff Photographers

At 71, he earns his third degree

Henry Hacker, a lifelong collector, embraced museum studies at the Extension School.

By Corydon Ireland | Harvard Staff Writer

As a boy in the early 1950s, Henry S. Hacker would hop on his bicycle with a 50-cent piece burning in one pocket and set off in search of baseball cards to buy. Collecting in general became his lifelong passion and avocation, running like a thread though successful careers in law, finance, and marketing.

Along the way, Hacker, now 71, also collected a bachelor's degree at Yale University and a J.D. at Cornell. Now he is getting his third sheepskin, a master of liberal arts (A.L.M.) in museum studies from the Harvard Extension School. In 2008, after 40 years in or near New York, and with his three children grown, Hacker partly retired and moved to Cambridge, easing a transition back to the classroom. Back then, he asked himself, "What would I do if I don't go to school? I don't play golf."

Museum studies, with its correlation to collecting, seemed a natural. "I'm a serial collector," said Hacker, who has bought fine art, photographs, and even — one more time — baseball cards. "I go from genre to genre," he said.

Hacker eventually acquired the adult equivalent of that boyhood 50-cent piece, but even earlier he had acquired what he called "a pretty good eye." As a young lawyer in a prestigious New York firm, he daydreamed about curating the art on the walls. "Sometimes," said Hacker, "I would lose focus and start thinking about art."

In the 1970s, his eye for art and his urge to collect led him to buy photographs "from these young German kids who became rock stars of the art world," he said. (One was Thomas Struth, whose photos today fetch six figures.) In the '80s, Hacker and a friend curated a gallery exhibit of art photographs.

Then came another step natural to many collectors: giving everything away. Serial collectors often become serial donors, said Hacker. "If you give your collections to a museum, you can always go visit them."

Then came his passion for gorgeously artful posters depicting 20th-century modes of British transportation. He assembled 500 pieces, and donated most of them to the Yale Center for British Art. A 2010 show there, along with a handsome hardbound catalog of images and essays, was "my crowning achievement," said Hacker.

He started his museum studies coursework in the fall of 2008, and finished by the following summer. After a 2010 internship at the Museum of Fine Arts in Boston, Hacker set out to write a thesis on a collection of art posters amassed decades ago by Hans Sachs, a German-Jewish dentist. Sachs had started collecting in 1895, and by 1938, when the Nazis seized the artworks, he had more than 12,000 items.

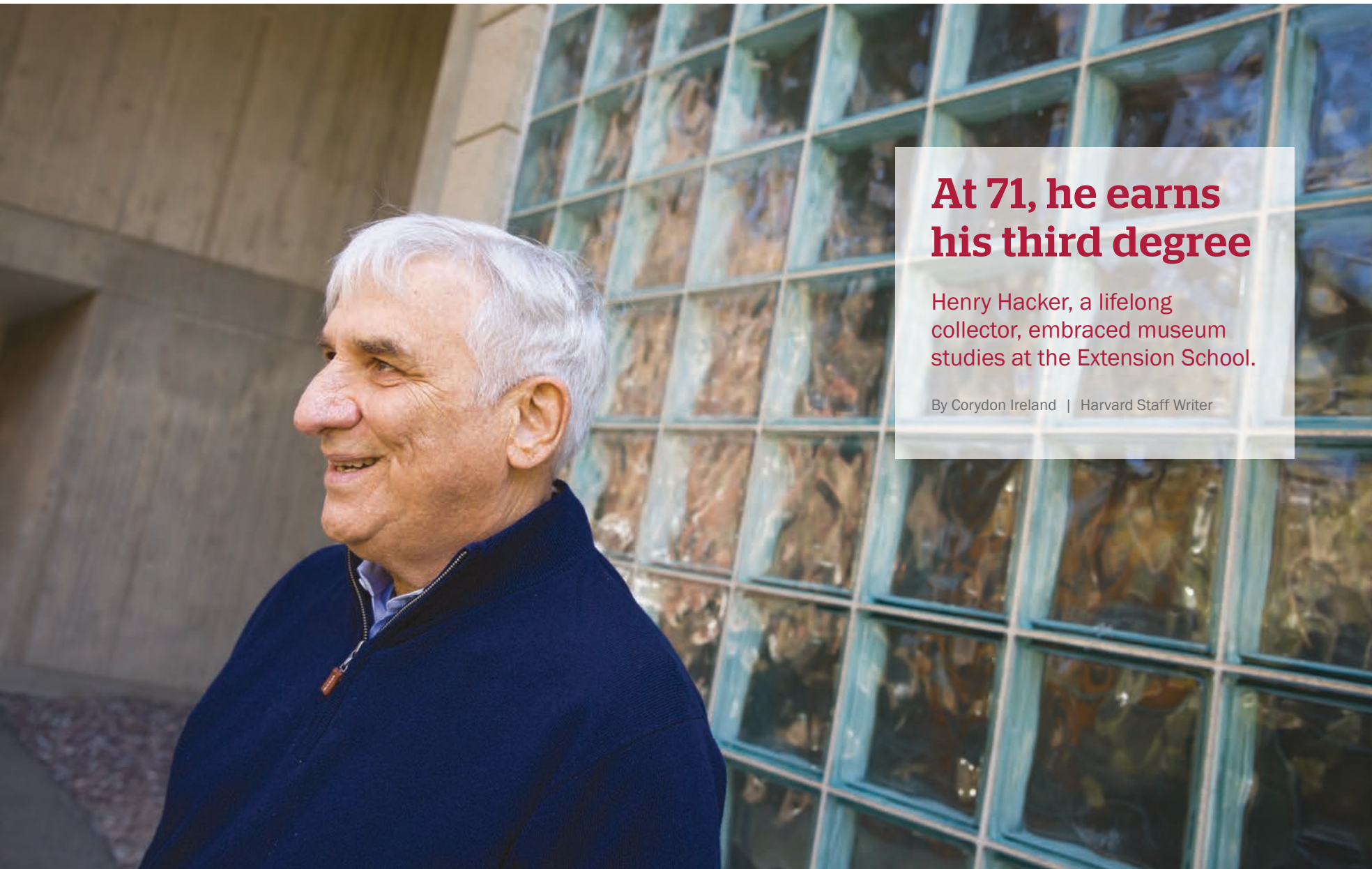
Sachs escaped the Nazis and moved to the United States, as Hacker's parents did. The thesis evolved and took a wider view of Nazi-looted art, examining the puzzles of ownership and restitution that emerged after World War II, and summarizing the legal disputes that in 1999 led to the Washington Principles, a code of behavior regarding disputed art. Hacker, who suggested further reforms, concluded his thesis on a somber note. "The proper care and treatment of this art," he wrote, "remains the unfinished business of the Holocaust."

Hacker said that the rigor of the museum studies program came from "a self-imposed desire to do well." He plans to audit courses this fall in the visiting fellows program at the Graduate School of Arts and Sciences. Hacker may study the economics and psychology of collecting, a subject he once taught at the New School in New York.

"Collecting to me has a kind of behavioral primacy," he explained. It is a nexus of ageless desires for acquisition and display that invites study. Collecting also pits Adam Smith against Karl Marx, said Hacker, since it expresses the enduring human tension between private and communal property.

Next fall, he may follow threads laid down in his thesis about a dark era. "Rich Jewish collectors struggled to get their art out of Europe at a time when owning modern art could bring arrest or worse," said Hacker. "What paintings you liked were a matter of life and death."

Photos: (below) by Stephanie Mitchell, (right) by Rose Lincoln
Harvard Staff Photographers



Bridging science and religion

Divinity School graduate Shelley Brown is combining her love for science and religion to help stitch together two fields that rarely seem to meet.

By Colleen Walsh | Harvard Staff Writer

Shelley Brown was pointing toward a life of cutting-edge stem cell research. Then one day in 2010, she says, she encountered the divine.

"Something was moving, and I thought I must have hit the petri dish by accident," said Brown, who had been trying to direct a set of stem cells toward bone cells during her Ph.D. work in biomedical engineering at the University of Michigan. "When I looked closer under the microscope, I realized the cells were beating. They had spontaneously differentiated into electrically coupled, beating heart cells. That's when I felt at the mercy of God, and that's when I decided to become a Christian."

The revelation sent Brown on a mission to explore the complicated intersection of religion and embryonic stem cell science in tandem. She went straight from her thesis defense to Harvard Divinity School (HDS) to earn her master's in divinity, and has spent the last three years figuring out "what science and religion is, and how we deconstruct, reconstruct and bring those two areas back together."

Brown, who grew up in Chicago, had long been interested in figuring out the universe. As a girl, she loved complicated puzzles, chess, and using science to discover "how things worked." She dreamed of becoming a mathematician, a neurosurgeon, a cardiologist, or a rocket scientist. Her mother, a teacher, and her father, a truck driver, encouraged her to pursue what she loved. In high school, she became enamored of proteins and the idea of blending engineering and biology.

As a Stanford undergraduate, Brown created her own major in chemical engineering with a heavy biology focus. A master's degree from Michigan followed. After her Ph.D. epiphany, she joined a local Baptist church where she filled in as an associate minister. She ran the university's campus ministry program and hosted Bible study groups, all while logging long hours in the lab exploring how embryonic stem cells become cartilage, fat, and bone.

"Little did I know it, I was doing science and religion then."

Brown was exploring postdoctoral options at the Harvard Stem Cell Institute when she spied a link to a lecture on religion and medicine with professors from HDS and Harvard Medical School.

"I was watching the forum and I said to myself … 'this is it.'" Instead of asking her adviser for a science recommendation, she asked him to write her one for HDS.

In Cambridge, Brown again embraced disparate worlds. She served as an associate minister at a local church, took courses in public policy at Harvard Kennedy School, preached on stem cells and religion at Memorial Church, and continued her research in a lab at the Massachusetts Institute of Technology.

Those diverse experiences, she said, have provided her with a rare big-picture view. "Being able to live, to sit to learn side-by-side with individuals who are from all over the world and have so many different, varied religious and ethical and moral views has just made me a better person, minister, scientist, woman, daughter, everything," said Brown, who got involved during her first year with the School's Science, Religion, and Culture Program, run by Ahmed Ragab, Richard T. Watson Assistant Professor of Science and Religion.

Brown's time at Harvard also helped her crystalize her post-graduation plans. While she hopes one day to return to the lab, for now she wants to head to Washington, D.C., to work on public policy.

"I believe in stem cell research, I believe in biomedical engineering, and I believe in God, and I think that all of that can still come together to serve society and achieve a public good. But we have to be able to do the research. And I think now that I have been able to take a step back, policy is where I think I can make a mark."

Brown knows her work won't be easy, and that some groups oppose embryonic stem cell research. But she intends to approach interactions with others by using what she learned at Harvard, she said, encouraging people to "never compromise what they believe."

"Clearly, I have an opinion on stem cell research, but my point in having these conversations and doing the work that I do is not to make an ideological argument ever for or against," said Brown. "My point is to be able to bring invested parties together to be able to talk about these very difficult issues."

Research to lose sleep over

Will Clerx ’14 studied how going without it for long periods affects undergrads.

By Colin Manning | Harvard Correspondent

It’s not uncommon to hear of undergraduates pulling all-nighters to prepare for exams or finish papers. Even though a number of studies have shown that sleep deprivation is unhealthy and can actually be counterproductive, that does little to sway the average student when deadlines loom.

So Will Clerx ’14 set out to dig deeper, specifically to study the physiological effects that irregular sleep patterns have on college students. Having served as an undergraduate researcher in the Division of Sleep and Circadian Disorders at Brigham and Women’s Hospital in Boston, a Harvard affiliate, Clerx designed and ran an experiment involving 61 of his fellow students. His research helped provide insight into how irregular sleep patterns affect undergraduate performance. And his work is included in the documentary “The Great American Sleep Project,” which will air on the National Geographic network.

“There are always competing priorities that arise, and college students don’t always make regular sleep their highest priority,” said Clerx. “But when you do the research, you see that irregular sleep patterns are associated with lower academic performance. So really, it appears to be counterproductive. It’s one of those things where people don’t necessarily realize what they’re doing to their bodies.”

A molecular and cellular biology concentrator, Clerx said his interest in science began when he was a small child looking for insects in his Seekonk, Mass., backyard.

“I was always fascinated by the natural world and exploring why things are the way they are. But while it’s something that has always interested me, I’ve found that it’s one thing to read about science, about biology, and another thing to ‘do science,’” said the Cabot House resident. “I’ve always been a passionate consumer of knowledge, as is everyone at Harvard; that’s how we got here, that’s why we’re graduating. But once you’re here at Harvard, you have a very special opportunity to become a creator of knowledge.”

In addition to his work in the lab, Clerx was inducted into Phi Beta Kappa as a junior, and is a former Cabot House Committee member and a member of the Harvard Catholic Student Association.

“Will brings intellect, passion, and humor to everything he does. He takes on challenging questions that impact the quality of life on a societal level while also caring deeply for those around him. He has contributed to both Cabot House and the broader College community through his intellectual, social, and personal leadership in immeasurable ways. He is truly a gem of a person,” Rakesh and Stephanie Khurana, co-masters of Cabot House, said in a joint statement. Rakesh Khurana is the incoming dean of Harvard College.

Entering his freshman year, Clerx took courses that fueled his interest in biology, but he wasn’t sure where his focus should be within the field. In the summer after his first year, he participated in the international Genetically Engineered Machine (iGEM) competition, a program that engages students in synthetic-biology research by having them collaborate on a research project of their own design, with the aim of creating biological systems that perform new functions. Clerx called this a “formative experience,” but said it wasn’t quite what he was seeking.

“I realized that this kind of research could have far-reaching and important impacts, but it was pretty far removed from the clinical side, from people. I took a step back and realized I really wanted to work more directly with people,” he said.

That’s when he took a class taught by Charles Czeisler ’74, the Frank Baldino Jr., Ph.D. Professor of Sleep Medicine. Clerx learned about the circadian clock, the biomechanism that guides sleep patterns, and how environmental time cues such as light can alter that internal clock and affect sleep.

“I was hooked,” he said. “Sleep is very tangible. It is something everyone experiences, everyone knows, and we think we understand it so well, but there is really so much more we can learn.”

In the fall of 2012, Clerx began working in the sleep lab. He continued to learn about how lack or disruption of sleep over time can unsettle the body, affecting important hormones such as melatonin and cortisol and increasing the risk of heart disease, cancer, and diabetes. And he saw how light exposure can influence the body’s internal clock. Yet he didn’t think that enough was being done to see how all of this was affecting undergraduates, whose exposure to light from smartphones and computer screens late into the evening has increased tremendously in the 21st century.

For his experiment conducted in the fall semester, he recruited fellow Harvard undergraduates and compared students with regular sleep schedules to those with irregular sleep patterns. His work evolved into his senior thesis.

“What I found was an effect similar to what some have called ‘social jet lag.’ Exposure to nocturnal light was associated with setting the circadian clock of the irregular sleepers back nearly three hours. This means that, on average, these students are in Boston, geographically speaking, but are essentially living in California, biologically speaking.” Clerx said. “I could tell college students they could sleep more. But if I could tell them that if they slept more regularly it might be the difference between a B+ and an A-, that has very tangible meaning.”

After graduation, Clerx will continue to work in the sleep lab, but eventually plans to go to medical school to become a pediatric oncologist.

“When you have children who are sick, young kids just at the beginning of their lives, there seems to be something fundamentally wrong with that. You’re fighting for the life ahead of them. There’s no doubt that it can be a tough environment when things don’t work out, but at the same time I think there’s a lot of room there to bring hope to people, and that’s what interests me,” he said.

As for his own sleep patterns, does Clerx practice what his research teaches?

“I am by no means a perfect human,” he said with a laugh, “but I am certainly aware of it. But there have been times when I stay up late writing a paper, look at the clock, and say to myself, ‘My risk of diabetes is going up.’ ”

Photo by Kris Snibbe | Harvard Staff Photographer

Summertime, and the reading is easy

By Sarah Sweeney | Harvard Staff Writer

Faculty members reveal what they'll be perusing during their downtime.

Photo by Jimmy Katz

Vijay Iyer

Franklin D. and Florence Rosenblatt Professor of the Arts

I have a soft spot for science fiction, speculative fiction, or whatever it's called now. With few exceptions, this area has historically not featured many minority voices. So I've been especially excited to see a new wave of work in this vein by authors of color. I have a couple of anthologies on my summer pile: "So Long Been Dreaming: Postcolonial Science Fiction & Fantasy," edited by Nalo Hopkinson and Uppinder Mehan, and "Long Hidden: Speculative Fiction from the Margins of History," edited by Daniel José Older and Rose Fox.

As for nonfiction, I will be glad to finally have time to finish my friend Vivek Bald's book "Bengali Harlem and the Lost Histories of South Asian America." Also in that queue are Saidiya Hartman's "Lose Your Mother: A Journey Along the Atlantic Slave Route," Gaiutra Bahadur's "Coolie Woman: The Odyssey of Indenture," Tommie Shelby's "We Who Are Dark," and Kiese Laymon's "How to Slowly Kill Yourself and Others in America." None of these seem like light summer fare, maybe, but I'm just glad to have time to take a bite out of a few of these books that have been on my mind for a while.

I have high hopes to make it through any of the above. Of course, I might just binge-watch "Cosmos" and BBC Sherlock Holmes episodes.

Rose Lincoln | Harvard Staff Photographer

Maya Jasanoff

Professor of history

One of the things I enjoy most about my area of research, the history of the British Empire, is that it gives me a chance to travel around the world. And one of the things I enjoy most about travel is reading about the places I visit. This year I have been on leave and traveling more than usual, so I am looking forward to a quiet summer in which I can catch up on a few titles I didn't get to while on the road.

I recently visited South Africa for the first time, and want to read Nadine Gordimer's novel "July's People." I'll be curious to see how her fictional portrayal of a post-apartheid régime — which was banned in South Africa when it was published in 1981 — holds up now, as South Africa marks 20 years of multiracial democracy. Closer to home, I took advantage of a conference in Oxford, Miss., to visit William Faulkner's house Rowan Oak. I haven't read any Faulkner since I was blown away by "The Sound and the Fury" in high school, so "Light in August" is high on my summer reading stack.

I'm especially interested to read Faulkner after having spent a lot of time lately with one of the writers who inspired him, Joseph Conrad, the subject of my current research. Before he became a writer, Conrad spent 20 years as a merchant sailor. And in order to get a sense of his life at sea, I spent a month this winter sailing from Hong Kong to Southampton on a container ship. I'm fascinated by accounts of shipboard life, so I can't wait to read Geoff Dyer's new book, "Another Great Day at Sea," about his stint aboard the aircraft carrier USS George H.W. Bush. Geoff is one of the funniest, smartest writers I know.

Rose Lincoln | Harvard Staff Photographer

Claudia Goldin

Henry Lee Professor of Economics

It's time to push ahead in some areas and clean up others. On the cleanup front, I was mesmerized several years ago by Stephen Greenblatt's "The Swerve" and vowed to read "On the Nature of Things" by Lucretius, the poem that inspired him. The prose edition by Martin Ferguson Smith, which Greenblatt read one summer in college, is on my reading list, and I hope to be as moved by Lucretius as was Greenblatt (and as I was by Greenblatt).
I've gotten a bit behind. Junot Diaz's "This Is How You Lose Her" and "The Amazing Adventures of Kavalier and Clay" by Michael Chabon are unopened files on my iPad. Larry Katz, professor of economics and my companion of several decades, has already read them, and thus I cannot depend on him to read them to me, as he has so many other books. Simon Schama's "The Story of the Jews" will be our read-out-loud book for the summer. Schama's "Citizens" taught me almost everything I know about the French Revolution. Will he do the same for the Jews?

Katz and I have also decided to set aside some time to learn [the programming language] Python through an MIT online course you can do at your own speed. Is that summer reading? I'll know in September.

Stephanie Mitchell | Harvard Staff Photographer

Bret Anthony Johnston

Paul and Catherine Buttenwieser Director of Creative Writing

This summer I'm going to read Yeats and Elizabeth Bishop, and "Wynne's War," a new novel by Aaron Gwyn about special forces on horseback in Afghanistan. I'll also read a collection of essays by Italo Calvino and stories by Mark Chiusano, a former student who graduated so recently that I still expect to see him. I'm also starting to wade into a couple of new projects, which will require ample research on picking locks, chupacabras, cults, and the 1993 tragedy at the Koresh compound in Waco, Texas. I'm looking forward to all of this reading.

And I'm also thrilled about the reading that isn't yet planned. I'm eager to happen upon unexpected used bookstores, tag sales, and library fundraisers, where I often buy books outside of my typical reading inclinations. In those places, where books are spilling out of moldy and collapsing cardboard boxes, I trust serendipity. A lawn mower repair manual? A cookbook from the 1950s? A self-published account of a man's quest to earn a place on the PGA Tour despite having only started playing golf the year before? I'll read these with almost the same delight and concentration that I do serious literature, and they will usually deliver what I long for as a reader — interesting language, complex character and vivid details, and surprise. There is often a good story to be found in such texts.

Science: A year of discoveries

Here are some areas in which Harvard in the last year has added to our collective knowledge of how the world works, and our place in it.

"More than 80 percent of American adults think that music improves children's grades or intelligence," said Harvard doctoral student Samuel Mehr. "But there is very little evidence supporting the idea that music classes enhance children's cognitive development."

FOR BIG DATA, BIG THINKING

The information was vast, the challenges daunting, and the tools statistical. But in the end, Harvard's new class on big data was as much about people as it was about methodology.

The 29 students in Statistics 183, "Learning from Big Data," worked over the spring in teams that shifted every few weeks, tackling challenges that involved enormous data sets. The students brainstormed and learned from their team members, but they also learned from the work of other teams. Each team posted its solutions to the class projects weekly, and the top three gave overviews of their strategies. Students also lectured, presenting different statistical methods to the class each week.

"The learning curve is very steep, but it's also very exciting," said Sherrie Wang, a senior biomedical engineering concentrator. "No other class I've taken is graded this way and is so project-intensive."

The course met twice a week in Quincy House's newly renovated Stone Hall, under the watchful eye of Assistant Professor of Statistics Luke Bornn and teaching fellow Alex Franks. Bornn designed the course to eschew the typical lecture-and-exam format for one that is project-based and emphasizes peer learning. In other words, the class was unlike any that Bornn himself has taken.

GENETIC LINK BETWEEN FRIED FOODS AND OBESITY?

The first study to show that the adverse effects of fried foods may vary depending on an individual's genetic makeup was released in March.

People with a genetic predisposition to obesity are at a higher risk of obesity and related chronic diseases from eating fried foods than those with a lower genetic risk, according to the study by researchers from Harvard School of Public Health (HSPH), Brigham and Women's Hospital, and Harvard Medical School (HMS).

"Our study shows that a higher genetic risk of obesity may amplify the adverse effects of fried food consumption on body weight, and high intakes of fried food may also exacerbate the deleterious genetic effects," said Lu Qi, lead author and assistant professor in the Department of Nutrition at HSPH and Brigham and Women's Hospital and Harvard Medical School.

The researchers analyzed data from 9,623 women in the Nurses' Health Study, 6,379 men in the Health Professionals Follow-up Study, and 21,426 women in the Women's Genome Health Study. Participants filled out food-frequency questionnaires that asked how often they ate fried foods both at home and away from home. Body mass index (BMI) and lifestyle factors, such as physical activity, were also assessed. Genetic risk scores were calculated based on genetic variants associated with BMI.

MUTING THE MYTH OF THE 'MOZART EFFECT'

Children get plenty of benefits from music lessons. Learning to play instruments can fuel their creativity, and practicing can teach much-needed focus and discipline. And the payoff, whether from learning a new song or just mastering a chord, is often boosted self-esteem.

But Harvard researchers now say that one oft-cited benefit — that studying music improves intelligence — is a myth.

Though it has been embraced by everyone from advocates for arts education to parents hoping to encourage their kids to stick with piano lessons, a pair of studies conducted by Samuel Mehr, a Harvard Graduate School of Education (HGSE) doctoral student working in the lab of Elizabeth Spelke, the Marshall L. Berkman Professor of Psychology, found that music training had no effect on the cognitive abilities of young children. The studies were described in a December paper published in the open-access journal PLoS One.

"More than 80 percent of American adults think that music improves children's grades or intelligence," Mehr said. "Even in the scientific community, there's a general belief that music is important for these extrinsic reasons. But there is very little evidence supporting the idea that music classes enhance children's cognitive development."

THE ANNUAL DOINGS AT DAVOS

On the global summit social calendar, the annual World Economic Forum in Davos, Switzerland, is the glittering, invitation-only confab where titans of industry and political figures, such as Microsoft founder Bill Gates and Secretary of State John Kerry, strategize with academic leaders and celebrity A-listers, such as Harvard President Drew Faust and activist musician Bono.

During a debriefing at the Harvard Kennedy School (HKS) in early February, some Harvard affiliates who attended the January event gave students and other attendees an inside peek at the issues on the international agenda and an idea of what it was like to be there. HKS maintains close ties with Klaus Schwab, M.P.A. '67, the founder and executive chairman of the World Economic Forum.

Rakesh Khurana, the incoming dean of Harvard College, said he looked at Davos through the lens of his training as an organizational sociologist. "In a highly secular world, I think, for global elites, it represents a type of moment for communion, of seeing similar others ... when people feel less and less affiliation or connection to their own national or regional identities," he said.

Also attending was David Gergen, Public Service Professor of Public Leadership and director of the Center for Public Leadership at HKS. Gergen is a Davos veteran, going back to his days as a journalist in the 1980s. The panel included Felipe Calderón, the former president of Mexico and an Angelopoulos Global Public Leaders Fellow at HKS,

Photo by Jon Chase | Harvard Staff Photographer

and Joshua R. Sanes, the Jeff C. Tarr Professor of Molecular and Cellular Biology and the Paul J. Finnegan Family Director of the Center for Brain Science.

CAN iPADS HELP STUDENTS LEARN SCIENCE? YES

The scale of the universe can be difficult to comprehend. Pretend you are going to make a scale model with a basketball representing the Earth and a tennis ball as the moon. How far would you put the tennis-ball moon from the basketball Earth? Most people would place them at arms' length from each other, but the answer may surprise you: At that scale, the balls would need to be almost 30 feet apart.

A study by researchers at the Harvard-Smithsonian Center for Astrophysics (CfA) shows that students grasp the unimaginable emptiness of space more effectively when they use iPads, rather than traditional classroom methods, to explore 3-D simulations of the universe.

This study comes at a time when educators are increasingly questioning whether devices such as iPads should play a greater role in education. It suggests that iPads (and other tablets) can improve student understanding of challenging scientific concepts such as astronomical scale.

"These devices offer students opportunities to do things that are otherwise impossible in traditional classroom environments," said study leader Matthew H. Schneps of the Harvard College Observatory. "These devices let students manipulate virtual objects using natural hand gestures, and this appears to stimulate experiences that lead to stronger learning."

A commitment to being a global citizen

Both on campus and in the field, Harvard tackles issues that affect other nations, cultures, climates. Here is a sampling of how the College and its Schools are immersed in dealing with international concerns.

GROUNDWORK FOR LEARNING ABROAD

When William Anderson and Kevin Eggan looked at the prospects for students in developmental biology who wanted to study overseas, they didn't find much. Their solution: Design a course that provides a rich laboratory experience while also giving students a chance to experience a foreign land.

Anderson, associate director of education and senior lecturer in Harvard's Department of Stem Cell and Regenerative Biology, and Eggan, professor of stem cell and regenerative biology, are piloting a 10-week course this summer that pairs students with laboratories at the Karolinska Institute in Stockholm to conduct independent research, guided by faculty members, fellows, and graduate students there.

While in Sweden, the students will live in apartments near campus and, in addition to learning through their scientific work, will learn about life in Stockholm, augmented by excursions led by Anderson and Eggan.

The pair's efforts have been helped by an award from the President's Innovation Fund for International Experiences. The fund, established as part of David Rockefeller's $100 million gift in 2008 to foster undergraduate experience abroad, provides support for the sometimes challenging preparation needed to create a substantial, immersive student experience in another country.

THE BRIGHT SIDE OF PAKISTAN

The genesis was a lecture by a noted Harvard design professor and a quiet discussion with a small group of interested local partners. By January, it had grown into a three-day conference on South Asian cities, attracting upward of 800 people, with concurrent sessions in large tents erected for the occasion in the Pakistani port city of Karachi.
In addition to a Harvard delegation of seven, the conference drew urban design professionals, government officials, and academics from across Pakistan and elsewhere in South Asia, including India and Bangladesh. Tarun Khanna, director of Harvard's South Asia Institute, said it grew through regional collaboration and was symbolic of a "narrative of peace" that seeks to counterbalance the history of strife in the area.

Organizers said the conference was just the initial discussion in what they hope will be an ongoing conversation about the problems and opportunities confronting cities across the region. Officials at the South Asia Institute say the conference was both part of the Institute's growing engagement with Pakistan and a sign of the enthusiasm of Pakistani partners for further collaboration.

ATOP THE AMAZON RAINFOREST

In the steamy Amazon rainforest, Harvard Professor Scot Martin and his assistants climbed a 177-foot aluminum tower used in climate research. The tower is one of a number of such structures that make up a massive, coordinated campaign to track something that, over decades, could prove more deadly than the Amazon's anacondas, something that floats invisibly, high above the pristine jungle: air pollution.

The research project is called GreenOceanAmazon2014 (GoAmazon2014), a collaboration among the U.S. Department of Energy and several Brazilian and other international partners. The program studies the environmental impact of a growing pollution plume generated in Manaus, Brazil, a burgeoning industrial center carved from the dense forest.

"Manaus is a great test bed. It's an isolated urban region with 2,000 kilometers of forest around it," said Martin, Harvard's Gordon McKay Professor of Environmental Chemistry, the principal investigator for the project. In "most places, there are so many possible pollution sources, it's very difficult to dissect and interpret the data. Here, it's a much more straightforward experiment, given there's only one major pollution source."

Harvard Professor Scot Martin (left) stands next to the U.S. Department of Energy mobile lab he uses for his work. The research project is called GreenOceanAmazon2014, a collaboration among the U.S. Department of Energy and several Brazilian and other international partners.

Photo by Ned Brown | Senior Multimedia Producer

GOING FORWARD A LOOK BACK

Compiled by Sarah Sweeney | Harvard Staff Writer

JUNE 2013

Legendary crew coach Harry Parker, who joined Harvard in 1960 and helmed the Crimson's heavyweight program starting 50 years ago, **dies June 25 at the age of 77** after mentoring generations of Harvard rowers and U.S. Olympians.

James E. Ryan, one of the nation's leading scholars of education law and policy, is named the next dean of the **Harvard Graduate School of Education**.

Originally constructed in 1807, **Harvard's historic Fay House** at the Radcliffe Institute for Advanced Study becomes the **oldest LEED-certified building in the U.S.** when it receives a LEED-NC Gold certification.

JULY 2013

Asa Gray Professor of Systematic Botany **Donald Pfister is named interim dean of Harvard College**. Pfister is an award-winning teacher, an influential scholar of plant and fungal biology, and a committed student advocate, most notably as master of Kirkland House, whose career at Harvard spans nearly 40 years. Pfister takes over for Evelynn M. Hammonds, who completes her five-year term as dean at the beginning of July.

A University-wide "Lighting Fair" provides tools and resources to reduce energy use to students, staff, and faculty. Members of the Harvard community are offered energy-efficient bulbs at a fraction of their regular cost.

AUGUST 2013

Irish poet Seamus Heaney dies on Aug. 30. Heaney began teaching at Harvard in 1979, was elected the Boylston Professor of Rhetoric and Oratory (1984-95), won the Nobel Prize in literature in 1995, and became the Ralph Waldo Emerson Poet-in-Residence, a post he held until 2006. Heaney's last official appearance at Harvard was at Commencement in May 2012. At Morning Exercises, in honor of the University's 375th year, he reprised his 1986 "Villanelle for an Anniversary," composed for the University's 350th.

Jameela Pedicini joins Harvard Management Company as the **first vice president for sustainable investing.**

After 15 months of construction and renovation, Old Quincy, the first test project in the House Renewal initiati**ve, begins welcoming students** returning to campus. Undergraduates discover a fully transformed building designed to enhance the interactions of the multigenerational community living within it while retaining the historical character of the House. New social and academic spaces, including a smart classroom, music practice rooms, and a large lounge, work to enhance House life.

SEPTEMBER 2013

The University kicks off the public phase of a $6.5 billion fundraising campaign designed to benefit key priorities during constrained financial times. If successful, it will be the largest ever in higher education.

Malala Yousafzai, the 16-year-old Pakistani girl who was shot on Oct. 9, 2012, in an assassination attempt for expressing her philosophy of gender equality in education, receives the **2013 Peter J. Gomes Humanitarian Award from the Harvard Foundation.**

Hundreds of women convene for a weekend event celebrating **60 years of women at Harvard Law School.**

Old Quincy is renamed in honor of Robert G. Stone Jr. '45, the late senior fellow of the Harvard Corporation, during a ribbon-cutting ceremony held in the House's O'Donnell Courtyard.

Historian and humanities scholar **Peter K. Bol is named vice provost for advances in learning.** Bol, the Charles H. Carswell Professor of East Asian Languages and Civilizations, will oversee both HarvardX and the Harvard Initiative for Learning and Teaching.

OCTOBER 2013

The **Hutchins Center for African and American Research** presents the W.E.B. Du Bois awards to White House adviser **Valerie Jarrett**, playwright **Tony Kushner,** U.S. Rep. **John Lewis,** Associate Justice of the U.S. Supreme Court **Sonia Sotomayor,** the commissioner of the NBA David Stern, and Hollywood director **Steven Spielberg.**

Theodore William Richards Professor of Chemistry *Emeritus* **Martin Karplus is one of three to share the Nobel Prize in chemistry.**

James E. Rothman, a 1976 Harvard alumnus, wins a share of the **2013 Nobel Prize in physiology or medicine** for work illuminating the internal machinery that cells use to transport molecules.

The Radcliffe Institute and the John F. Kennedy Presidential Library and Museum host a conversation with House **Democratic Leader Nancy Pelosi** on the **50th anniversary of the Presidential Report on American Women**.

The winner of the Radcliffe Institute's first public art competition is revealed — "Saturate the Moment," designed by GSD students — and installed in the **Susan S. and Kenneth L. Wallach Garden at the launch of The Radcliffe Campaign** called "Invest in Ideas."

Faculty of Arts and Sciences **Dean Michael D. Smith** formally launches the **$2.5 billion Harvard Campaign for Arts and Sciences** at a standing-room-only alumni event at Sanders Theatre.

The University announces that **William F. Lee '72 will become the Harvard Corporation's senior fellow** in summer 2014, succeeding Robert D. Reischauer '63.

Winthrop House is put next on the list of undergraduate residences to be renewed as part of the effort to reinvigorate Harvard College's historic House system. According to the plan, and pending final approvals, Winthrop will be taken offline immediately following Commencement 2016, and will reopen to undergraduates in fall 2017. Plans to renew Winthrop's Gore and Standish halls follow the completion of Quincy House's Stone Hall, ongoing construction at Leverett House's McKinlock Hall, and completion of Dunster House, which is scheduled for renewal immediately following Commencement 2014.

The Boston Redevelopment Authority unanimously approves **Harvard's 10-year development plan in Allston,** giving the initial green light to seven new building projects and two major renovations.

Harvard College launches a new initiative to encourage promising students from modest economic backgrounds to attend and complete college, whether at Harvard or at other selective institutions. **The Harvard College Connection** uses

Photos: (left) Old Quincy is renamed in honor of Robert G. Stone Jr. '45, the late senior fellow of the Harvard Corporation.

(center) Legendary crew coach Harry Parker, who joined Harvard in 1960, died at the age of 77.

(right) Henry Louis Gates Jr. and Steven Spielberg at the W.E.B. Du Bois awards, presented by the Hutchins Center.

Photos: (left and center) by Kris Snibbe, (right) by Stephanie Mitchell | Harvard Staff Photographers

social media, video, and other Web-based communications, along with traditional forms of outreach, to connect high school students to Harvard and to other public and private colleges.

The Science Center atrium and Cabot Science Library, already filled with bustling undergraduates, will undergo a transformation to support **learning and teaching for the digital age** while more effectively connecting the library to the atrium and plaza social spaces.

NOVEMBER 2013

In the **130th playing of The Game,** the Harvard football team — with the help of sophomore Paul Stanton Jr.'s four touchdowns — outmuscles Yale, 34-7, claiming its seventh consecutive win against its archrival at the Yale Bowl.

Years of discussion about the need for a Harvard campus center come closer to fruition when President Faust announces that a donor has been found and an architect selected for an expansive facility to transform **Holyoke Center.** The center, expected to open in 2018, will be named for its major donors, **Richard A. and Susan F. Smith Campus Center.**

Kanye West meets with Graduate School of Design students during an impromptu visit and tour of the School. While visiting, West addresses students and distributes tickets to his concert in Boston that evening.

Carolyn Abbate, one of the world's most accomplished and admired music historians, **is named a University Professor,** Harvard's highest honor for a faculty member. Her appointment as the Paul and Catherine Buttenwieser University Professor takes effect on Jan. 1, 2014.

Sandra Naddaff, director of the Freshman Seminar Program and director of studies in literature, is named the **dean of the Harvard Summer School.**

Harvard is the **leading producer of Fulbright Scholars for 2013-14,** with 44 students — 32 from Harvard College and 12 from the Graduate School of Arts and Sciences — receiving the prestigious grants to conduct research or teach abroad. Of the 44, 39 accepted the awards.

Norm J. Jones, who has had a long and distinguished career in academic diversity, compliance, and inclusion, is appointed the associate chief diversity officer and deputy director in the **Office of the Assistant to the President for Institutional Diversity and Equity.**

DECEMBER 2013

Surrounded by family and friends, 111 Harvard College undergraduates are honored during the **annual midyear graduation ceremonies.**

Brandon Liu '14 is named one of 36 students nationwide to receive a **Marshall Scholarship,** which will allow him to study for two years at a university in the U.K.

Two new studies conducted by Harvard researchers **show no effect of music training on the cognitive abilities** of young children.

Harvard's deans and the University's provost announce **The Deans' Design Challenge: Urban Life 2030,** which calls on students to work collaboratively across disciplines to propose sustainable ideas that would improve urban life by 2030.

Seniors **Elizabeth Byrne, Alexander Diaz, Aurora Griffin, Paolo Singer,** and **Andrew Lea,** and recent graduate Katherine Warren '13 are among the 32 **Americans named as Rhodes Scholars.** The scholarship, arguably the most prestigious academic award in the world, covers the full cost of two or three years' study at the University of Oxford. With this year's winners — the most in the nation — Harvard has now produced a total of 348 Rhodes Scholars.

Radcliffe's Arthur and Elizabeth **Schlesinger Library** on the History of Women in America marked its **70th anniversary with a symposium that honored women's history pioneer Gerda Lerner** and with an exhibit that shared items **from the library's Betty Friedan collection.**

Irene Pepperberg, best known for her **work with an African grey parrot named Alex** — whose intelligence was estimated as equal to that of a 6-year-old child — **relocates her lab to Harvard,** where she is continuing to explore the origins of human intelligence by working with birds.

JANUARY 2014

Rakesh Khurana, the Marvin Bower Professor of Leadership Development at Harvard Business School, professor of sociology in the Faculty of Arts and Sciences, and co-master of Cabot House, **is named dean of Harvard College,** effective July 1.

Wintersession, the College-led programming initiative, offers a wide range of electives that let students indulge artistic or creative passions, explore career interests and professional-development opportunities, develop hobbies, or participate in recreational activities with friends. Well over **100 activities and programs** bring together undergraduates, graduate students, faculty, and alumni.

Jazz musician and composer **Vijay Iyer,** who won a MacArthur Foundation grant, **becomes the first Franklin D. and Florence Rosenblatt Professor of the Arts** in Harvard's Department of Music.

Dame Helen Mirren visits Harvard as Hasty Pudding's Woman of the Year. A week later, **Neil Patrick Harris** turns up on campus as Man of the Year.

A team of Harvard scientists and engineers demonstrate **a new type of battery** that could fundamentally transform the way electricity is stored on the grid, making power from renewable energy sources such as wind and sun far more economical and reliable.

Harvard's undergraduate dining halls all earn **Green Restaurant Association two- or three-star certification for their sustainability.** Certification recognizes Harvard University Dining Services' ongoing efforts to operate efficiently and to source sustainable products.

A new Harvard study shows that, in as little as a day, **diet can alter the population of microbes in the gut** — particularly those that tolerate bile — as well as the types of genes expressed by gut bacteria.

HDS Professor Laura Nasrallah's edX online course **"Early Christianity: The Letters of Paul" draws more than 22,000 participants from 180 countries.** Some call it the largest and most concentrated scholarly discussion of biblical studies in history.

FEBRUARY 2014

Kenneth Griffin '89, founder and CEO of Citadel**, makes the largest gift in Harvard College history.** The $150 million gift is principally focused on supporting Harvard's financial aid program, which will affect as many as 800 undergraduates every year.

Applications to Harvard remain near record highs for the fourth year in a row. This year, 34,295 sought admission to the **Class of 2018.**

After being charged to lead a **task force on Harvard's electronic communications policy,** HLS Professor David Barron releases recommendations concerning Harvard's policies and protocols on the privacy of, and access to, electronic communications.

Capping his lauded Harvard lectureship, "Hidden in Plain View: Meanings in American Music," **musician Wynton Marsalis and an all-star ensemble** give a capacity crowd at Sanders Theatre a musical history of the **roots of jazz in New Orleans.**

HarvardX breaks 1 million registrants. That figure doubled from Aug. 5-11, 2013, when data gathered showed the total enrollments for HarvardX courses (including past, current, and future offerings) exceeded 500,000.

Jazz pianist **Herbie Hancock begins his post as the 2014 Charles Eliot Norton Professor of Poetry at Harvard** and kicks off his two-month lecture series, "The Ethics of Jazz."

The Office for the Arts' 15,010-square-foot ceramics studio is dedicated with President Faust addressing a large crowd at the Allston facility.

Plans for Dunster House — the first undergraduate residence to undergo full House renewal — reveal significantly expanded social and program spaces and new horizontal corridors that will complement the traditional vertical entryways. According to administrators helping to guide the project, the updates will help transform the building to better support the living and learning needs of today's students, while preserving the character of the neo-Georgian river House.

Hip-hop star and actor **LL Cool J comes to Harvard,** pulling double duty as host of the Cultural Rhythms festival and as the **Harvard Foundation's Artist of the Year.**

MARCH 2014

Harvard Associate Professor of Astronomy **John Kovac and colleagues working on the BICEP2 telescope in the South Pole make history** — and international head-

Photos: (left and center) by Jon Chase, (right) by Stephanie Mitchell | Harvard Staff Photographers

Photos: (far left) Herbie Hancock begins his post as Charles Eliot Norton Professor of Poetry in February.

(center) Helen Mirren is celebrated as Hasty Pudding's Woman of the Year.

(left) John Kovac (pictured far right) and colleagues make history — and international headlines — when they observe gravitational waves.

lines — when they **observe gravitational waves, the first strong evidence of "cosmic inflation,"** which scientists say occurred in a fraction of the first second of the universe's existence, when it expanded billions of times over.

Professor **John Briscoe,** who has made a career of tackling water insecurity challenges around the world, is selected by the Stockholm International Water Institute to receive the **Stockholm Water Prize, known informally as the "Nobel Prize of water."**

Harvard Business School announces the launch of HBX, a digital learning initiative aimed at broadening the School's reach and deepening its impact. With HBX, the School has created an innovative platform to support the delivery of distinctive online business-focused offerings, including HBX CORe, a primer on the fundamentals of business.

Harvard's head basketball **coach Kathy Delaney-Smith earns career win No. 514** to tie former Princeton coach Pete Carril for the most wins by an Ivy League coach. She **later breaks the record** with a win against Princeton.

The Harvard men's basketball team becomes the first team in the nation to punch its ticket into the tournament with a 70-58 victory at Yale, clinching the Ivy League Championship. The 12th-seeded Crimson has a 61-57 win over fifth-seeded Cincinnati in the second round of the NCAA tournament but loses to Michigan State in the next round.

Harvard College sends admission notifications to 2,023 perspective members of the Class of 2018, 5.9 percent of the applicant pool of 34,295. Included are record numbers of African-American and Latino students, who constitute 11.9 and 13 percent of the admitted class, respectively.

The **Harvard Art Museums announces the opening of its new Renzo Piano-designed facility to the public on Nov. 16, 2014.** The renovation and expansion of the museums' landmark building at 32 Quincy St. in Cambridge will bring the three museums and their collections together under one roof for the first time, inviting students, faculty, scholars, and the public into one of the world's great institutions for arts scholarship and research.

Harvard Management Company, which oversees the University's $32.7 billion endowment, **celebrates the 40th anniversary** of its establishment.

President Faust announces the creation of a University-wide task force to recommend how the University can better **prevent sexual misconduct involving students**. The task force will include students, faculty, and staff from across Harvard and will consult widely within the Harvard community and beyond.

APRIL 2014

In April, in a letter to the community, President Faust outlines steps that Harvard will take to continue its **commitment to addressing the challenges of climate change and environmental sustainability.** Faust formally accepts the recommendations of the 2012-13 Greenhouse Gas Reduction Goal Review Task Force and announces that Harvard has reduced its greenhouse gas emissions 21 percent including growth and renovation, and 31 percent excluding growth and renovation. **Faust also creates a $20 million Climate Change Solutions Fund** to spark innovative research and announces that Harvard's endowment will become a signatory to the United Nations-supported Principles for Responsible Investment.

The PBS series **"The African Americans: Many Rivers to Cross,"** written and presented by **Henry Louis Gates Jr., wins the prestigious Peabody Award.** The honor signifies excellence on television, radio, and the Internet. Gates is the Alphonse Fletcher University Professor and director of the Hutchins Center for African and African American Research.

On April 15, the one-year anniversary of the **Boston Marathon bombings,** the Memorial Church opens its doors to runners, students, and community members wishing to reflect and pay respect.

Reformed workaholic Arianna Huffington discusses her new book, "Thrive: The Third Metric to Redefining Success and Creating a Life of Well-Being, Wisdom, and Wonder," during a visit to the Harvard School of Public Health.

The Pershing Square Foundation, founded by alumni Bill Ackman '88, M.B.A. '92, and his wife, Karen Ackman, M.L.A. '93, **awards the University $17 million** to catalyze the work of Harvard's Foundations of Human Behavior Initiative.

Harvard Business School (HBS) **Dean Nitin Nohria announces that the Bertarelli Foundation of Switzerland**, co-chaired by Ernesto Bertarelli, M.B.A. '93, has **established the Bertarelli Foundation Health and Life Sciences Entrepreneurship Fund with a generous gift to HBS**. The fund will support activities at the Harvard Innovation Lab (i-lab), including the Deans' Health and Life Sciences Challenge, which will be renamed the Bertarelli Prize.

Harvard's **Department of Physics wins a $1 million award from the Moore Foundation** to study quantum systems. Physics Professor Subir Sachdev submitted the competition proposal, along with colleagues Eugene Demler and Bertrand Halperin.

American Repertory Theater (A.R.T.) Artistic Director **Diane Paulus** and Associate Professor of Astronomy **John Kovac are named to Time magazine's list of the 100 most influential people** in the world. Last year, Paulus won the Tony award for best direction of a musical for her restaging of the 1970s show "Pippin," and this year, Kovac, the project leader of the BICEP2 telescope at the Amundsen-Scott South Pole Station, discovered the effects of gravitational waves for the first time.

Ann Blair, Henry Charles Lea Professor of History; **Matthew Harris,** assistant professor of genetics and orthopedic surgery; **Jill Lepore,** David Woods Kemper '41 Professor of American History; **Meira Levinson**, associate professor of education; and **Gary Urton,** Dumbarton Oaks Professor of Pre-Columbian Studies, receive **Guggenheim Fellowships.**

The University launches **HarvardX for Allston,** a new educational initiative stemming from HarvardX and run in partnership with the Ed Portal. The program will bring HarvardX content to the Allston-Brighton community and general public by offering programs that integrate the latest in virtual education technologies with opportunities for face-to-face interactions and discussion.

The No. 16 Harvard **men's lacrosse team** does what no other Crimson team has done in 24 years, **clinching the program's first Ivy League championship since 1990** with an 11-10 win at No. 13 Yale.

Levent Alpoge '14 is named a Churchill Scholar and will spend next year at the University of Cambridge. There, he will complete Part III of the university's Mathematical Tripos and conduct research in analytic number theory, which will earn him a master of advanced study in mathematics degree.

MAY 2014

President Faust awards novelist **Margaret Atwood the Harvard Arts Medal,** calling her a "true social and moral force," and praising her vast body of work, her creativity, and her "virtuosity of showing us the darkness." Atwood's appearance kicks off the annual **Arts First festival.**

Radcliffe celebrates 15 years of the Radcliffe Institute, founded in 1999, and **135 years of Radcliffe,** founded as the Harvard Annex in 1879.

Harvard's **Wyss Institute develops a new plastic from a natural element found in shrimp shells.** The renewable plastic is strong enough for packaging and toys but once discarded quickly breaks down and enriches soil.

VACU Scan, an initiative to boost health care in developing countries, receives $70,000 as the w**inner of the 2014 President's Challenge.** Changing the game, or at least advancing possible solutions for some of the world's greatest problems, has been the focus of the President's Challenge since its inception three years ago.

Professors Amy Wagers and Lee Rubin of Harvard's Department of Stem Cell and Regenerative Biology report that injections of a protein known as GDF11, which is found in humans as well as mice, **improved the exercise capability of mice and improved function of the olfactory region of the brains in the older mice.** The scientists previously demonstrated that GDF11 can make failing hearts in aging mice appear more like those of young and healthy mice.

A series of **large paintings created for Harvard in 1962 by Mark Rothko are restored** using an innovative digital projection system developed by a team at Harvard and the Massachusetts Institute of Technology that recaptures the works' faded colors. The opening of the renovated and expanded Harvard Art Museums this November will feature the inaugural special exhibition "Mark Rothko's Harvard Murals."

More than **82 percent of the students admitted to the Class of 2018 plan to enroll** at Harvard for the fall term. This is close to the highest yield in more than 40 years. The Class of 2018 will also be the one of the most diverse ever admitted to Harvard College.

Photos: (left) Wyss Institute develops a new plastic from a natural element found in shrimp shells.

(right) Men's basketball becomes the first team in the nation to punch its ticket into the tournament.

(far right) On the one-year anniversary of the Boston Marathon bombings, Memorial Church offers a space for remembrance.

Photos: (left) courtesy of Wyss Institute; (center) by Jon Chase, (right) by Rose Lincoln | Harvard Staff Photographers

GSAS honors four with Centennial Medals

2014 marks the 25th anniversary of the Centennial Medal, first awarded on the 100th anniversary of the founding of Harvard's Graduate School of Arts and Sciences. Since that time, 96 accomplished alumni have received GSAS's highest honor on the day before Commencement at an event celebrating their achievements.

Bruce Alberts

Bruce Alberts '60, Ph.D. '66, biophysics, holds the Chancellor's Leadership Chair in Biochemistry and Biophysics for Science and Education at the University of California, San Francisco (UCSF). After earning his Ph.D., he spent 10 years at Princeton before joining UCSF as a professor in the Department of Biochemistry and Biophysics. During this time, he earned a reputation as an outstanding teacher and researcher who illuminated the mechanisms of DNA replication and co-authored "The Molecular Biology of the Cell," now in its fourth edition.

Alberts is equally well-known for his advocacy. Since he first noticed substandard science resources in San Francisco public schools during the 1980s, he has dedicated his energies to improving science education throughout the United States. He built a partnership — that became an internationally recognized model — between UCSF and local schools that shared materials and equipment, believing strongly that the university had a duty to provide children and teachers with the tools needed to excel. During his time as president of the National Academy of Sciences, he spurred the adoption of national standards for K-12 science education and worked to bring science literacy and leadership to the developing world. Appointed science envoy by President Barack Obama, Alberts promoted science and the values of science in the Muslim world, and he continued to advocate for improved science education throughout the world as editor-in-chief of Science.

"Bruce Alberts is one of the most admired figures in American science," says Richard Losick, the Maria Moors Cabot Professor of Biology at Harvard. He used his bully pulpits "to promote evidence-based approaches to science education [promoting research to determine what works and what doesn't work], inspiring me and countless other colleagues across the country to devote ourselves as much to teaching effectively as to doing science."

Keith Christiansen

Keith Christiansen, Ph.D. '77, fine arts, is the John Pope-Hennessy Chairman of the Department of European Paintings at the Metropolitan Museum of Art. While working toward his Ph.D., Christiansen received a Fulbright grant to travel to Italy and conduct research on the early Renaissance painter Gentile da Fabriano; he ultimately published his dissertation as a book that was awarded the Mitchell Prize for best first book in art history. A chance meeting in Florence with then-Director of the British Museum John Pope-Hennessy, who was about to take a new position at the Met, led to an offer to join the staff as an assistant curator.

Over his 37 years at the Met, Christiansen has held numerous curatorial roles and taught at Columbia, New York University, and Smith College. He has helped the museum acquire important works by Duccio, Pietro Lorenzetti, and Romanino, and he has organized successful exhibitions focused on Caravaggio and Michelangelo. In his current role, he oversees the Met's world-renowned collection of old masters — seven centuries of individual masterpieces and cultural monuments. Christiansen has organized these treasures into "watershed exhibitions on topics as diverse as Mantegna, Tiepolo, Caravaggio, Poussin, and 15th-century Siena," revealing a "remarkable curiosity and intellectual scope," says Harvard curator Stephan Wolohojian.

Judith Lasker

Judith Lasker, Ph.D. '76, sociology, is the National Endowment for the Humanities (NEH) Distinguished Professor of Sociology in Lehigh University's Department of Sociology and Anthropology. Through the 1980s and beyond, she undertook what proved to be a groundbreaking exploration of women's health and reproductive lives. Her first influential book on the subject was "When Pregnancy Fails: Families Coping with Miscarriage, Ectopic Pregnancy, Stillbirth, and Infant Death." From that work, she developed a widely used quantitative tool for assessing the effects of pregnancy loss, called the Perinatal Grief Scale, and she conducted domestic and international studies that strengthened the literature on grief and bereavement. She also wrote "In Search of Parenthood: Coping with Infertility and High-Tech Conception," part of a body of work exploring the social and ethical dimensions of new reproductive technology.

After exploring issues related to alternative currencies, social capital and health, and community-building, some of which resulted in a book co-authored with Ed Collum called "Equal Time, Equal Value," Lasker returned to a topic that has interested her since her Harvard days — global health. In research she is conducting for a forthcoming book, she is exploring the impact of short-term American volunteering in international health care settings, assessing the effectiveness of this growing trend, whose origins are often well-meaning but whose results are untested.

"From her teaching and research, Judy's legacy will span generations," says Ellen Sogolow, professor *emerita* at Lehigh. "From her personal strength, her reach already is vast, in ways that perhaps science does not measure. Dr. Judith Lasker shines a bright light on how very much one person can accomplish with one lifetime."

Leo Marx

Leo Marx '41, Ph.D. '50, history of American civilization, is a senior lecturer and the Kenan Professor of American Cultural History *Emeritus* in the Program in Science, Technology, and Society at the Massachusetts Institute of Technology (MIT). In 1964, he wrote the book "The Machine in the Garden," which reveals the conflict between ancient pastoral life and the incipient industrialization of society noted in works by Emerson, Hawthorne, and Thoreau. This seminal work essentially launched the field of American studies, and in 50 years, it has never been out of print.

Marx taught at the University of Minnesota and Amherst College before joining MIT in 1976 as the William R. Kenan Jr. Professor of American Cultural History. In over 40 years of teaching, he continued to focus on the themes he laid out in "The Machine in the Garden," themes that have increasing significance in the 21st century. "It is rare for a book that is 50 years old to still seem contemporary," says Joyce Chaplin, the James Duncan Phillips Professor of Early American History at Harvard. "But Leo Marx's 'Machine in the Garden' reads as freshly relevant in 2014 as it did in 1964. As realization dawns that concerns about the environment and of the impact of human technology upon it are problems that will not go away, it is extraordinary to realize that Marx put nature and technology into the study of American culture from the start. He was right then, and he's right now."

President Faust to present Harvard Medals to three

The Harvard Alumni Association (HAA) announced that Anand G. Mahindra ’77, M.B.A. ’81, J. Louis Newell ’57, and Emily Rauh Pulitzer, A.M. ’63, will receive the 2014 Harvard Medals.

First awarded in 1981, the Harvard Medal recognizes extraordinary service to Harvard University. The service can range across diverse aspects of University life — from teaching, leadership, and innovation to fundraising, administration, and volunteerism. Harvard President Drew Faust, the Lincoln Professor of History, will present the medals at the Annual Meeting of the Harvard Alumni Association during Harvard’s 363rd Commencement Afternoon Program.

2014 Harvard Medalists

Anand G. Mahindra’s dedication, generosity, and service to Harvard have been substantial. Co-founder of the Harvard Business School (HBS) Association of India, he is also a founding member of the University’s South Asia Institute (SAI), the HBS India Research Center, and the SAI field office in Mumbai, India. He is also a longtime member of the Asia Center Advisory Committee. He was invaluable to the HAA in the planning and execution of the Global Series conference in New Delhi in 2006. Mahindra is currently a member of the President’s Global Advisory Council, the Committee on University Resources (COUR), the HBS Board of Dean’s Advisors, and the SAI Founder’s Club. He is also very active with the Harvard College Fund and his class fundraising efforts. In 2010, Mahindra made a transformative gift of $10 million to the Humanities Center. The center was then renamed the Mahindra Humanities Center in honor of his mother, Indira Mahindra.

Mahindra is the chairman and managing director of Mahindra & Mahindra. He has overseen the growth of the Indian company that his family founded in 1945 into a $16.7 billion federation of companies employing more than 180,000 people in over 100 countries. An influential leader in education and the arts, he started a national initiative to address the problem of illiteracy among underprivileged girls. He is trustee of the K.C. Mahindra Education Trust, providing scholarships to hundreds of Indian students; a governor of the Mahindra United World College of India; and a life trustee on the board of the Naandi Foundation, working to eradicate poverty in India.

He and his wife, Anuradha, live in Mumbai.

Over many years **J. Louis Newell** has demonstrated his devotion to the University. He has been a stalwart for the HAA, serving as chair and longtime member of the Committee for the Happy Observance of Commencement, leading an army of 400 volunteers in top hats every year at Commencement. In 2005, he earned the HAA Alumni Award, recognizing his longtime service and leadership to alumni and the HAA. He has also been active in the Harvard Club of Boston, serving as its vice president and director. He has been involved with the Harvard College Fund for nearly 50 years, including the Harvard College Fund Council, and has dutifully served as the Harvard College Fund participation chair for the past 25 years. In 1995, he received the Harvard College Fund’s Joseph R. Hamlen ’04 Award. As a former three-sport athlete, he served the Harvard Varsity Club in a number of capacities, including president and chair, and he earned the Varsity Club Award in 2008. He was the chair for the Annual Football Dinner for more than 35 years. He was a co-chair for his 50th Class Reunion.

In addition to his service to Harvard, he has been involved in serving Greater Boston. He was a trustee of the Massachusetts Eye and Ear Infirmary; Charlesbank Homes, a philanthropic association for elderly housing; and the Noble and Greenough School. He is the former president of Third Sector New England and emeritus director and president of the Freedom Trail Foundation. He is currently the vice chair of the Miramichi Salmon Association. Newell is retired from Seaward Management Corp.

He and his wife, Emily, live in Dedham, Mass.

Emily Rauh Pulitzer has demonstrated a strong commitment to Harvard, helping the University sustain its museums and arts program. A former curator at Harvard’s Fogg Museum and the Saint Louis Art Museum, in Missouri, she currently chairs the Overseers’ Visiting Committee to the Harvard University Art Museums. As an Overseer, she was also a member of a number of other visiting committees, including those for the Department of History of Art and Architecture, the Department of Visual and Environmental Studies, and the Graduate School of Design, and she also served on the Standing Committee on Humanities and Arts and the Committee to Select Honorary Degree Recipients. She serves on the Harvard Art Museums’ Collections Committee and Director’s Advisory Council. She has also served on the President’s Advisory Committee on the Allston Initiative. She and her late husband, Joseph Pulitzer Jr. ’36, have been generous donors to the Harvard Art Museums, giving financial support and important works of modern and contemporary art to help in the renovation of the Fogg. Joseph Pulitzer Jr. was an Overseer from 1976 to 1982 and received the Harvard Medal in 1993.

Pulitzer is founder and chair of The Pulitzer Foundation for the Arts, and she commissioned Tadao Ando to design the foundation’s building, which is located in a redevelopment area of St. Louis. She is a 2011 National Medal of Arts recipient. For 12 years, she served on the board of Pulitzer Inc. She chairs the board of the Pulitzer Center on Crisis Reporting; she serves on the boards of the St. Louis Symphony, the Contemporary Art Museum St. Louis, and Grand Center, the arts and entertainment district of St. Louis; and she is a life trustee of the Museum of Modern Art in New York and an honorary trustee of the Saint Louis Art Museum.

She lives in St. Louis.

Carrying the Harvard flag

HAA President Gellert will pass the torch to Cynthia Torres. Both alumnae encourage engagement and connection as they envision Harvard's future.

HAA President Catherine A. "Kate" Gellert (left) and incoming president Cynthia A. Torres.

At last fall's Freshman Convocation, Harvard Alumni Association (HAA) President Catherine A. "Kate" Gellert '93 did the math for her young audience. "There are more alumni than there are faculty and students," she recalls saying, "so our alumni are in the best position to carry the Harvard flag out into the world beyond 02138. That's why alumni are important. That's why they matter to the University."

Gellert has proudly carried that flag as an alumna, especially during the past year as HAA president. Now in the final weeks of her tenure, she reflected on her service and the experiences that have energized and inspired her.

"This year gave us the opportunity to get alumni engaged and informed about The Harvard Campaign," she says. "For the HAA, the campaign spurred us to develop new ways to connect our alumni with the University and with one another. We launched HarvardX for Alumni and the 'Your Harvard' event series, for example — the latter will bring President [Drew] Faust's vision for the future of the University to a broad base of alumni."

Gellert continues to be amazed by that base, particularly the alumni volunteers in their home communities who make the "transformative experience" of attending Harvard come alive in ways she had not anticipated. "The global community that volunteers time for community outreach, student interviews, building Harvard's presence, and in so many other ways, shows me how deep our alumni relationships run."

Those relationships undoubtedly extend to incoming HAA president Cynthia A. Torres '80, M.B.A. '84, who will focus her term on sustaining and supporting alumni as leaders in their communities, in their professions, and in service to society. Torres' own HAA leadership is expansive. Most recently, she led an executive committee task force on Shared Interest Groups (SIGs) in an effort to better connect SIG members with the University. The HAA has nearly 50 SIGs with approximately 20,000 alumni participants.

"Kate and I share a commitment to the importance of alumni engagement and connection with Harvard," says Torres, currently the HAA's first vice president. "I have been deeply involved with alumni activities since my own graduation, and that has added richness and depth to my adult life. For me, the true magic of Harvard is in its people — its extraordinary students, faculty, staff, and alumni. My years at Harvard were completely transformational, and it has been rewarding to be able to give back to the University that has meant so much to me."

Looking ahead, Torres is excited about the upcoming year and her new role. "I love my involvement with the HAA," she explains. "I've always felt a deep sense of community with Harvard alumni and am truly honored to be given this position of trust and responsibility."

As for Gellert and her work on behalf of the HAA, Torres is an unabashed admirer. "Kate has been an inspiration to me," Torres says. "She is extremely gracious, poised, and welcoming — she radiates goodwill at every alumni gathering. Kate has been a terrific torchbearer for our alumni."

The feeling is mutual. "Cynthia brings a wonderful intellect, a special warmth, and a real enthusiasm that will resonate with our alumni," notes Gellert. "It is hard to conclude service after a very brief year, but it is easier to do when you are passing the baton to somebody who will carry it even farther. I wish Cynthia all the best."

Photo by Juliette Lynch

Motivated by impact

This year, more than 700 alumni volunteers will ask their peers to give to Harvard in celebration of a reunion or as an annual gift. Though generations and personal motivations vary, many donors share the same deep gratitude for their College experience and a desire to help advance Harvard as a place of discovery.

While not always in the headlines, their gifts have helped move the Campaign for Arts and Sciences well beyond the halfway mark of its $2.5 billion goal, in the first year of the public phase. These collective contributions are seen in the steady progress to raise $250 million for the Dean's Leadership Fund — flexible resources that have an immediate impact on curriculum development, financial aid, advising, athletics, arts, and House life.

"It's about giving back, saying thank you, and focusing on the next generation of students who will be coming to Harvard," says Tom Brome '64, a father of three (two of whom are also Harvard alumni), who serves as reunion co-chair for the 1964 Gift Committee and co-chair of the 50th Reunion Program Committee.

In peer-to-peer outreach, he finds it's never a hard sell to ask classmates to give to Harvard. "We are supporting a world-class institution," says Brome. "At our age, in our early 70s, we look back on what was most meaningful, and we want to partner in whatever way we can with Harvard."

Approximately 30,000 alumni give to the Harvard College Fund every year, in large part to reconnect with the community they once knew as students and have since known as alumni.

Valerie Peltier '89 has been volunteering for her class since her days on the Senior Gift Committee. She and her husband, Jeff Peltier '88, are passionate about their support. She gives to ensure that Harvard continues to be the "unbelievable institution that it is." For Peltier, a key reason why Harvard is great is because of its financial aid initiative. "I want to support Harvard's mission to bring the best mix of students, regardless of financial circumstances," she said.

As reunion chair for the 1989 Gift Committee, Peltier sees how many of her classmates are motivated by impact. "People really like to know that their gifts support students today and go right into the College," she said.

The class is on track to reaching its 25th reunion goal. Participation is key, said Peltier. "We are excited about big gifts to Harvard," she said, "but we also want people to know that every gift is important. Participation in the community is really vital and produces significant dollars at all levels."

Emily Lamont '09, a reunion co-chair for the 2009 Gift Committee, also sees how the idea of community motivates her peers. "The further we get from graduation, the more we can see how amazing Harvard is and how much we gained from it," said Lamont. "To give back is an indicator that we all care and that we're all in it together."

Lamont gives because of Harvard's ability to advance change. "I love that Harvard changed its financial aid policy and set a new standard. It has such an important ripple effect," she said. She is excited that the Class of 2009 also has launched a mental health fund to bolster programs that give undergraduates guidance and support.

For all three, their roles as volunteers and donors give them a chance to reconnect with old friends and meet new ones, whether at regional events or at the reunion itself. "It's incredibly fun," said Lamont. "There is something magical about this place."

A celebration of ideas

By Alison Franklin | Radcliffe Communications

It's not every day that you get to attend a birthday party with more than 900 of your best friends.

For Radcliffe Day on Friday, more than 900 alumnae and alumni, current students, fellows, faculty, and University leaders will celebrate a milestone anniversary: 15 years of the Radcliffe Institute for Advanced Study, founded in 1999, and 135 years of Radcliffe, founded as the Harvard Annex in 1879.

"On Radcliffe Day, we reflect on the past, savor the present, and imagine the future. We celebrate what connects them all: the pursuit of knowledge, a dedication to excellence, and a spirit of inquiry," said Dean Lizabeth Cohen RI '02.

A highlight will be when Cohen awards the Radcliffe Medal to Harvard President Drew Faust, whose combination of scholarship of 19th-century America and leadership of Radcliffe and Harvard establish her as "a historian who is making history."

Faust, the first female president of Harvard and the Lincoln Professor of History, was the founding dean of the institute. Her tenure built on the rich traditions and important legacies of Radcliffe College and the Bunting Institute to establish a vibrant scholarly, scientific, and artistic community.

Radcliffe is a leading institute for advanced study where original thinkers engage in work across the arts, humanities, sciences, and social sciences through three areas: an esteemed and highly competitive fellowship program; the renowned Schlesinger Library on the History of Women in America, whose research collections are used by students and scholars around the world; and an Academic Ventures program that creates unique opportunities for Harvard faculty members to develop areas of inquiry and collaboration. All three programs offer dynamic events — conferences, symposia, lectures, exhibitions, and concerts — that are free, open to the public, and shared online.

Faust shaped the institute, but she has said that she was shaped by her tenure leading Radcliffe before she became president of Harvard in 2007. Speaking at the launch of the Radcliffe Campaign, "Invest in Ideas," she said, "Many of the fundamental commitments I've made as president are lessons that I learned here at the Radcliffe Institute. Even though I didn't graduate from Radcliffe, I got an education at Radcliffe."

The lunch in Radcliffe Yard will include remarks by Faust, Cohen, and former Harvard President Neil Rudenstine, who recruited Faust to Harvard. Panel discussions will draw on the institute's broad range of intellectual commitments and its diverse community, with participants coming from College graduates, institute fellows, and the Harvard faculty.

The morning panel, a tribute to Faust's scholarly accomplishments and personal values, is called "From Civil War to Civil Rights: The Unending Battle to Vote," which will explore why and how the United States has long struggled over which of its citizens can vote.

The second panel, "Gender and the Business of Fiction," will engage writers, publishers, and critics in a discussion about who reads, who writes, who reviews, and what counts as literature.

In the third panel, "What is Life? The Science and Ethics of Making New Life in the Laboratory," scientists and ethicists will explore how recent discoveries in the biological sciences raise new ethical questions.

Consistent with many of Radcliffe's programs, these panels are being webcast live and will be available online in June: www.radcliffe.harvard.edu/.

President Drew Faust, the founding dean of the Radcliffe Institute for Advanced Study, will be awarded the Radcliffe Medal on Friday.

Major arts gift recognized on Radcliffe Day

On Radcliffe Day, May 30, Dean Lizabeth Cohen will thank Maryellie Kulukundis Johnson '57 and Rupert Johnson for their $12.5 million fund to promote the arts across the University, with $7.5 million dedicated to the arts at Radcliffe. Support for the arts is a priority for The Harvard Campaign and a core commitment of the Radcliffe Institute for Advanced Study.

50 FELLOWS, 30 DISCIPLINES, 1 YEAR AT RADCLIFFE

By Alison Franklin | Radcliffe Communications

Juliet B. Schor

While many scientists, scholars, and artists dream of dedicating a year to the pursuit of innovative and independent work in an intellectually rich and supportive environment, most wake from that reverie to teach classes, meet deadlines, attend meetings, and fulfill other obligations.

But for the 50 chosen for the Radcliffe Institute for Advanced Study's 2014–2015 Class of Fellows, the dream will be their reality. For one year, the fellows will pursue ambitious projects while having access to Harvard University's libraries, the stimulation of one another, and the help of dedicated undergraduates hired as Radcliffe Research Partners.

Only 4 percent of applicants are accepted to Radcliffe's Fellowship Program, yet they work across the arts, humanities, sciences, and social sciences. Among them are author and sociologist **Juliet B. Schor**, from Boston College, who will be the Matina S. Horner Distinguished Visiting Professor. At Radcliffe, Schor will work on a book about sustainable consumer practices. **Tyrell Haberkorn,** an American researcher based in Australia, is writing a book about human rights violations in Thailand. **Mauricio Pauly Maduro**, a composer from Costa Rica working in England, plans to create new chamber music.

The incoming class includes 11 Harvard faculty members, among them **Carol S. Steiker,** Harvard Law School's Henry J. Friendly Professor, who will work on a book about the unprecedented Constitutional regulation of capital punishment. She will be Radcliffe's Rita E. Hauser Fellow. **Lakshminarayanan Mahadevan** — Harvard's Lola England de Valpine Professor of Applied Mathematics and a professor of organismic and evolutionary biology and of physics — will be developing a mathematical approach to understanding the brain's evolution. He will be the Audrey, Fay, Katherine, and Megan Shutzer Fellow for Science.

Throughout the year, Radcliffe fellows will share their work and ideas with one another and the public through lectures, concerts, and exhibitions.

A list of the 50 fellows is online: www.radcliffe.harvard.edu/fellows2014.

Photos: (top) by Stephanie Mitchell | Harvard Staff Photographer; (left) courtesy of Radcliffe Institute for Advanced Study

363rd Commencement

THURSDAY, MAY 29, 2014

MORNING EXERCISES 9:45 a.m.
Held rain or shine in Tercentenary Theatre in Harvard Yard.

AFTERNOON PROGRAM 2:30-4:15 p.m.
Held in Tercentenary Theatre in Harvard Yard.

RESTROOMS

Restrooms for the general public are located in the following buildings:
Weld Hall
Thayer Hall
Sever Hall
Restrooms are wheelchair accessible.

FIRST AID STATIONS

First aid stations on Commencement Day are situated in the following locations:
Weld Hall — Room 11
Thayer Hall — Room 106
Sever Hall — Room 112

WATER STATIONS

Water stations are located along the perimeter of Tercentenary Theatre and will be clearly marked. Their locations:
Widener Library steps
Weld Hall, north porch
Weld Hall, northeast entrance
Thayer Hall, south steps
Sever Hall, main entrance
College Pump, near Hollis Hall

TELEVISED VIEWING

The Commencement Morning Exercises and the afternoon annual meeting of the Harvard Alumni Association are televised live for guests who are unable to attend these campus events. The broadcast times are 9-11:30 a.m. and 1:45-4:30 p.m., and the events can be seen on Comcast Cable (channel 283) in Boston/Brookline and Cambridge/Greater Boston.

WEBCAST VIEWING

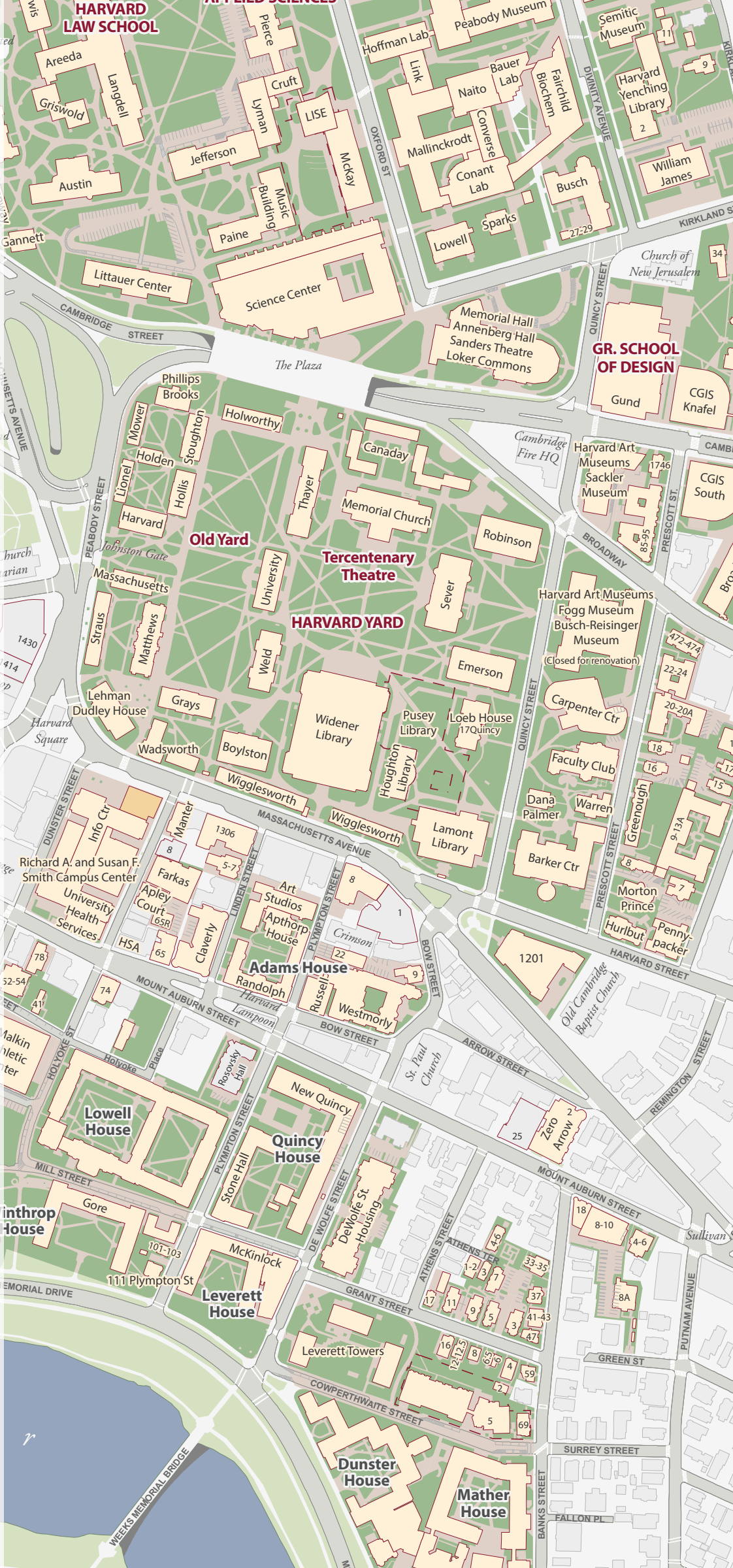
The live webcast may be viewed at www.harvard.edu.

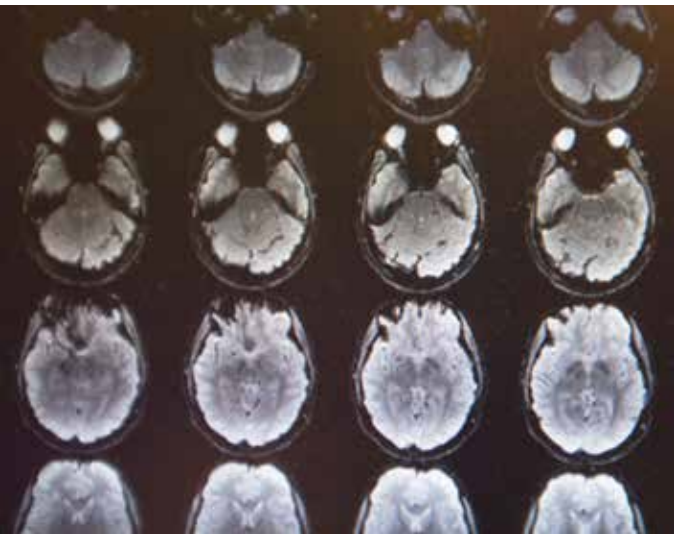
DVD RECORDINGS

Broadcast-quality, multiple-camera DVD recordings are available of the Commencement Morning Exercises as well as the afternoon annual meeting of the Harvard Alumni Association. These DVDs are intended to be a permanent record of the day's events held in Tercentenary Theatre. They both include coverage of the processions with commentary leading up to the actual platform proceedings. The undergraduate Class Day Exercises (Wednesday afternoon) are also available on DVD. For purchase of or information about these DVDs, contact Commencement Video at 617.884.6000 or bobbydm@comcast.net.

ADDITIONAL INFORMATION

http://commencement.harvard.edu



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