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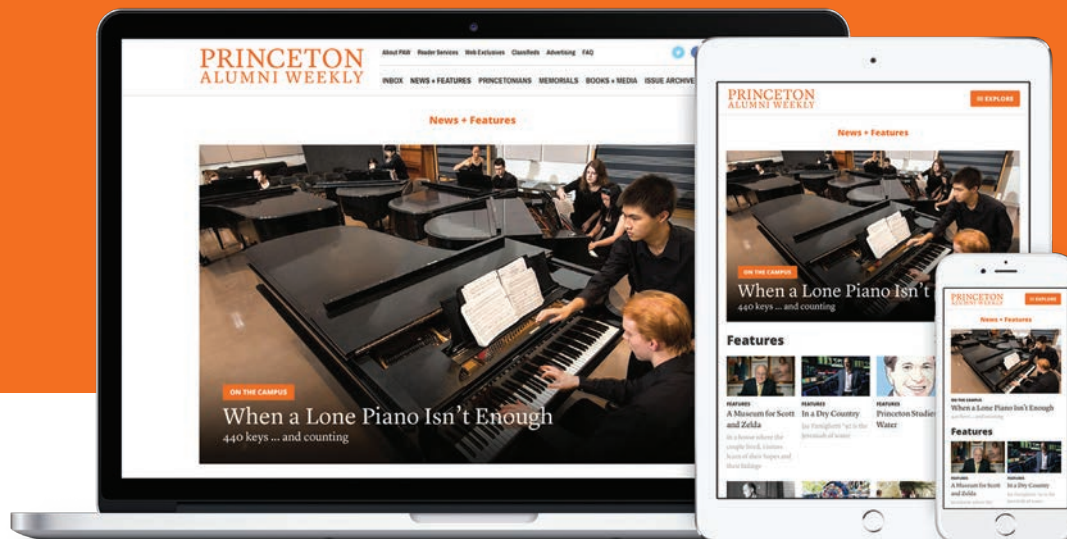
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since 1900

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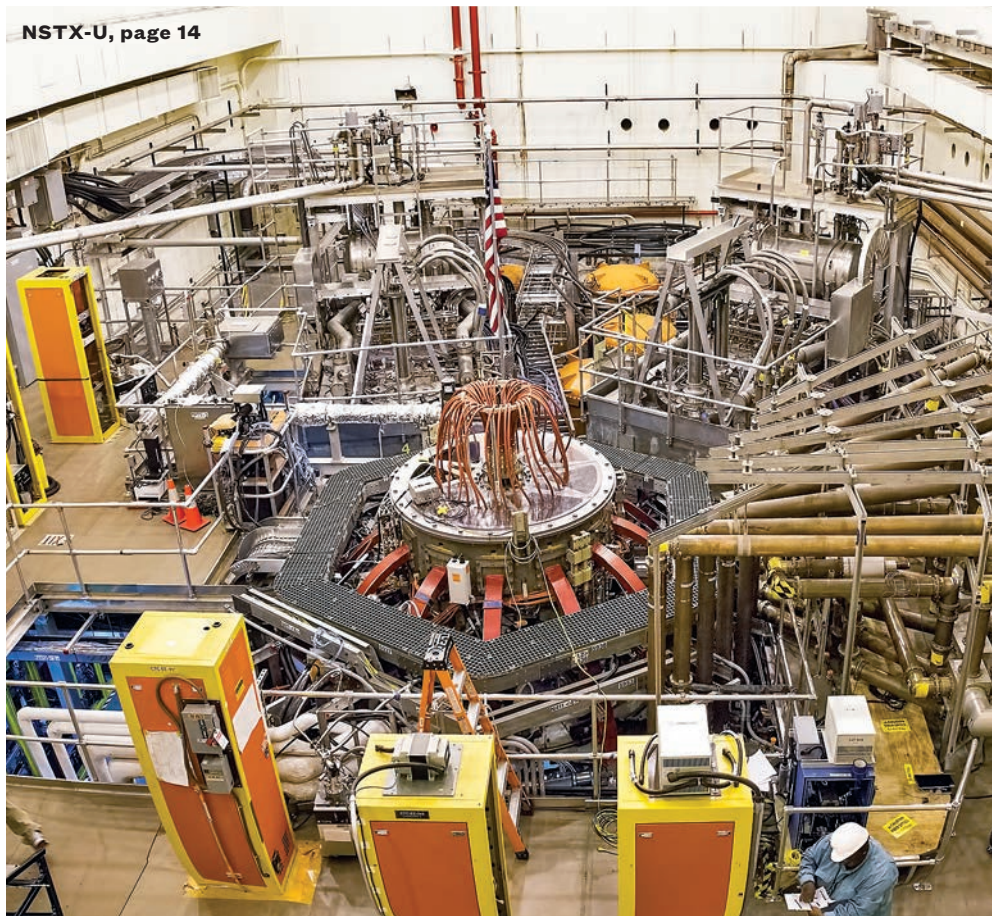
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Squeeze Play

Federal support for research has declined
dramatically in recent years. How can
Princeton make it up?

By Christopher Connell '71

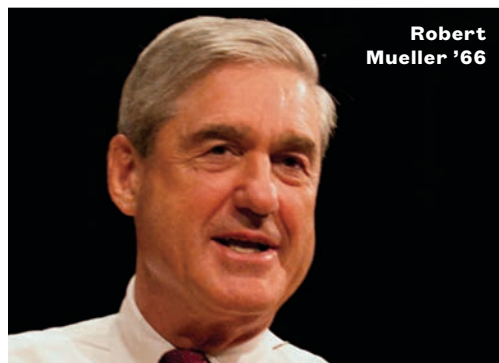
28 Becoming Joy

Once called Jay, the Yeshiva University
professor always knew she was Joy.
Joy Ladin '00 tells her story.

By Jennifer Altmann

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PAW.PRINCETON.EDU



Robert
Mueller '66

Q&A with Robert Mueller '66

In an interview with
PAW, the former FBI
director spoke about
the bureau's dispute
with Apple and the
one metric of terrorism
that matters most to
the American public.



Marching On

View photos of the
women's basketball
team in the NCAA
Tournament.

Talking Politics

Professor Sean
Wilentz discusses the
presidential primaries.

Jewish Life

Gregg Lange '70 on the
experiences of Jewish
undergrads in the
1920s and '30s.

Cultivating Scholarly Talent at Princeton

I was thrilled when Deborah Prentice agreed to become dean of the faculty two years ago — her job is a challenging one, and she does it superbly. I have invited Dean Prentice to share her philosophy and perspective on the development of the University faculty. — C.L.E.

April has two distinct characters in Princeton's academic culture. For faculty and students, April is the sprint to the finish line, a period of accelerated activity as everybody tries to finish what they started, be it a course, a research project, a senior thesis, a dissertation, a performance, a lecture, or an extracurricular event. This sprint is given particular urgency by the warming temperatures, lengthening days, and blooming trees that signal the end of the academic year. For academic deans, by contrast, April is the crest in the road, the upward climb to a place where we can see ahead to the next academic year and beyond. For the dean of the college and the dean of the Graduate School, next year's entering classes are now coming into view. For me, as dean of the faculty, it is the cohort of new faculty members I see on the horizon.

Most new faculty members recruited to Princeton each year are assistant professors beginning their first tenure-track appointments. They are highly educated and highly trained, with on average almost a decade of graduate school and postdoctoral work under their belts. Most have been trained in multiple fields; interdisciplinarity is now the norm. Assistant professors bring to campus new fields of study, new research and teaching methodologies, new ideas, and best of all, new energy. They are the future of their academic fields and of progress in knowledge creation more generally. We recognize them as our next generation of faculty leaders, the future of the University's teaching and research mission.

This view of assistant professors is very different from the view held just two decades ago. Many faculty on campus, myself included, remember a time when assistant professors were viewed much more skeptically — when they were put through a set of paces designed to determine whether they were good enough to join the tenured ranks. Those paces included teaching the toughest courses, shouldering the heaviest advising loads, and taking on the committee work that nobody else wanted to do. Assistant professors who accomplished all of this and also did enough research to establish their scholarly reputations were deemed tenure-worthy. Not surprisingly, tenure rates were low, and most assistant professors came to Princeton expecting to leave after a few years. This expectation was reinforced by the University's leadership. As Professor

Mike Jennings of the German department tells it, when he came to Princeton in 1981, Dean of the Faculty Aaron Lemonick met with the incoming assistant professors as a group. "Look to your left; look to your right," he told them. "Only one of you will still be here in seven years."

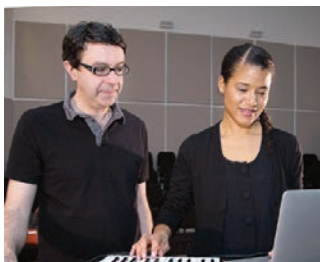
Now, assistant professors are recruited — and treated — with the expectation they will succeed. They teach a regular load of courses appropriate to their areas of interest and expertise and advise a manageable number of undergraduate and graduate students who share their scholarly proclivities. They receive start-up resources that

help them launch their research programs and sabbatical leave time to bring research projects to fruition. Although expectations for committee work and other forms of University service are low, many assistant professors contribute to the University in important ways and receive recognition for their efforts. The tenure bar at Princeton is as high as ever — perhaps even higher, given the increasing level of competition in the academic marketplace — but now more assistant professors clear the bar: Approximately 50 percent of the assistant professors who join the faculty this fall will eventually be promoted to the tenured ranks, compared with 30 percent in the 1980s and 1990s and 20 percent in the 1960s and 1970s.

An analysis of the causes of this change in the University's view of assistant professors would require another President's Page at least: The intensification of graduate training and growing prominence of postdoctoral fellowships, the segmentation of the academic job market, the escalating costs of research, and the immobility produced by dual-career family structures have all played a role. These trends and many others have shifted the process of building a faculty away from the pursuit of senior faculty stars and toward the careful selection, recruitment, and development of assistant professors. Importantly, this change is not a Princeton phenomenon; all of our peer institutions have undergone a similar shift over the same period of time. Indeed, in the last decade, both Harvard and Yale created a tenure track in response to

their need to promote faculty members to tenured positions from within the university.

Princeton is now among the very best places for new assistant professors to begin their academic careers. I am proud of this distinction and am confident that it serves the University well. So as we come over the crest this April and see the remarkable group of assistant professors who will join us in September, I know the University is in good hands.



Assistant professors are critical to the University's teaching and research mission. Shown here, from top to bottom, assistant professors Katja Guenther, Donnacha Dennehy, and Sarah Chihaya share expertise and scholarly interests with their students. (Photos by the Office of Communications)

Inbox

DEFINING 'LOW-INCOME'

I was interested in the article on Princeton's efforts to attract more low-income students, and on the progress it has made (On the Campus, Feb. 3). I was struck, however, by the definition of "low-income" as family income below \$65,000 per annum. Median U.S. household income in 2014 was about \$53,600; almost 58 percent of American households met Princeton's definition of low-income.

I wonder how the numbers would look using a different standard — say, the 150 percent of the federal poverty guideline used by the Department of Education, which works out to \$36,375 for a family of four.

Anthony Marcus '87 '89
Washington, D.C.

ALUMNI WHO SERVE

Thank you to Matthew Silberman '17 for his article exposing the challenges students at Princeton face finding time to volunteer (Student Dispatch, March 2). The board of directors of Princeton AlumniCorps would like to point out that many Princeton alumni in fact go on to live lives that make manifest our unofficial school motto, "in the nation's service and the service of all nations." We hope that President Eisgruber '83's task force on civic engagement will find ways to leverage the significant civic work already being done by many Princeton alumni so that undergraduates appreciate the importance of making time for such important endeavors.

When looking at alumni civic engagement, we at AlumniCorps have a front-row seat. The mission of Princeton AlumniCorps is to inspire and build civic leadership among alumni across generations by engaging them in significant activities that influence and improve our society. We now offer, in addition to our celebrated fellowship program: (1) a mid-career nonprofit leadership-training program, Emerging Leaders; and (2) the opportunity for experienced Princeton alumni to apply and expand their professional skills at selected organizations through ARC Innovators. In a recent study we conducted of our alumni base, a whopping 100 percent of respondents remain engaged in civic activities and 60 percent work in civic fields.

Princetonians are serving in the nation's service and the service of all nations, and we are thrilled to know Princeton AlumniCorps is one of many available avenues. We look forward to continuing the dialogue and seeing their impact broadly celebrated in future PAW issues.

Tom Magnus '77
Dana Warren '03
AlumniCorps board members

LANGUAGE AND GENDER

David Galef '81's essay "Shifting Into Neutral" (feature, March 2) provides an interesting glimpse into the changing world of gender in language and culture today.

I found myself wondering why he

FROM PAW'S PAGES: 2/10/70

Hirsute Harlan

DEAR SIR:

A lot of old grads of my vintage and younger have been moaning and groaning about the cult of long hair among the youth of today, with particular emphasis on those at Princeton. Well, if they made a contribution to Annual Giving this year, they discovered that things in Tigertown aren't much different from a century ago.

For, on the attractive acknowledgment card from "The President and Trustees" was reprinted the score of *Old Nassau*, together with a pen and ink sketch of its author, Harlan Page Peck, Class of 1862. The thing is, young Peck's face doesn't show up too well through the beaver, a full black job long enough to cover his third shirt button. Trade and Mark Smith pale into insignificance by comparison. O tempora! O mores!

DAVID W. TIBBOTT '17
North Chatham, Mass.

Harlan P. Peck
Class of 1862
"Old Nassau" Lyricist



and/or his editor chose not to title the essay "Shifting Into Neuter," since the Latin word "neuter" is the proper grammatical term to use for words neither masculine nor feminine, and shouldn't offend anyone.

It may be that the author and others are uncomfortable with "neuter" in discussions of gender, since it unfortunately describes accurately the condition of those attempting physical transformation from one side of the continuous gender spectrum to, or rather toward, the other.

As for the use of X to replace masculine and feminine endings, one might wonder why X was chosen instead of Y, when two Xs make a female and only one X is present in males. Surely another letter other than X or Y would not offend anyone on the gender road. Latiny would sound all too diminutive, if not tiny.

Mark Davies '65 '71
Harpwell, Maine

PAW TRACKS



MOTLEY CREW: In the early 1970s, the women's rowing team was easy to spot in campus dining halls. "We didn't have time to change [after practice]," Carol Brown '75 recalled, "so we'd come up from the boathouse wet and dripping, cold and sweaty." [Listen to her story at paw.princeton.edu.](http://paw.princeton.edu)

Carol Brown '75
rowing for the U.S.
national team





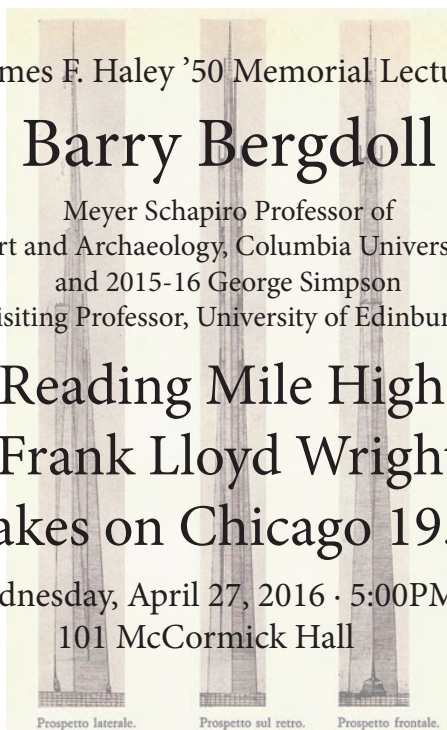
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Barry Bergdoll

Meyer Schapiro Professor of
Art and Archaeology, Columbia University
and 2015-16 George Simpson
Visiting Professor, University of Edinburgh

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April 6, 2016 Volume 116, Number 10

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Princeton Alumni Weekly (I.S.S.N. 0149-9270) is an editorially independent, nonprofit magazine supported by class subscriptions, paid advertising, and a University subsidy. Its purpose is to report with impartiality news of the alumni, the administration, the faculty, and the student body of Princeton University. The views expressed in the *Princeton Alumni Weekly* do not necessarily represent official positions of the University. The magazine is published twice monthly in October, March, and April; monthly in September, November, December, January, February, May, June, and July; plus a supplemental Reunions Guide in May/June.

Princeton Alumni Weekly, 194 Nassau Street, Suite 38, Princeton, NJ 08542. Tel 609-258-4885; fax 609-258-2247; email paw@princeton.edu; website paw.princeton.edu.

Printed by Fry Communications Inc., Mechanicsburg, Pa. Annual subscription: \$22 (\$26 outside the U.S.), single issue: \$2. Copyright © 2016 the Trustees of Princeton University. All rights reserved. Reproduction in whole or in part without permission is prohibited. Periodicals postage paid at Princeton, N.J., and at additional mailing offices.

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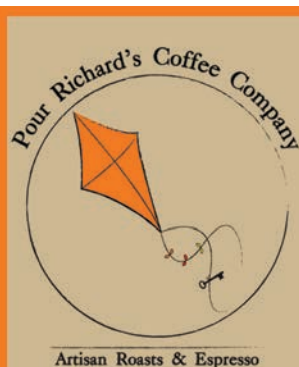
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A MODEL REPORTER

I met Don Oberdorfer '52 ("Lives Lived and Lost," Feb. 3) as a young deputy to Henry Kissinger on Richard Nixon's National Security Council staff, where I was responsible for arms control. I sat in on all the NSC and summit meetings of that era. Don and Mike Getler of *The Washington Post* were my main press contacts. I always felt that I learned more from them than they did from me! Don was a great reporter, a model for generations to come. He never betrayed a confidence or stretched the truth, while always getting the story.

Jan Lodal *67
McLean, Va.

GEORGE KENNAN '25'S VIEWS

History professor Stephen Kotkin well stated George Kennan '25's conceptualizing a global strategy to contain the Soviet Union in his 1946 Long Telegram as the U.S. minister in Moscow from the State Department (feature, March 2). Kennan believed

the USSR contained the seeds of its own destruction, so it would collapse over the long haul. Thus, he advocated "the adroit and vigilant application of counter-force at a series of constantly shifting geographical and political points" to induce its "gradual mellowing."

Professor Kotkin noted that Kennan later objected to the founding of NATO, arming West Germany, and building a U.S. nuclear arsenal on the grounds that he had not intended "any military dimension to containment." Professor Kotkin should have added that Kennan opposed the Truman Doctrine of aiding resistance to the Communist subversion of friendly nations, the Korean and Vietnam wars, installing Pershing missiles in Europe, and building an antiballistic missile system. Kennan even advocated unilateral U.S. disarmament! Also, he was a self-described "moderate socialist." I believe it was absolutely essential that the United States added a strong military

dimension to its containment of the Soviet Union and China.

Carl H. Middleton '60
Arlington, Va.

Professor Kotkin's article brings me back to the fall of 1966, when some of us at the Woodrow Wilson School had George Kennan all to ourselves in a seminar every Friday afternoon. He was a dear man. It was an unforgettable experience.

Ed Burke *67
Jamaica Plain, Mass.

AVIAN HAZARDS

While the new Andlinger Center for Energy and the Environment has many modern and environmentally sound features to recommend it, I was dismayed upon seeing the photos in PAW, which show a multistory avian deathtrap (feature, Dec. 2). In this day and age, erecting a glass structure reflecting the natural world without thought to the hundreds or

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RECALLING A DARK TIME FOR THE CLUBS

The Conversation Online



Paul Rochmis '60

Alumni responded at PAW Online to a February podcast in which Paul Rochmis '60 recounted his disappointment sophomore year when several peers were not extended bids from the eating clubs — an incident that became known as the Dirty Bicker of 1958.

"Every organization, even Princeton, needs nonconformity to avoid perpetuation of outdated and

discriminatory policies and practices," commented **Arvin Anderson '59**.

"I congratulate Paul on his sharing of his part in fulfilling this need."

Gerald S. Golden '57 applauded Rochmis' decision not to join an eating club, but said he missed an opportunity by not joining Prospect Club. "The cooperative nature of the club ... and the camaraderie of others who did not like the bicker process but enjoyed not only socializing but working together, made it a very special place."

"Discrimination was something new to me in Princeton," wrote **John Biro '60**. "It was there for no good reason, I felt. Never from individuals like friends, classmates, and roommates, but it was there institutionally."

Chuck Watson '61 commented that although he bickered and joined a club, "eventually I dropped out and, like Paul Rochmis, ate at a variety of greasy spoons on and around Nassau Street. I too relished Mr. Griggs' diner, where those wonderful hamburgers, mixed with grilled onions, were so big they didn't fit on rolls. ... Bittersweet indeed!" ♦

thousands of bird deaths this will cause over the years as they try to fly "through" the glass shows a callous disregard for nature. Bird-friendly architecture is part of current LEED green building certification guidelines, and one would have hoped that a center dedicated specifically to energy and the environment would have taken these guidelines into consideration before building a structure that will contribute to the hundreds of millions of birds killed every year by man-made structures, especially glass windows and buildings. For more information on this devastating topic, please visit the American Bird Conservancy at <http://collisions.abcbirds.org/collisions.html>.

I'm hoping that perhaps the architects will think to retrofit their glass structure and save birds from untimely human-caused deaths. How ironic that the main article was titled "Where Collisions Are Key."

Amy Hopkins '80
Guilford, Conn.

Courtesy Paul Rochmis '60

In conjunction with *By Dawn's Early Light: Jewish Contributions to American Culture from the Nation's Founding to the Civil War*.

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PERFECT PALINDROME

I have been reading PAW for over 40 years now, and must admit that the



Class of '91's palindromic 25th reunion logo has to be the cleverest one I've ever seen on these pages. It reminds me of the

antics of John D'Angelo *76, my math TA in freshman calculus in the fall of 1975, who wrote on the chalkboard one morning the longest palindrome I've ever encountered: "Straw? No, too stupid a fad. I put soot on warts!"

Larry Wyner '79

Charleston, W.Va.

FIGHTING DISEASE OUTBREAKS

I wish to correct one aspect of the otherwise informative interview with assistant professor Jessica Metcalf (Life of the Mind, Feb. 3).

It is typically staff of the approximately 2,800 local health departments, employees of local and state government, who are the ground troops tracking cases down, conducting contact tracing, and assuring vaccination of those who need it during outbreaks of disease. When outbreaks become multi-state in nature or particularly troublesome within a state or community, the excellent employees of the Centers for Disease Control and Prevention (CDC) may be asked to join employees of local and state health departments to provide additional support and sometimes specialized expertise.

Confusing the work of CDC with that of local health departments poorly informs the public about the extent to which their local health departments protect them, promote their health, and prevent disease. As a result, it diminishes the political and financial support these non-federal departments need to be continuously effective.

Robert Pestronk '70

Chevy Chase, Md.

TREATING THOSE IN POVERTY

I was fascinated by the interview with Harry Frankfurt on inequality (Life of the Mind, Nov. 11). As a 30-year researcher on the subject of

FROM THE EDITOR

A New Look for PAW Online

The year 2008 may feel like yesterday, but when it comes to PAW's presence online, that year — the year our website was last redesigned — is absolutely ancient. Our fondness for tradition notwithstanding, we are proud to leap ahead and launch a redesigned site at paw.princeton.edu.



Tomlinson

Brett Tomlinson, PAW's digital editor (he is our sports editor, too), has overseen development of the new site, which offers a fresh presentation of our Web-exclusive content in addition to the articles you can see in the print PAW. The redesign makes it much easier for alumni to read PAW on their cellphones and other mobile devices.

If you haven't visited the site before, we invite you to explore PAW's multimedia content, including podcasts, slide shows, and videos, as well as regular features such as each Wednesday's Tiger of the Week. PAW Online also is a great place to comment on stories from our print issues or browse the archives, including more than 11,000 alumni memorials. To receive regular updates about PAW Online, please join our email list by using the sign-up field at the bottom of any page. We welcome your feedback — send a note to paw@princeton.edu.

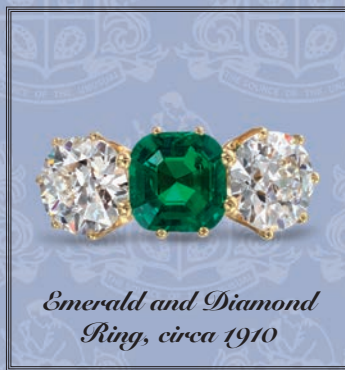
With this issue, we say farewell to Jennifer Altmann, who joined PAW almost five years ago and most recently edited the magazine's Princetonians and Life of the Mind sections and expanded PAW's books coverage.

Jennifer has been named editor of the Barnard College alumnae magazine. Barnard is lucky to get her. We expect to name an editor who will continue Jennifer's excellent work at PAW within a few weeks. — Marilyn H. Marks *86

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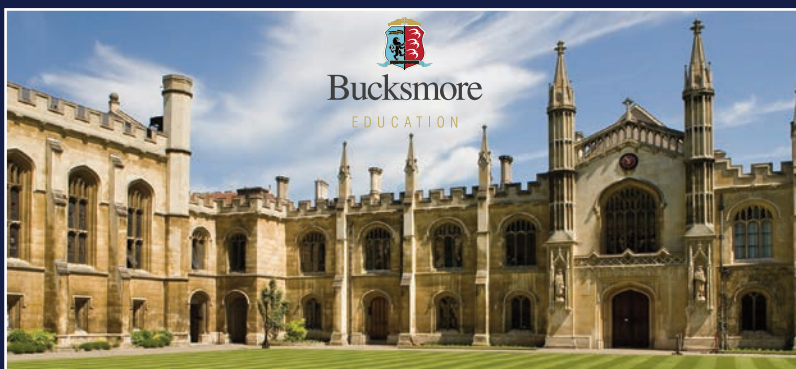
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Inbox

homelessness, I certainly agree that extreme poverty and homelessness are a national disgrace. For example, a recent study indicated that among the bottom quintile of housing consumers nationally, i.e. those who own or rent their homes, the average annual income was \$10,100, and they paid 87 percent of their income for housing, leaving just over \$1,000 per year for everything else — food, clothing, health care, child care, transportation, etc. This is real poverty, and the figures do not even include those experiencing homelessness, because the latter are not actual consumers of housing.

Moreover, there is something wrong with an economic system in which high-income homeowners, who don't need assistance, receive four times as much federal housing subsidy as do low-income renters, who do need the help. Furthermore, as Dr. Frankfurt implies, something has to be done to overhaul a political system in which 158 families contribute \$78 million to political campaigns. To quote Dr. Frankfurt, "Anti-democratic tendencies — created by exceptional wealth — must be discouraged ..."

Although I have not read Dr. Frankfurt's earlier book, *On Bullshit*, that title seems fitting for the way we as a nation treat those in extreme poverty and homelessness.

Don Burnes '63
Westminster, Colo.

WE'D LIKE TO HEAR FROM YOU

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Letters should not exceed 250 words and may be edited for length, accuracy, clarity, and civility. Due to space limitations, we are unable to publish all letters received in the print magazine. Letters, articles, photos, and comments submitted to PAW may be published in print, electronic, or other forms.

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News from the Alumni Association

The Alumni Association of Princeton University: over 85,000 served

aluminaries

Tamsin Todd Defriez '92
Chair, Committee to
Nominate Alumni Trustees



c. 1990

To learn the many ways to stay connected to Princeton, contact the Office of Alumni Affairs at 609-258-1900 or www.alumni.princeton.edu

In 1988 and then a senior at the High School for the Performing and Visual Arts in Houston, Tamsin Defriez took what might have seemed an unexpected path when she chose to go to Princeton. Among the reasons for her choice was “the warm and welcoming community” of the Houston regional alumni association at its “accepted students” event. Perhaps not a coincidence that, when she settled in London ten years later, her first foray into volunteering for Princeton was to join the Princeton Association United Kingdom (PAUK) and then to sign up to help with events.

And when reflecting on some of the highlights of her student years at Princeton, Tamsin cites participating in the first orchestra tour under Michael Pratt, which “brought the musicians together, forming both musical bonds and long-term friendships.” Again, no surprise that after her first ten years in London, when she became the president of PAUK and when Michael Pratt brought the orchestra to London in 2008, Tamsin pitched in and found more than 30 alums in central London who hosted more than 70 musicians, helping to insure that another generation of Princeton students could form both musical bonds and long-term friendships.

Tamsin served as president of PAUK for five years. In 2013, she immediately followed that stint with a three-year term on the Committee to Nominate Alumni Trustees (CTNAT), serving as chair during the 2015-16 year. “Of all the boards and committees I have joined,” she comments, “it is one of the hardest working and most rewarding. It has been a privilege and a pleasure to serve with my fellow committee members and to get to know the extraordinary people I’ve met as potential trustee candidates.” She goes on to note that her work on CTNAT was “a different kind of engagement.” She gained “a deep appreciation for how Princeton as an institution is constantly considering its role in and impact on the world and at the same time is shaping itself for the future. The alumni trustee elections, supported by the work of CTNAT, are central to ensuring Princeton has the best board to guide it forward.”

Alumni Trustee Election



More than 115 years ago, in October of 1900, Princeton's Board of Trustees adopted a Plan to ensure alumni representation on the University's board. At that time, the board added five alumni trustees, one of whom was elected. The Board has amended the Plan for elected trustees several times over the course of the decades, designating Regional and At-Large ballots, adding two Graduate Alumni ballots, and creating the position of Young Alumni Trustee. Now 13 of the 40 trustees on Princeton's board are alumni who have been elected to their positions. Four of these are Young Alumni Trustees, elected by the junior and senior classes and the two most recent graduated classes. The other nine have gone through a nomination and election process overseen by the volunteer committee known as the Committee to Nominate Alumni Trustees (CTNAT), a Special Committee of the Alumni Council.

Below are the two ballots for the 2016 Alumni Trustee Election. Polls will be open until May 20. For more information go to:

<http://alumni.princeton.edu/volunteer/committees/ctnat/trustee/>

Region I Ballot



José B. Alvarez '85
Boston, MA



Nellie N. Gorbea '88
North Kingstown, RI



Patrice P. Jean *99 (MOBIO)
New York, NY

At-Large Ballot



David G. Chandler '80
Northfield, IL



Kimberly H. Johnson '95
McLean, VA



Derek C. Kilmer '96
Gig Harbor, WA

Dear Fellow Alumni,

It has been a busy start to my two-year term as the President of the Alumni Association. I am honored to represent the 91,000+ dedicated alumni of this great institution, and the Executive Committee and I remain committed to engage with ALL of those many, far-flung alumni. Over the past several months, I have engaged in many conversations about the roles that alumni can play as volunteers. I would love to know how YOU would like to be involved and encourage you to send me a note at wieser74@gmail.com.

Jeff Wieser '74

President, Alumni Association of Princeton University

Chair, Alumni Council

wieser74@gmail.com



The Alumni Council, the volunteer governing body of your Alumni Association, has active committees that work behind the scenes to accomplish much of the Council's "business." Here are just a few examples:

- **The Alumni Schools Committee** has completed interviewing more than 25,000 applicants to Princeton's Class of 2020. Committee Chair **Jennifer Daniels '93** is the force behind this effort, which is a hallmark of the Princeton alumni volunteer experience.
- **The Class Affairs Committee** makes sure that all classes are supported through their officer corps. Chair **Maria Carreras Kourepenos '85** holds monthly conference calls to discuss topics of mutual interest and to troubleshoot any problems that classes might have.
- **The Committee on Regional Affairs** serves as a resource for regional clubs and associations, which offer a variety of ways to be engaged, even when alumni cannot visit campus with any regularity. With his committee members, Chair **Rich Holland '96** searches out examples of best practices to share with regional officers for encouraging active participation among all alumni in all regions.
- **Jolanne Stanton '77** and her **Ad Hoc Committee on Alumnae Initiatives**, through their Princeton Women's Initiative and social media presence, continue their great work following up on the She Roars conference. Look for it at:
<http://alumni.princeton.edu/connect/alumnae/>

These are just a few of the committees that ensure that *your* Alumni Council is

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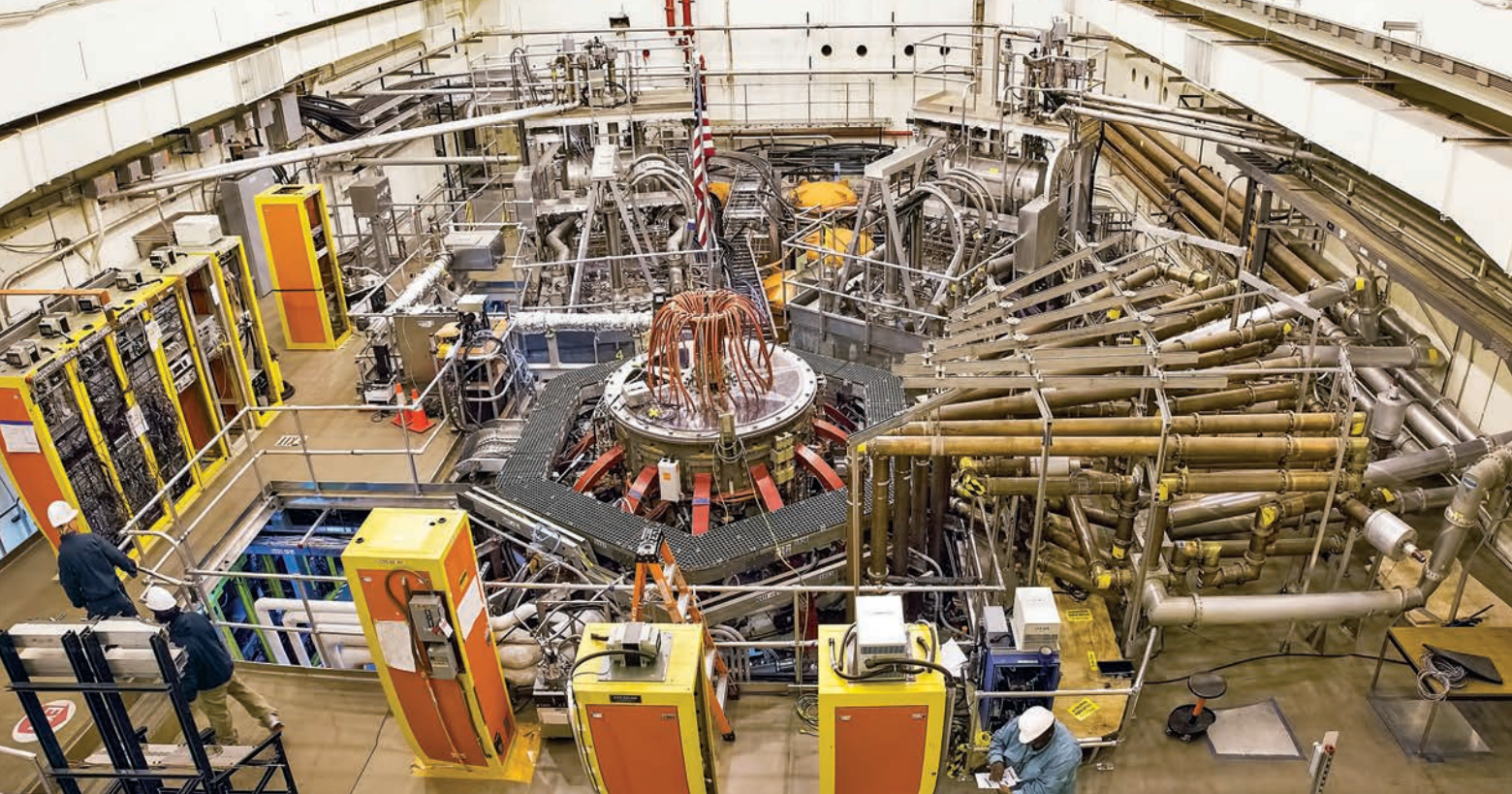


On the Campus



A narrow spiral stairway leads to the top of the Graduate College's Cleveland Tower. Climbing the 137 stone steps to watch the sunrise from the top of the tower is a spring tradition.

Photograph by Ricardo Barros



A Star on Earth

With a \$94 million upgrade, PPPL reactor could play key role in fusion-plant design

Fusion reactors are shaping up — as spheres, rather than doughnuts.

For decades, researchers have tried to harness fusion power with tokamaks, doughnut-shaped magnetic cages that keep hydrogen nuclei hot enough to merge and release energy. But now, a fusion reactor at the Princeton Plasma Physics Laboratory (PPPL) called the National Spherical Torus Experiment-Upgrade (NSTX-U) could help show that something a bit more ball-like could be more compact and efficient, and therefore less costly to build.

“Compact is good,” said PPPL director Stewart Prager. “Generally, you think that smaller costs less.” The experiment began regular operations in December after a \$94 million upgrade, and, for the foreseeable future, it will command the attention of two-thirds of PPPL’s overall budget and staff. “It could be the scientific anchor for the laboratory looking a decade into the future,” Prager said.

Fusion is a seductive notion: a nearly limitless, carbon-free source of energy. It doesn’t create long-lived radioactive waste like nuclear fission, nor is there a risk of runaway reactions. One of its

fuels can be found in ocean water. But you essentially have to stoke up a star on Earth. At the temperatures required for fusion — about 150 million degrees C — atomic nuclei seethe in a turbulent, ionized gas, or plasma, that would vaporize anything it touches.

However, the plasma is charged, which means it can be tamed by the forces of a magnetic field. In the late 1950s, Soviet scientists developed tokamaks to trap and circulate the plasma (the name comes from a Russian acronym for “toroidal chamber with magnetic coils”).

But as they have grown in size, traditional tokamaks have bogged down in expense and complexity. The world’s largest fusion reactor, an international project called ITER being built in France, is supposed to demonstrate net energy gain for the first time — more energy created by fusion than is injected to heat and contain the plasma. ITER was

Researchers are grappling with the future shape of fusion energy.

launched in 2006 with a price tag of \$5.6 billion and a goal of first plasma in 2016. But first plasmas now are not expected until 2025, and costs have soared past \$17 billion.

Some researchers say trading the doughnut for something more like a cored apple could be just what the doctor ordered. In the 1980s, Department of Energy (DOE) scientists in Tennessee built the first spherical reactors — still technically tokamaks, but with a tall and narrow central core. They realized that tightly wound magnetic field lines around the central core would keep plasma particles from spiraling out, bleeding away heat and damaging reactor walls. Plasma particles “spend more time on average in a region of the magnetic field where the stability is better,” said Jon Menard, NSTX-U program director. The main drawback for spherical tokamaks is one of limited legroom: Magnets and other equipment must be stuffed within the narrow core.

Building on the initial ideas from the 1980s, the original NSTX began operations in 1999. With the upgrade, it is now the world’s most powerful test of the spherical approach. ITER’s chamber encloses 80 times more plasma than NSTX-U, so PPPL’s machine won’t be coming close to providing a net energy gain. But it nonetheless could influence the design of future devices. “If our results are positive, it could say that a

Elle Starkman

An overview, at left, of the National Spherical Torus Experiment-Upgrade, the “scientific anchor” of the Princeton Plasma Physics Laboratory.

spherical tokamak would be an attractive candidate design for a fusion pilot plant,” Prager said.

The upgrade, which got a green light from the DOE in 2011, has two main components. First is a set of new copper magnets that loop around the sphere and connect in a thicker core. Overall, the magnetic field strength will double to 1 Tesla — 20,000 times the strength of Earth’s magnetic field. Steel struts and supports were added so the machine could resist the extra torques, said Ron Strykowski, who recently retired after overseeing construction of the upgrade.

The other major component of the upgrade was the installation of a second injection beam, which will allow for hotter, longer fusion pulses. The 85-ton beam line, refurbished from a shuttered PPPL experiment, injects hydrogen fuel into the plasma chamber, heats it up, and helps to circulate the plasma. PPPL scientists will aim for 120 fusion “shots” per week, each lasting as much as 5 seconds — five times longer than before. “It’s like a brand-new machine,” Menard said.

NSTX-U is not the only experiment grappling with the future shape of fusion. A rival spherical tokamak in the United Kingdom, called the Mega Amp Spherical Tokamak, is getting its own upgrade, and is due to fire up in 2017. And in December, researchers in Germany switched on the Wendelstein 7-X, a fiendishly twisted take on the tokamak called a stellarator. PPPL was building its own stellarator until the DOE pulled the plug in 2008.

Fusion scientists don’t know yet which shape will rise to the top when it comes time to build ITER’s successor. “We don’t have enough information to know what that looks like,” said Dennis Whyte, director of MIT’s Plasma Science and Fusion Center. The bizarre twists of the stellarator could win out, or it could be an amalgam of NSTX-U and ITER: an apple-doughnut. The performance of NSTX-U will be a key input, Whyte said. “They’re moving into uncharted territory,” he said. “We need NSTX-U to help us optimize.” ♦ *By Eric Hand ’97*



“For us, unionization is not the go-to choice” — GSG president Mircea Davidescu

GSG EXPRESSES CONCERNS

Princeton Joins in Amicus Brief In Grad-Student Unionization Case

Princeton and eight peer schools filed an amicus brief Feb. 29 in a case in which Columbia University graduate teaching assistants have asked the National Labor Relations Board to allow them to form a union and bargain collectively. Princeton and its peers said that because graduate students’ research and teaching is part of their academic experience, “the market value of any teaching services provided by doctoral candidates is not taken into consideration when determining stipends.”

Graduate students at many public universities, which are governed by laws in their states, have unions. In 2004, a group of Brown University students first asked the NLRB to consider the unionization issue at a private university. The NLRB ruled that because collective bargaining and arbitration “clearly have the potential to transform the collaborative model of graduate education to one of conflict and tension,” graduate students at private institutions do not have that right. Princeton and the eight other schools — six Ivies, MIT, and Stanford — say that because this has not changed, private universities should “treat student assistantships as educational, not economic, opportunities.” Their brief argues that if a union were to form, grad students could file complaints that affect how professors structure their courses, intruding on academic freedom.

While graduate students have been pushing for unionization at Harvard, Yale, and Columbia, the situation is different at Princeton, said newly elected Graduate Student Government president Mircea Davidescu, a fourth-year student in ecology and evolutionary biology. “Things in general are pretty good,” Davidescu said. “I think for us, unionization is not the go-to choice — it’s more of a last resort.”

But the GSG expressed concern that it had not been notified by the University of the amicus filing. There is “real anger among graduate students over the brief and its contents,” especially the argument that imposing collective bargaining would impinge on academic freedom, said David Walsh, a grad student who is chairing a committee created by the GSG in response to Princeton’s action.

“There are concerns over a lack of transparency and a feeling of graduate-student marginalization in University decision-making among the graduate-student body,” Walsh said in an email. “Whether unionization is the appropriate course of action is ultimately up to the graduate students themselves.” ♦ *By A.W.*



Mike Liao '17, the University's only undergraduate veteran, says working out improves his mental conditioning.

Wanted: More Veterans

Princeton hopes reinstating transfers will bolster its recruiting efforts

Prininceton's decision to reinstate a transfer program in 2018 may help the University accomplish something it has tried to do for years: recruit veterans as undergraduates.

Veterans are among the groups Princeton is targeting in its efforts to increase student diversity. In an interview before the policy was approved, Dean of Admission Janet Rapelye said a transfer

option could benefit veterans because many have completed some college courses during their service.

Princeton has not been successful in recruiting many veterans so far: Today, only one veteran is enrolled as an undergraduate. "We are doing everything we can in the environment we're in right now," said Rapelye. The transfer program would allow Princeton to "shift our focus to be able to talk to more veterans."

Rapelye said Princeton has been recruiting at military bases on the West Coast. In 2013, the University joined the federal Yellow Ribbon Program, which offers tuition assistance (in addition to the federal grant generally provided to veterans), and Service to School, a nonprofit organization that provides guidance to veterans applying to college.

Mike Liao '17, who served five years in the Marines as an air-support officer in Okinawa, is the only known undergraduate veteran at Princeton. The 25-year-old electrical engineering major suggested that the gap between high school and college has led to challenges his classmates may not face. "I have to spend a lot of time going over concepts which are very mechanical or trivial in nature to many of my peers," he said. He has found that physical outlets — weightlifting and a conditioning program — also help his mental toughness.

Asked about Princeton's support in his

Beverly Schaefer

A BLUEPRINT TO MAKE RESIDENTIAL COLLEGES 'FEEL LIKE HOME'

As part of PAW's continuing coverage of the work of strategic-planning task forces created by President Eisgruber '83, this issue describes the **RESIDENTIAL-COLLEGE** task force report.

The task force called for converting all residential colleges to four-year colleges, giving upperclass students the option to remain in their original residential colleges for all four years. The residential colleges, the group said, should "truly feel like home to our students," a place where they "can feel welcome and accepted and where they come together to learn from their diverse experience, perspectives, and backgrounds."

Among the recommendations:



PRINCETON'S FUTURE: RECOMMENDATIONS

- ♦ Consider offering more affinity housing that would create smaller, cohesive communities within the larger residential colleges. The report cited the Edwards Collective, a group of about 40 students who live on the top three floors of Edwards Hall and share an interest in the humanities and creative arts.
- ♦ Consider building the next residential college next to Forbes College so that Forbes is not so

isolated, and so that the two can be paired, as other residential colleges are now.

♦ Take steps to bridge the divide between freshmen/sophomores and juniors/seniors. The report suggested improving advising and dining options for juniors and seniors who choose to remain in their residential colleges, and creating more common spaces to encourage informal interactions among students.

♦ Cap the size of residential colleges at 500 students in residence, including a "critical mass" of about 150 juniors and seniors.

♦ Renovate most of Wilson College and the Forbes College annex and addition. Terming this work

On the Campus

transition back to academic life, Laio said: "I can understand how some people might need help integrating back into the civilian world ... but I try to be independent and figure things out on my own."

Liao suggested that accepting transfer credits will not be sufficient to attract veterans. "Most people in the military don't think, 'When I get out, I'm going to apply to Princeton,' mainly because they think that it's out of their league," he said. "In a lot of cases, these are people who have never applied to college before, so they don't understand what the process entails."

More veterans are enrolled in graduate programs, including 14 at the Woodrow Wilson School.

Robert Hutchings, a visiting professor at the Wilson School and a former naval officer, said a stronger military presence on campus would bring a wider variety of perspectives into the classroom.

"Our country has been nearly constantly engaged in a war for most of the last two decades," Hutchings said. "Students need to understand, consider, and debate these conflicts. ... If the debate is conducted almost exclusively among faculty and students who have never served in the military, there is something missing."

Enrollment of veterans at other elite schools varies, with four reported at Yale and more than 400 at Columbia's School of General Studies. ♦ *By A.W.*

"essential," the report said that large, attractive rooms and suites are necessary to attract juniors and seniors.

♦ **Create a house for the head (formerly known as the master) of Whitman College, and move the houses of the heads of Butler and Wilson colleges closer to the colleges so that they can be used as spaces for public gatherings.**

♦ **Strengthen intellectual life within the residential colleges by providing more opportunities for informal interaction between faculty and students over meals, and encourage more faculty to participate in the faculty-in-residence program.** ♦ *By Megan Laubach '18*



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Students test how the sense of smell affects the sense of taste, holding their noses as they eat a cherry-flavored jelly bean.

STUDENT DISPATCH

Recipe for a Freshman Seminar: A Chef, a Professor, and a Kitchen

Mary Hui '17



Just after 7:30 on a recent Monday evening, 15 freshmen shuffled into a kitchen at John Witherspoon Middle School, a mile

from the Princeton campus. They put their coats and bags down in a corner, and quickly donned black aprons. Embroidered in orange letters across the front of each were the words “Science, Society & Dinner.”

This is FRS 138, a freshman seminar that combines lab sessions, cooking lessons from a five-star chef, lectures, field trips, and “outrageously delicious meals that students prepare for each other” to explore the intersections between food systems, food choices, and human health. The class also considers a broader question: How will we sustainably feed nine billion people by the end of this century?

Rozalie Czesana '18, who helped create the seminar, grew up in Prague, the Czech Republic. Food was a large part of family life: For holiday gatherings, she would arrive at a relative's home a day in advance to prepare a huge feast, and each day she would walk to the local vegetable store to gather the freshest ingredients for the evening's dinner.

Czesana wanted to recreate this intimate relationship with food in Princeton, half a world away.

After joining *Spoon*, a student-run online food magazine, she met Karla Cook, who has written restaurant reviews for *The New York Times* and is the project manager for Princeton Studies Food, a two-year-old program that encourages student and faculty interest in food issues.

Czesana said she and Cook decided that “we need a class that sees food as more than something you fuel on.” Cook reached out to Craig Shelton, a celebrated New Jersey chef, while Czesana contacted engineering professor Kelly Caylor, and the course took shape.

On this Monday evening, Shelton — dressed in a white chef's coat — explains that the class will explore “how technique affects quality, nutrition, and ultimately, yield.”

The students separate into five teams of three, and each team is given three proteins: a top round of beef, a breast of

chicken, and a filet of salmon. Their task is to divide the different proteins into equal samples, cook them in *sous vide* cookers — essentially, water ovens — set at different temperatures, and then evaluate the end product based on final weight (the yield), as well as on factors like taste, texture, juiciness, and tenderness. The students find that, in general, cooking the beef and chicken at lower temperatures for a longer time results in higher yield and juicier, more tender meat.

During other weeks, the students prepare an entire multi-course meal, working from a menu designed by Shelton. They might cook lobster stew one week, braised beef short ribs with potato puree the next. Many of the menus feature specialty items such as premium grass-fed beef, Mangalitsa pork, and artisanal honey.

At the same time, the class “really stressed the importance of paying attention to what foods the nation produces and what we as consumers purchase and put into our bodies,” said Francesca Billington '19. To address the big question — how to feed a rapidly growing population — students have looked at crop production and land division, as well as methods for producing the most nutrient-dense food and even the proper way to slice vegetables to preserve the most nutrients and vitamins (“quickly,” to prevent the juices from seeping out, Billington explained).

Students also pick up a steady progression of culinary techniques during the course of the semester, starting with basic knife skills and progressing to advanced pan roasting, *sous vide* cooking, and the aesthetics of presentation. A final cooking session will combine all they have learned in preparing a carefully designed dinner, with each team cooking one course.

There won't be ruthless grading on cooking skills, à la the *MasterChef* TV show. But Czesana hopes that at the end of 12 weeks, each student will walk away with a heightened awareness: Where is the food from? How did it get to your plate? Who will you eat it with, and how will you eat it? In sum, an appreciation that “food is way more than just the calories you're eating.” ♦

“Food is way more than just the calories you're eating.”

— Rozalie Czesana '18

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On the Campus

IN SHORT



ANDREW WILES will receive the Abel Prize, often described as the Nobel Prize for mathematics, for his celebrated work in solving Fermat's Last Theorem while a professor at Princeton. Wiles, who retired in 2013 after 30 years on the faculty, is now at Oxford University. Mathematicians had tried to prove the theorem — "there are no whole number solutions to the equation $x^n + y^n = z^n$ when n is greater than 2" — for more than 350 years. He will receive the prize, worth about \$700,000, in Oslo next month.



The University's decision not to renew the contract of Near Eastern studies lecturer **MICHAEL BARRY** spurred two petitions of protest to administrators in early March. Nearly 300 students signed the first petition, and more than 150 signed the second. Barry, who has lectured at Princeton for 12 years, teaches two of the Near Eastern studies department's most popular courses.

More than 530 people have signed a petition urging the University's Board of Trustees to condemn the endorsement of Donald Trump's presidential campaign by New Jersey Gov. **CHRIS CHRISTIE**, an ex officio member of the board. The petition, which was started in March by the Muslim Advocates for Social Justice and Individual Dignity student group, asserts that Christie's support for Trump "indicates approval of his vitriolic rhetoric, which has had violent consequences for the most vulnerable members of society."

DAVID McCOMAS has been named vice president for the Princeton Plasma Physics Laboratory. McComas was assistant vice president of space science and engineering at the Southwest Research Institute; he previously worked for 20 years at the Los Alamos National Laboratory. He succeeds A.J. Stewart Smith *66, who will retire after a sabbatical. ♦



440 KEYS, 10 HANDS, ONE GLORIOUS SOUND

When a Lone Piano Just Isn't Enough

The 40 members of the Princeton Pianists Ensemble prove that the piano isn't always a solo instrument or accompaniment: Some pieces feature 10 performers at once. The group, shown above at its annual "Piano Extravaganza" in McAlpin Hall, will play during Communityship April 17. To view a performance of the *Danse Infernale* and the *Finale* from Stravinsky's "Firebird Suite," go to paw.princeton.edu. ♦

EXHIBITION SIZES UP WILSON

"In the Nation's Service? Woodrow Wilson Revisited," a new exhibition in Robertson Hall's Bernstein Gallery, documents positive and negative aspects of **WILSON'S TENURE** as Princeton's president and as president of the United States through correspondence, writings, photographs, and other documents. The *Tiger* magazine cartoon at right humorously predicts the impact on enrollment by 1910 of Wilson's academic reforms.

The exhibition runs through Oct. 28; it can be viewed online starting April 5 at princeton.edu/revisitwilson. A panel of historians will discuss Wilson's legacy April 8 at 4:30 p.m. in Dodds Auditorium. ♦





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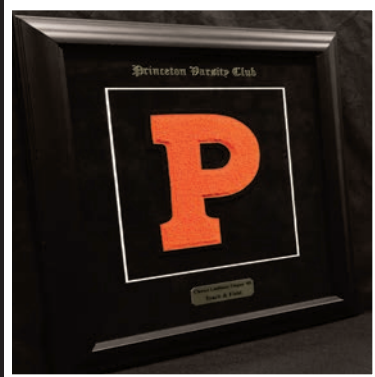
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Michelle Miller '16, pictured, and Alex Wheatley '16 were selected to the All-Ivy team.

WOMEN'S BASKETBALL

Down to the Wire

In a tight finish, the Tigers fall two points shy of rival Penn

For the second time in three years, the Ivy League women's basketball title came down to one game, the season finale between Princeton and Penn. And for the Tigers, this year's result was disappointingly familiar.

Princeton fell to Penn, 62–60, March 8 at Jadwin Gym. The Quakers earned the league's automatic bid to the NCAA Tournament, while the Tigers received an at-large invitation, the first in Ivy history. (Results from Princeton's March 18 opener against West Virginia were not available for this issue.)

Princeton trailed for most of the contest, as Penn seemed to have an answer for every challenge. When Alex Wheatley '16 finally put the Tigers ahead, 56–55, with two minutes remaining, Quaker guard Anna Ross replied with a layup and was fouled. She

converted the free throw to put Penn up 58–56. Princeton never regained the lead.

Open shots were hard to come by on both ends of the court. Penn was able to slow the Tigers with full-court pressure. "They're very skilled and they have a lot of kids that can score," Penn coach Mike McLaughlin explained. "We didn't want to guard them [in the half court] for 25 seconds a possession."

Wheatley led Princeton with 20 points on 8-for-12 shooting and also tied for a team-high with seven rebounds. "She was

The Quakers earned the Ivy League's automatic bid to the NCAA Tournament, while the Tigers received an at-large invitation.

our most aggressive player tonight," head coach Courtney Banghart said. "She was tremendous. I'm really proud of her."

While Princeton has won five Ivy titles in the last seven seasons, Penn has emerged as its staunchest rival. The Quakers won the league title in a Jadwin finale in 2014, and this year, they handed the Tigers their only two Ivy losses, each by a two-point margin.

The NCAA bid set up a third tournament trip for Princeton's five seniors, Wheatley, Amanda Berntsen, Michelle Miller, Annie Tarakchian, and Taylor Williams. Entering the postseason, members of the Class of 2016 had combined for 326 starts while compiling a 97–22 record over four seasons.

Next year, the Ivy's NCAA Tournament bids — women's and men's — are guaranteed to be decided in the final game: The league announced that it will hold four-team playoffs at the Palestra March 11–12, 2017, ending its longstanding distinction as the only league in Division I without a conference tournament. ♦ By B.T.



READ MORE and comment on the new playoffs at paw.princeton.edu

WRESTLING

Harner '17, Tigers Reach New Heights

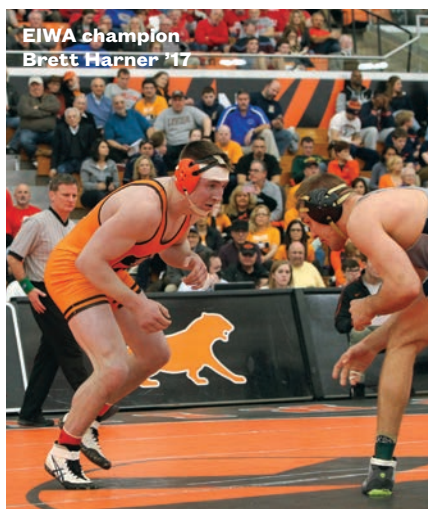
When the clock expired for Brett Harner '17's 3-2 semifinal victory in the Eastern Intercollegiate Wrestling Association meet at Jadwin Gym March 6, Princeton coach Chris Ayres let out a quick sigh and congratulated his star 197-pounder.

"I wish he would score some more points so I wouldn't be so nervous," Ayres joked. "But I'm really excited. I think he's ready to win this thing."

Harner confirmed his coach's confidence in the final, winning a 14-4 major decision against Army's Bryce Barnes to become the Tigers' first EIWA individual champion in 13 years.

Five Tigers earned spots in the NCAA Championships: Harner, who was 34-3 overall this year, including a 5-0 record in Ivy League dual meets; Jordan Laster '17, an EIWA semifinalist at 141 pounds; Ray O'Donnell '17, who made a strong run in the EIWA 285-pound consolation bracket; and at-large selections Jonathan Schleifer '18 and Abram Ayala '16. Ayala withdrew because of an injury.

Princeton placed fifth in the EIWA team standings, its best finish since 1978, and the orange-and-black cheering section at Jadwin sounded pleased about the program's continuing rise. "The alumni experience is pretty powerful here," Ayres said. "Quite frankly, we wouldn't be here had we not had the support of a lot of the guys in those stands. I'm really appreciative." ♦ *By B.T.*



Steven Cook '17

MEN'S BASKETBALL

On the Wrong Side of History

This year's men's basketball team might be the best team in modern Ivy League history *not* to win a championship.

That's not an honor it hoped to achieve, of course. Princeton entered the final regular-season weekend with only one Ivy loss, effectively tied with Yale atop the league. But a heartbreaking 73-71 defeat at Harvard March 4 left the Tigers' fate out of their hands. Though Princeton bounced back to beat Dartmouth and Penn and finish 12-2, the Bulldogs won the conference title at 13-1.

The Tigers outscored conference foes by 10.8 points per game, and according to Basketball-Reference's Simple Rating System, Princeton has been 7.4 points per game better than the average Division I team this season (adjusted for its schedule) — better than all but nine Ivy teams since 1980, all of them champions. But one of those nine teams is this year's Bulldogs, who clinched their first NCAA tournament bid since 1962.

Princeton received an NIT invitation, its first since 2002, and lost in overtime at Virginia Tech, 86-81, in the opening round March 16. ♦ *By Kevin Whitaker '13*

SPORTS SHORTS

Ivy League FOOTBALL coaches unanimously passed a proposal to eliminate all full-contact hitting from practices during the regular season. The move, spurred by heightened concerns about brain trauma and other related injuries, would revise Ivy practice rules adopted in 2011 that limit teams to no more than two full-contact practices per week. Princeton head coach Bob Surace '90 said the proposal sets an important precedent for the sport's younger levels. "The discussion point is, 'Let's have common sense,'" he told PAW. "Hopefully a high school coach out there will look at this rule and say, 'Hey, they're right.'"

MEN'S SWIMMING AND DIVING completed a comeback victory

at the Ivy Championships in Providence, R.I., Feb. 25-27, overtaking Harvard in the final three events of the meet. En-Wei Hu-Van Wright '17, Julian Mackrel '17, Ben Schafer '18, and Sandy Bole '16 broke the meet record to win the 400-yard freestyle relay and clinch the team title.

MEN'S TRACK AND FIELD won the Ivy League Heptagonal Indoor Championships Feb. 27-28 at Cornell, topping the second-place Big Red by a 165-142 margin.

In its first NCAA Tournament appearance since 2006, the **WOMEN'S HOCKEY** team lost 6-2 at No. 3-seed Minnesota March 12. ♦ *By Jack Rogers '16 and B.T.*

Life of the Mind



Q&A: CHRISTINA LAZARIDI '92

Words on Film

Thinking like a poet helps a screenwriter find the emotional core of a script

What pulls an audience into a story and keeps people listening? Christina Lazaridi '92, an Oscar-nominated writer who teaches screenwriting in the creative writing program, has been wrestling with that question for more than two decades. PAW spoke with the writer about the film business, how poetry relates to screenwriting, and what drives her work.

What propelled you into the frenetic world of film?

In between my undergraduate and graduate programs, I took a year off and went to Greece, where I am from. I worked as an assistant to my mother, a prominent theater-production designer. She worked me hard. After putting in my

third all-nighter, I said, "This is crazy." She replied, "If you want to survive in show business, this is going to be your life. So make a choice." She was right. What I say to people is that if you really feel like this is the only thing you can do in your life, you should do it. You really have to feel that this is *it* for you.

Did you have a breakthrough moment in your career?

Yes. After writing documentary scripts, a colleague asked me to write fiction —

Lazaridi and a Princeton neuroscientist are studying how audiences process information.

a screenplay for a short film, *One Day Crossing*, about a Jewish girl trying to protect her family during World War II. It was nominated for an Academy Award in 2001. Everything opened up for me after that.

Now, with the Internet, there is more content and more competition. But there are also a lot more avenues for getting your work out there and getting noticed and finding an audience.

When you entered graduate school, you had to choose between screenwriting and poetry. Do you still find poetry is helpful to you?

I use poetry when I teach. For me, in terms of connecting different writing forms and modes of expression, poetry is the closest to film. In poetry, you are trying to communicate emotion. You are working with rhythm in a very circumscribed space and with subtext. This is markedly similar to what you do in screenwriting, where you have a very defined space to work with in terms of a rigorous time limit, and you want to create the conditions for an emotional rapport with the audience by using different rhythms.

Talk about your project with Uri Hasson, a professor at the Princeton Neuroscience Institute.

We are studying how an audience processes pieces of information and remembers them to create a full internal narrative. This connects directly to the creative side of things, from a screenwriter's point of view, in how you convey information to the audience so that they remember it. You reveal to them what you want them to know, and they create the narrative through the clues you give them. The neuroscientists will study audience reactions through fMRI [functional magnetic resonance imaging] data. I am incredibly curious to see what we learn. ♦ *By Kitta MacPherson*

Johannes Haushofer
studies how money
affects happiness.



PSYCHOLOGY

Money and Happiness

How the poor improve their lives — and mindset — when they receive financial help

It often has been said that money can't buy happiness, but does that mean poor people are as happy as rich people? For centuries, philosophers and economists have promoted the notion of the "happy poor," suggesting that people in poor countries are blissfully ignorant of the amenities they lack. Studies in the 1970s even found that while richer people were happier than poor people within the same country, there was little difference in overall happiness between those who lived in rich countries and those who live in poor countries. That idea suggested that beyond meeting

basic needs, development efforts that focused on improving the poor's finances were a waste of time.

Recent studies, however, have contradicted that theory. "With the benefit of more data, it turns out not to be true," says Johannes Haushofer, assistant professor of psychology and public affairs. A series of recent academic

Cash gifts to poor families were spent on durable assets, not "temptation goods."

papers has found happiness correlates with income both within and between countries, he says. Those studies relied on self-reported measures of happiness, so Haushofer recently set out to test the thesis using biological indicators.

Haushofer worked with a British organization called GiveDirectly, which made cash payments, with no strings attached, to some 500 households in Kenya to observe how the money would affect happiness levels. Haushofer and Jeremy Shapiro, the co-founder of GiveDirectly, gave each primary male and female household member a questionnaire about happiness and measured the level of cortisol — a hormone commonly associated with stress — in the saliva of those household members.

They found that gifts of cash resulted in an increase in happiness, as measured by a survey. There was no change in cortisol levels four months after families were given lump-sum transfers of \$404, the equivalent of more than a year's average income. However, when families were given a lump sum of \$1,520, cortisol levels were significantly lower. The reduction was greater when the money was given to women.

Haushofer and Shapiro found that the families did not squander the money on "temptation goods" such as tobacco and alcohol, but mainly used it for durable assets such as cows and metal roofs (to replace thatched roofs). Families given the smaller amount increased purchases of durable assets by 28 percent; families given the larger amount boosted acquisitions of those assets by 63 percent. The researchers speculated that increased happiness and lower stress could be the result of greater food security and increased income.

The findings support the effectiveness of programs that give money directly to alleviate poverty not just due to the positive economic effects, but also because of the reduction in stress and increased happiness, says Haushofer: "Depression is very effective in putting people out of work and destroying livelihoods. When people are happier, they are more productive. When they are stressed, they are more risk-averse and may not invest as much." ♦ By Michael Blanding

Sameer A. Khan

David Spergel
'82, left, and
N. Jeremy Kasdin '85



UPDATE: INTO THE COSMOS

Teaming with NASA to Explore the Nature of Our Place in the Universe

Two Princeton professors will be at the center of an ambitious mission to answer two of our most important cosmological questions: What is the nature of the universe, and are we alone out here? Sometime in the next decade, NASA plans to launch a new high-powered space probe called the Wide-Field Infrared Survey Telescope (WFIRST) to a spot some 1 million miles from Earth. The massive telescope will scan the surrounding universe with two main objectives: to study a mysterious matter known as “dark energy,” led by astronomy professor David Spergel '82; and to measure the light from distant planets, led by mechanical and aerospace engineering professor N. Jeremy Kasdin '85.

A PAW cover story March 18, 2015, described work by Kasdin to design tools to spot and capture images of planets around distant stars. The WFIRST mission is expected to draw heavily on that research.

Dark energy is the name scientists have given to an invisible matter that may constitute 70 percent of the known universe and is thought to be responsible for the universe's accelerating expansion since the Big Bang some 13 billion years ago. “Physicists are struggling to understand why the expansion rate of the universe is accelerating,” Spergel says. “We expect that gravity should be slowing the expansion.” Dark energy would provide one possible explanation for the conundrum — the other being that Einstein's theory of general relativity doesn't apply to cosmological scales.

In order to study the phenomenon, the mission will make use of a telescope as powerful as the Hubble Space Telescope, able to examine light 11 billion light-years away. Initially, scientists involved in the project believed the telescope was ill-configured for the mission's other main objective: to study the light of planets far outside our solar system. Kasdin and operations research professor Robert Vanderbei were able to retrofit the telescope with a coronagraph, a device that can separate the light reflecting off a planet from the light of the star it is orbiting.

The instrument will allow for sensitive light readings, which can give information about the atmosphere and chemical composition of planets much farther away than those astronomers currently can study. That, in turn, could aid in the discovery of an elusive “Goldilocks planet” — theoretically, at least — that is just right to support life. “It will get us nearer to the answer of whether we are alone in the universe,” says Kasdin. Questions don't get much bigger than that. ♦ By Michael Blanding

NEW RELEASES



Professor of African American Studies
Keeanga-Yamahtta Taylor offers

an analysis of the historical and contemporary effects of racism and the persistence of structural inequality in *From #BlackLivesMatter to Black Liberation*. She argues that the recent eruption of protests against police violence has the potential to ignite a larger activist movement among African Americans.



Shadows of Revolution: Reflections on France, Past and Present gathers essays written over the last 25

years by history professor **David A. Bell**. The book explores three periods of fascination for the author: the Revolution, World War II, and the collaborationist regime of Vichy.



Modern ideas about translation, literature, history, and myth were largely shaped by the

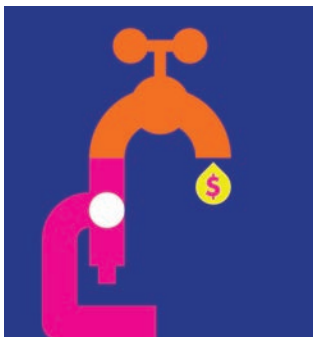
Romans, asserts professor of Latin **Denis Feeney** in *Beyond Greek: The Beginnings of Latin Literature*. He explores how Roman citizens of Greek origin began the process of translating Greek texts into Latin, something rarely done before in that region.

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By Christopher Connell '71

Squeeze Play

Washington tightens the spigot for basic research, and Princeton feels the pinch



Dorothea Fiedler has long been one to watch in the world of chemical biology. Her explorations of chemical language within cells ultimately could unlock new therapies for diabetes and obesity. The assistant professor attracted multiple grants to open her lab in the Department of Molecular Biology and seemed headed for tenure, but it never came to that. Last summer Princeton lost Fiedler after five years to a prestigious

German research institute, the Leibniz-Institut für Molekulare Pharmakologie (FMP), which made her a full professor and director, with oversight over dozens of scientists. Most of Fiedler's graduate students accompanied her to Berlin to finish their work, though they still will receive Princeton degrees.

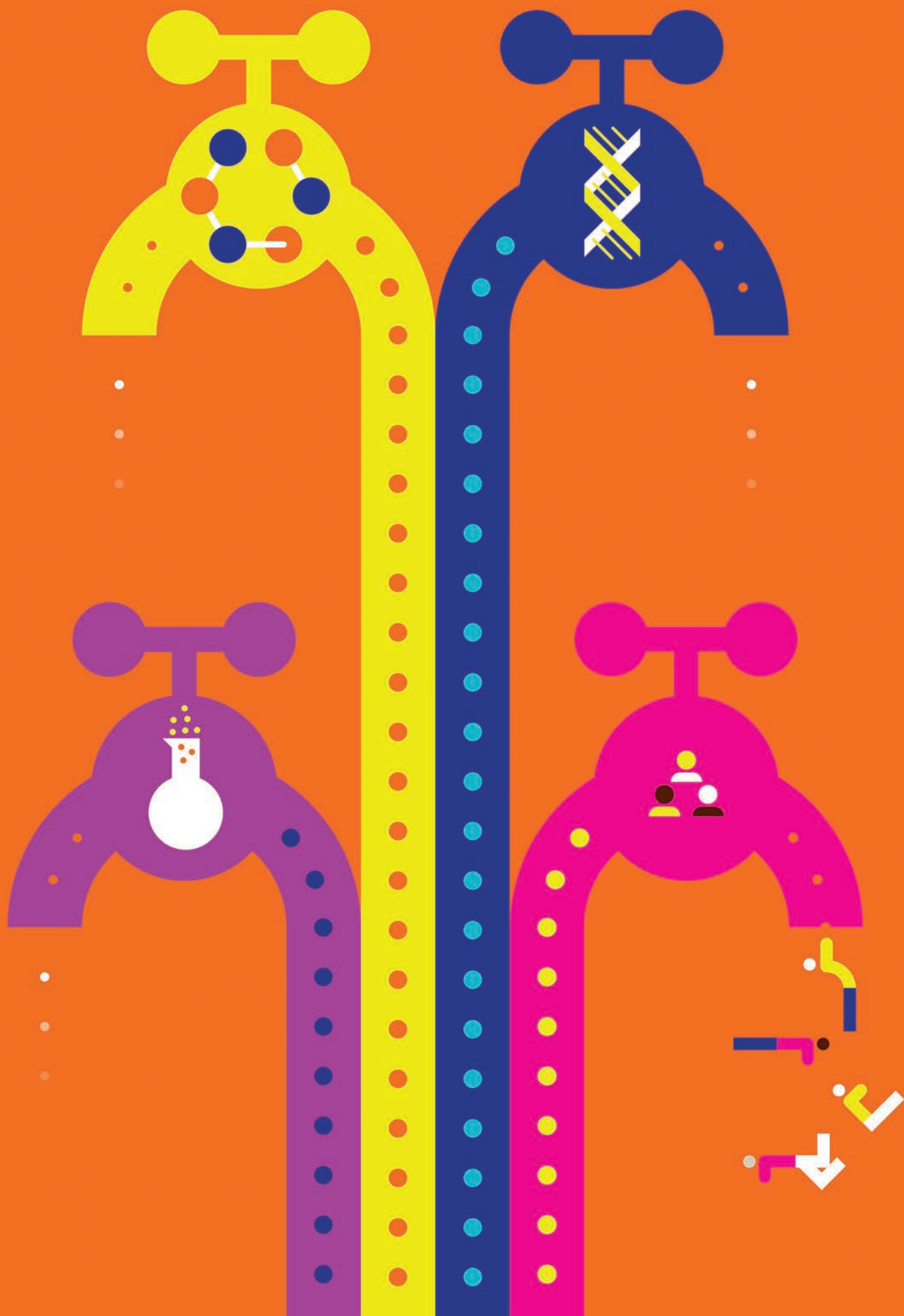
Fiedler never felt funding constrained her path-breaking work, but believes it would have been impossible for Princeton to match what FMP was offering. "My job here [in Germany] comes with guaranteed funding for a certain number of co-workers, forever," says Fiedler. "That means I can tackle real long-term projects, things that are challenging and may not work out, without having to worry about losing my grant." Family reasons, too, figured in the German scientist's decision.

Funding constraints are a big worry for scientists, young and old, at Princeton and across the country, especially those who rely on support from the National Institutes of Health. NIH funding stagnated over the past decade while the number of scientists seeking grants soared after Congress and the White House doubled spending on medical research between 1998 and 2003. Then, between 2003 and 2015, budget cuts and inflation meant that funding capacity plunged more than 20 percent, though Congress increased NIH spending in the 2016 budget. Today NIH supports fewer than one in eight requests for major funding; less than 40 years ago, the odds were two in five.

Princeton's scientists have a much better batting average than most researchers — almost half the applications across the natural sciences and engineering departments were funded — but researchers here are not immune from the squeeze. Almost 85 percent of the \$200 million in sponsored research on campus each year is funded by Washington, principally NIH and the National Science Foundation (NSF). Separately, the U.S. Department of Energy underwrites nearly the entire \$100 million budget of the Princeton Plasma Physics Laboratory on Route 1.

"It's almost a crapshoot," says Thomas Silhavy, a renowned bacterial geneticist who has had two NIH grants for decades. Today his lab, with seven people, is smaller than it has ever been, he says. "But I'm lucky. I'm still surviving. If you lose

Peter Grundy





“My job here [in Germany] comes with guaranteed funding for a certain number of co-workers, forever.”

— Former Princeton professor Dorothea Fiedler



“We’re like these little entrepreneurs. I can only have as many people in my lab as I have grant money to pay them.”

— Professor Bonnie Bassler



your grant and have to close your lab, it’s over. It’s never, ever going to come back.”

As part of the University-wide strategic planning effort that President Eisgruber ’83 launched soon after taking office in 2013, two high-powered task forces recently made recommendations for the future of the Graduate School and for sponsored research at Princeton (see PAW, March 16, 2016). They urged University trustees to marshal millions of dollars in new resources to expand the Graduate School, provide more support for graduate students who are the lifeblood of research labs, and create new, internal innovation funds for young and mid-career researchers to buffer them from the vagaries of federal funding and encourage them to pursue novel, even “crazy” ideas (in the terminology of Dean for Research Pablo Debenedetti) that might not pass muster with NIH selection panels looking for assured results.

Princeton’s Graduate School is unusual among the ranks of top U.S. research universities against which it competes for faculty and students. It is far smaller than most, and 90 percent of the 2,700 graduate students are pursuing Ph.D.s, not master’s or professional degrees. Princeton’s toughest competition for students comes from Harvard, MIT, Stanford, and the University of California, Berkeley, according to the task force on the Graduate School. That competition begins with how much support these institutions promise upfront to Ph.D. students — and Princeton’s rivals are not standing still. Stanford, for example, recently announced a \$400 million gift from alumnus and Nike founder Philip Knight toward a \$750 million endowment to provide 100 more fellowships to its graduate and professional schools.

Princeton funds Ph.D. students fully through a combination of fellowships, research assistantships, and teaching assistantships (students in science and engineering receive \$30,000 stipends). A typical \$200,000-a-year NIH grant “covers two graduate students and their supplies,” says Bonnie Bassler, the chair of molecular biology. Her department has at times not accepted all the graduate student slots it was allotted due to uncertainty over whether it could place them all in labs after their first year of studies.

Apart from a professor’s paycheck during the academic year and the core facilities the University provides, “everything else you do — your grad students, postdocs, every reagent, every piece of equipment you buy, your summer salary — all of that is bought on these grants. We’re like these little entrepreneurs. I can only have as many people in my lab as I have grant money to pay them,” says Bassler. “Graduate students are the engine that drives science. We love them. But we won’t take more unless we know we can afford them.”

Bassler’s lab is one of Princeton’s best-funded. Her team focuses on the molecular mechanisms that bacteria use for intercellular communication, work that could lead to improved antibiotics and new anti-microbial drugs. She currently has two NIH grants, two National Science Foundation grants, and is one of Princeton’s three Howard Hughes Medical Institute investigators, a coveted status that pays her salary and more (Shirley Tilghman was an HHMI investigator before becoming president). “The molbio faculty is spectacular. Great people want to come and work here,” Bassler says. “But when funding gets scarce, there’s a tendency to circle the wagons. Now when

you send a grant in, you don't put in your most imaginative idea. You start thinking smaller. That is not how you innovate. I don't want Princeton's faculty or students doing that kind of science."

Debenedetti, too, is concerned that given the paralysis in Washington, the temptation even for faculty the caliber of Princeton's is to "propose incremental but safe things. They write about the research they already did, not what they want to do." The task force on sponsored research, chaired by Debenedetti and Provost David Lee '99, suggested that Washington prefers such "safe" proposals because they're viewed as more likely to produce the sought-after results.

That task force exhorted Nassau Hall to find the resources to blunt the downward trends in federal support for R&D. It recommended creating four-year, \$150,000-per-year innovation awards for young and mid-career faculty to pursue new avenues of research and to tide professors over between outside grants. Faculty also could compete for \$50,000 grants to prepare proposals and get \$75,000 matching grants when they snare federal or industrial awards. The cost to Princeton: \$7.4 million. The panel also recommended that the University create a \$5.4 million fund to pick up the share of tuition of fourth- and fifth-year students that is now charged against research contracts. (In a separate report, the Graduate School task force urged more support for humanities and social-science doctoral students in the sixth year. While scientists and engineers typically graduate in five years, it takes 6.2 years on average to earn a Ph.D. in the social sciences and 6.7 years in the humanities.)

Debenedetti framed the research-funding challenge not as a crisis but a unique opportunity to build on Princeton's strengths. "I don't want to paint the image that the sky is falling," he says. "There's considerable cause for concern, but we have a fantastic faculty who are competing extremely well."

When biologist Danelle Devenport, then a postdoctoral fellow at Rockefeller University, was flying around the country for job interviews, she was taken aback by something she kept hearing in heart-to-heart conversations with senior scientists. "It went like, 'You kids are crazy to do this. It's so much harder these days to keep your lab funded and keep students and postdocs in the lab,'" she recalls. "I heard that in every place. Some seemed more downtrodden and depressed."

But at Princeton, "nobody gave me that speech," says Devenport, an assistant professor since 2011. Proffered along with the job offer was \$1 million to start up her lab, enlist doctoral students and postdocs, and begin experiments on how cells assemble to produce functional organs. Soon she attracted large federal and foundation grants for promising young investigators, and in 2014 landed her first big NIH grant, the kind for which every biomedical researcher in the country competes.

Devenport appears on the verge of snagging a second NIH grant, but the application process is torturously slow. From start to finish it took two years for the first grant to come through. The anonymous peer reviewers demanded "a lot of preliminary data to show everything you propose is actually feasible. Logically that makes sense, but it's very hard to predict the future in science. There's an element of luck," says Devenport, whose team studies cells *in vivo* (mouse skins) and *in vitro* (petri dishes). She adds: "My students tell me, 'I'm not sure I want your life. Your life is crazy.' They see the door

closed when I'm writing grant submissions. Writing grants is something that no graduate student looks at and says, 'Yeah, that's what I want to do.'"

Clifford Brangwynne, an assistant professor in chemical and biological engineering, attests to how slow-moving the grant-approval machinery moves in Washington, although he, too, has snagged young-investigator grants from both NIH and NSF and a big NIH grant for his work on phase transitions in cells. His team has made discoveries that ultimately could have implications for treating neurodegenerative diseases such as Lou Gehrig's and Alzheimer's — but that wasn't evident when he began. Brangwynne, whose fifth-grade daughter recently had an assignment on the Lewis and Clark expedition, stressed the importance of pursuing the unknown, as the explorers risked their lives doing. "You don't know what you're going to find out there at the frontier, but that's where the good stuff is," he says.

This isn't Princeton's first push to buffer its own explorers from the vicissitudes of budget battles and woes in Washington. In 2013, the University created an innovation-awards competition that offers grants of up to \$250,000 for faculty with bold ideas; the dean for research funded 15 projects, including two in the humanities, in the first two years. In addition, in 2009, Eric Schmidt '76, the executive chairman of Google parent Alphabet Inc., and his wife, Wendy, endowed a \$25 million fund to support risky yet potentially groundbreaking faculty research. It funds projects just off the drawing board that are far too new to produce the preliminary results upon which federal funders insist. (Two smaller grant programs — the Project X Fund and the Intellectual Property Accelerator Fund — have similar goals.)

Gerard Wysocki, an assistant professor of electrical engineering, and Daniel Sigman, professor of geosciences, received \$700,000 from the Schmidt fund in 2012 to develop a sophisticated, portable instrument to measure nitrogen isotopes and monitor environmental change. They succeeded — and now Sigman can take the equipment with him as he studies oceans' response to climate change going back to the ice ages. Asked if they could have persuaded the National Science Foundation to fund the project at the outset, Wysocki says, "Absolutely not. We didn't have the instrument yet to show results. Now we do."

Elise Piazza, a postdoc who joined the Princeton Neuroscience Institute last fall after completing her Ph.D. at the University of California, Berkeley, quickly enlisted three more senior colleagues and won a \$577,000 Schmidt award to develop a new imaging system to study what happens inside the brains of infants as they learn language. Instead of subjecting babies to the clamor of magnetic resonance imaging (fMRI) machines, the researchers will beam low-intensity light through unobtrusive caps worn by babies and caregivers to measure neural activity and possibly shed light on autism. "Many national grants don't encourage super-risky, groundbreaking research," says Piazza, who will be the principal investigator in the PNI Baby Lab project. "They like to first see really strong evidence that something's going to work. This involves a lot of unknowns."



**Some faculty
“propose
incremental but
safe things. They
write about the
research they
already did, not
what they
want to do.”**

— Dean for Research
Pablo Debenedetti



**“It becomes
harder to accept
a very promising
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exactly into
[a given] project.”**

— Professor Daniel Sigman

Biochemist Sabine Petry, an assistant professor, leads an interdisciplinary project that received \$723,000 from the Schmidt fund to develop a microscope that will allow researchers to manipulate chromosomes while viewing in 3-D the interior of a living cell. She teamed with two tenured professors, chemistry professor Haw Yang and physicist Joshua Shaevitz. “There’s no way we could have gotten any kind of traditional funding from the NIH,” says Petry. “It’s a super-ambitious idea ... and a research direction that we would not have picked up working alone.”

Petry runs one of four dozen labs in the Department of Molecular Biology, a crown jewel of Princeton’s scientific enterprise and one that has been hit hard by the funding crunch. The pressures there, the research task force said, “are especially urgent.” From its founding in 1984, molbio has focused “on discovery, the front end of the pipeline” for new medicines, says former department chair Lynn Enquist. “You can’t translate anything into medicine if you don’t have new ideas. By definition, a discovery means you don’t know what you’re looking for until you find it.” Enquist was chair during the Great Recession, when Princeton cut spending across the board by 5 percent. The department marshaled resources to provide bridge funding to faculty whose NIH grants lapsed, “and I made a commitment to the graduate students that if a lab went belly up, we wouldn’t kick them out,” he says.

Science graduate students in departments across the University “shop” for labs by doing three rotations during the first year while taking classes. Many gravitate to labs that need specific computational or other skills, “but you’re also looking for someone with great intellectual potential,” says geoscientist Sigman. “You don’t want to choose someone simply for the role they can play in a given research project,” he says. Still, when funding gets tight, “it becomes harder to accept a very promising student who may not fit exactly into that project. That’s not good for the U.S. in terms of developing new scientists.” Some professors elect to hire a postdoc — who comes for a year, often with outside funding — rather than make a three-year commitment to a Ph.D. student.

The difficulties of securing funding are changing how some graduate students think about careers in academe, which could affect which research gets done — and where — in the future. While most humanities Ph.D.s compete for a limited number of academic openings, newly minted science and engineering Ph.D.s have many attractive choices. Molecular biology tracked the 208 students who earned doctorates from 2005 to 2015 and found that 97 percent had landed positions — 36 percent in industry, 34 percent in postdoctoral positions, 11 percent as faculty, 11 percent as consultants or in the financial industry, and 5 percent in medical school.

Astrophysicist Hantao Ji says that in physics, “We’re fighting for the best students, fighting against financial engineering and mechanical and biological engineering. Good students see those fields are growing and a lot of jobs out there. It’s harder and harder to convince them to commit to careers in academe and basic research.” But astrophysicist David Spergel ’82, who plays a key role in NASA’s multibillion-dollar push to build a successor to the Hubble Space Telescope, notes that doctoral students always have had choices outside academe. “When I was a student, a bunch of people went off to work on defense

things,” he says. “Nowadays, if they leave the field, they tend to go into finance or go work for Google.”

Francine Camacho, a second-year Ph.D. student at the Lewis-Sigler Institute for Integrative Genomics, came to Princeton seeing her future in academe. But witnessing what she calls “the academic Hunger Games” now has her leaning toward the pharmaceutical or technology industry. “I’ve seen graduate students doing four, five, or even six rotations because labs are not taking graduate students since they can’t financially support them,” Camacho said. Akshay Mehra, in geosciences, says the department works hard to get larger grants so it can provide generously for its students. But as an officer of the Graduate Student Government, he’s heard “from one or two people who’ve struggled to convince their adviser to spend money on their research.”

“I’m an eternal optimist,” says neuroscience grad student Laura Bustamante, who still dreams of opening a lab of her own one day. “You have to have a superstar résumé and get published in the best journals. Ultimately, some talented researchers [won’t be] able to land a faculty job or get funding, but they’ll receive great jobs somewhere else. A Ph.D. can take you a long way in a bunch of different directions.”

No one is sanguine that Washington will open the spigots for basic research anytime soon, as it did after World War II and Sputnik and into the 1980s. “Even if there is bipartisan appreciation in Washington for the value of research and education in the abstract, strains on discretionary spending and political battles over the budget will almost certainly limit government funding for sponsored research in the years ahead,” the trustees said in a strategic-planning framework released in January.

But neither is anyone expecting the spigots to be turned off

completely. The task force on sponsored research assumed that government funding will remain “the backbone of Princeton’s research enterprise.” It did not suggest retrenchment or curtailing any area of research, but it did look at what would happen in a “worst-case scenario,” which it defined as an 8 percent cut in federal support. It canvassed four departments — molbio, astrophysics, mechanical and aerospace engineering, and physics — and each indicated that in such a hypothetical situation they would keep their faculty and graduate students while trimming the number of postdocs and lab staff. “Young people are sacred in this department,” Bassler says.

By and large, lawmakers on both sides of the aisle support scientific research (although House Republicans last year unsuccessfully sought to cut NSF funds for climate-change research). “It’s not that we have enemies in Congress, but when the budget is tight and everyone gets cut, we get cut as well,” says Spergel, the astrophysicist.

Still, it’s always good to have a Plan B, some suggest. Ask Ethan Perlstein. He earned his Ph.D. in molecular and cell biology at Harvard, then completed five years of postdoctoral work in genomics at the Lewis-Sigler Institute. After applying for 18 tenure-track positions and getting not a single interview, he gave up in 2012 — and then used Twitter and other social media to find angel investors to open his own lab in San Francisco. He raised \$2.5 million and now works with four other scientists to find marketable, so-called orphan drugs to treat rare childhood diseases. He calls himself an “indie scientist” and thinks others would be wise to follow his example.

“People have to build their own networks and take control of their lives,” says Perlstein. “Planning around what’s going to happen with NIH and thinking there’ll be a turnaround if we just wait out this storm, that’s a fool’s errand.” ♦

Christopher Connell ’71 is a journalist in Washington, D.C.

A TOAST TO TED



Funding just became easier for doctoral students in the chemistry department, thanks to professor emeritus **Edward C.**

“Ted” Taylor. With royalties from a top-selling cancer drug, Alimta, he invented for Eli Lilly & Co., Taylor has endowed fellowships for third-year chemistry Ph.D. students — usually about 30 students per year.

“That’s when they ought to be completely free of other concerns so they can devote themselves totally to their research,” says the 92-year-old Taylor. His work already has made a crucial difference to scientists at Princeton: The University’s Alimta royalties paid for the department’s quarter-billion-dollar new home, Frick Chemistry Laboratory, which opened in 2010. ♦

BECOMING JOY

After years
of agony,
Joy Ladin *00
makes the
difficult journey
between genders

BY JENNIFER ALTMANN

Eleven years ago, Jay Ladin *00 was a popular professor at Yeshiva University's Stern College for Women in New York, a published poet, and a father of three. Ladin also was in constant agony over the thought of continuing to live as a man. Since early childhood, Ladin tried "to be what people wanted me to be. I taught myself to be nice rather than good, to be accommodating rather than honest, to be male rather than female." At preschool, "I tried to play with the girls — I saw them as my peer group. I didn't understand why they were running away. That's the first time I remember being aware that my sense of myself was at odds with the way people saw me." By 8, Ladin had "devoted himself to passing as a boy" who soon "called himself a pacifist so that he wouldn't have to fight" in the schoolyard and avoided participating in team games by taking on non-athletic roles.

The struggle continued for another four decades, even as Ladin married, earned a Ph.D. in American literature at Princeton, and built a career as a teacher and writer.

Throughout, Ladin fought — and sometimes succumbed to — the impulse to dress as a woman and seek out women for close friendships. Being a man was a performance. "I had never lived a day, a moment, as my true self," writes Ladin, who worked every day to overcome "the secret shame of presenting myself as someone I knew I wasn't."

Today, Jay is Joy. After going through a wrenching divorce and putting her job at Yeshiva — an Orthodox Jewish university — in jeopardy, Ladin is living as a woman, an "incredible miracle, something I never thought would happen," she says. By sharing her story, she also has become an inspirational figure to LGBT Jews who are struggling to reconcile their religious faith with their identities.

In 2005, Ladin's wife listened as her husband of 23 years explained a need to live as a woman. It was painful news. Despite the transformation, Ladin, then 45, hoped to remain married; for the next two years, the couple continued to live in their house in western Massachusetts — with their son and two daughters, then ages 11, 6, and 1 — as Ladin, while continuing to live as a man, gradually altered her appearance. They then divorced. Ladin recounts the experience in her 2012 memoir, *Through the Door of Life: A Jewish Journey Between Genders*.

In the book, Ladin suggests that the news should not have come as a surprise, explaining that the couple had first discussed Ladin's transsexual feelings when the two were college sophomores. Ladin's wife could accept the feelings



but not any expression of them, Ladin writes. Suppressing those impulses led Ladin to contemplate suicide many times: “I felt that God, to spare my family the shame and pain of my transition, wanted me to die.”

When it became clear that Ladin would live as a woman, her wife was distraught. “You’ve destroyed four lives to walk around in a dress,” Ladin recalls her saying.

“My wife saw me as choosing self-mutilation over her, over the life we had painstakingly built up since we were teenagers, over our future, over our past, over the well-being of our children,” Ladin writes. “Day after day, I was forcing her to witness the slow erasure of the man she loved. The hair on my head got longer. My body hair disappeared. My voice and manner of speaking altered. I was destroying myself before her eyes for the sake of a game of dress-up. ‘It’s murder,’ she told me, ‘even though you will never be convicted.’”

Several months after Ladin’s book was published, Ladin’s ex-wife published her own memoir. Christine Benvenuto writes that she felt powerless, belittled, confused, and left without a way to live as a married couple. Their children’s experience of Ladin’s transformation and the parents’ breakup was “the ugliest and most painful aspect” of the story, she writes.

Ladin, still living with the family, started dressing in women’s clothing for short stints (though not in front of her family, Benvenuto writes) and began hormone therapy. She eventually rented a room in a house near her family but had to leave that dwelling and several others for financial reasons: “I didn’t have enough money to have a stable place.” She continued to teach at Yeshiva’s Stern College as a man; her finances were so precarious because of the pending divorce that she often served as an overnight volunteer at a New York City homeless shelter in order to have a place to sleep. At one point she received a summons from the sheriff and underwent an investigation after her wife filed a complaint stating that Ladin was a danger to one of their daughters. Ladin writes: “My gender identity crisis had destroyed my marriage, shattered my family, and turned me into an unwelcome stranger in my own home.”

Dana Bevan *73, a biopsychologist who is transgender and has written two books on the subject, says hiding one’s true identity for decades before coming out in middle age — as Bevan herself did — is common. “After the realization of being transgender at age 4 to 7, many transgender people go into the closet because of cultural rejection in school, work, and social relations,” she says. In Ladin’s case, her mother was supportive when, in 2007, she told her she was transgender, but her best friend abandoned her.

But when Ladin began going out in public as a woman — outlining her lips in red, clumsily clipping on earrings, putting birdseed in the feet of pantyhose to fashion breasts — she felt

reborn, even as she struggled through “adolescence in middle age.” “Every time I put on skirt and blouse and makeup, I feel myself spreading out into my arms and legs, filling my body, shuddering from death to life,” Ladin writes. In her own book, Benvenuto remarks on how happy and energetic her husband appeared when preparing to leave the family home, though Ladin recalls feeling miserable at that moment. (Ladin declines to say whether she has had gender reassignment surgery: “Part of dealing with transgender people as people is giving them privacy, and in our culture, we don’t generally discuss our genitals in public.”)

There were many more hurdles ahead, but Ladin felt that at last she could live: “I had done it. I was out. I was free.”

In 2007, a few weeks after receiving tenure at Yeshiva, where Ladin had taught writing and American literature at the university’s Stern College for Women since 2003, she wrote to the dean and explained her transition. She was put on paid leave and was told not to return to campus — “the best-funded and most courteous form of discrimination imaginable,” Ladin writes in her memoir.

Yeshiva University is the oldest educational institution under Jewish auspices in the United States and the flagship school of modern Orthodox Judaism, which blends adherence to Jewish laws with a recognition of the modern world. Yeshiva’s undergraduates are mainly observant Jews who study the humanities and sciences as well as the Torah. The 1,000-plus women at Stern are required to follow a modest dress code, and many students are engaged to be married before they graduate.

Yeshiva is not the only religious institution to be challenged by transgender issues; there have been questions and legal clashes at Christian schools as well. At Azusa Pacific University in California, a theology professor who had taught for 15 years as a woman came out as a man in 2013 and was asked to leave; he and the school reached a confidential agreement. Also in California, a judge denied most claims in a lawsuit by a nursing student expelled from a Christian college after the school learned she had been born male. And a transgender student at George Fox University, a school with an “evangelical Quaker and Christian ethos” in Oregon, was denied his request to live in male housing and moved off campus. George Fox later released a policy statement saying the school would retain separate housing for men and women, but would provide private living spaces and restrooms for transgender students where possible. “A guiding consideration will always be ensuring that students remain connected to community,” the statement says.

Transgender people pose a problem for Orthodox Judaism, Ladin says, because gender is central to so many of its rituals — men and women sit separately in synagogue, for example. The Torah proscribes cross-dressing, and Ladin — who is not Orthodox but reads the Torah daily — points out that it is considered a sin for men to take female hormones. As these issues come to the fore, however, “Orthodox Judaism is in the middle of a slow but profound cultural shift,” Ladin says. Though not many communities are openly welcoming, a few are quietly accepting. There is a feeling that “even though this is a sin, we don’t push people out because of sins,” she says.

Ladin was put on paid leave and was told not to return to campus — “the best-funded and most courteous form of discrimination imaginable.”

When Ladin revealed her transition to the dean at Yeshiva, she was told it was the school's policy that a physically male person could not appear on campus in female clothing, and that students and parents wouldn't be able to accept her. Students, however, were not as rigid as the dean might have thought. While Ladin was on leave, several of her former students learned of her situation and arranged a meeting with her off-campus. One told Ladin that while she was politically to the right, she was outraged that the professor had been barred from campus, Ladin recounts in her memoir. When Ladin met the group of students at a coffee shop, they said there was something they had to ask her: "Are men *really* as bad as they seem on dates?" "My devout, sheltered students could talk, laugh, and learn with a woman they knew had once been a man," writes Ladin.

Ladin's lawyers from Lambda Legal, a civil-rights organization that deals with issues affecting LGBTQ people, wrote to Yeshiva demanding that she be reinstated to teaching. The university agreed a few months later to let her return. (It did stipulate that she use the single-stall unisex bathrooms and adhere to a Yeshiva policy that prohibits teachers from discussing their personal lives with students.) Hayley Gorenberg '87, the deputy legal director of Lambda Legal, points out that New York City's laws specifically prohibit employment discrimination on the basis of gender identity. "Obviously the school had resistance and trepidation," Gorenberg says. "We are thrilled it turned around and did the right thing. It is extremely telling that once she showed up on campus as Joy, her students didn't have any problem. The sky didn't fall."

When Ladin walked onto Yeshiva's midtown Manhattan campus in September 2008, a little over a year since she had been banned, she became the first openly transgender employee at an Orthodox Jewish institution. She also made the news — a story on page three of the *New York Post* headlined "YE-SHE-VA" said some at the university were "horrified" by her return as a woman. Several students publicly disagreed, one telling the paper, "This is a wonderful opportunity for the school to show students firsthand how you can respect and learn from someone who might be different from you." But Rabbi Moshe Tendler, a professor of biology and Jewish medical ethics at Yeshiva, said Ladin was "not a woman. He's a male with enlarged breasts." He also pronounced her "in massive violation of Torah law, Torah ethics, and Torah morality."

Ladin says she is glad Tendler's comments were published: "Nobody talked about this before. Now they had to decide if this one voice represented them, and a lot of people said, 'This is not how Orthodox Jews talk about another human being.'"

"It took a tremendous amount of courage" for Ladin to reveal to the Yeshiva administration that she was transgender, says Rachel Mesch, chair of the school's Department of Languages, Literatures, and Cultures. "Yeshiva University is an extremely gendered place, but my sense is it's dealt with very matter-of-factly, which speaks to her talents as an educator."

Ladin's highly publicized case may be helping to make the climate at Yeshiva more accepting. Since she returned to campus, a Facebook group launched for "Yeshiva University LGBTQ+ and Allies" and a Tolerance Club hosted a panel on campus about being gay in the modern Orthodox world. A

Yeshiva student recently came out as bisexual in the student newspaper. Before doing so, she met with Ladin.

Since the publication of her memoir and her outing in the *Post*, Ladin has become a prominent figure in the Jewish community, though she is not well known beyond that circle. She has given more than 120 talks on transgender issues both to LGBT Jewish groups and heterosexual Jewish audiences. Skyler Clarke, a male transgender student from California, met her at a weekend retreat for LGBT Jewish youth: "She's put herself at the intersection of these very difficult conversations about Judaism and transgenderism, and resisted the pressure to walk away. She's continuing to struggle with the text and notions of God."

"Joy is singular in this space and very much a courageous pioneer and an inspiration," says Idit Klein, executive director of Keshet, an LGBT Jewish organization. At Temple Emunah in the Boston suburbs, a congregation affiliated with the Conservative stream of Judaism and where a handful of children and adults are transgender, a recent talk by Ladin left congregants "absolutely riveted — people were in tears," says Rabbi David Lerner. "It is life-affirming and life-saving work Professor Ladin is doing by sharing her own narrative."

These days, enrollment in her classes is half of what it was before she came out, says Ladin, who had been nominated for Professor of the Year by students in 2007. "No one has ever been rude or disrespectful. It's probably hard to find a place that's as safe to be a trans person because the idea of respect is embedded," she says. "It's not comfortable, but I'm as protected as anyone could be. But students do avoid me and feel uncomfortable. I can see it in their faces."

Last year, Ladin published her seventh collection of poetry, *Impersonation*, which explores gender transition, and won a \$25,000 creative-writing fellowship from the National Endowment for the Arts. Looking back on her transition with several years' perspective, she describes it in the book's author's note as "a lifelong process combining shame with triumph, ecstasy with disappointment, the mundane humiliation of airport security screenings with the miraculous experience of incarnation and fully embodied love."

Ladin is remarried — to Liz Denlinger, a curator at the New York Public Library — and continues to split her time between Manhattan and Massachusetts, where her children live, though her relationship with them is strained. "Two of my children have stopped talking to me. I'm down to one, my 12-year-old daughter," who still calls her Daddy, she says. The fissure with her other children, now 16 and 21, is "unbearably painful."

What brings her the most pride are her presentations about her experience: "Helping people understand is the most important teaching I do." But her relationship to gender "still feels oddly unsettled. I still don't fit into the gender binary." She hopes for a future when the issues with which she grapples will not be so fraught with misunderstanding and fear. "Someday," she says, "being transgender won't be any different than any other way of being human." ♦

Jennifer Altmann is an associate editor at PAW.



WATCH: Joy Ladin *00's TEDx talk at paw.princeton.edu

James Madison Program in American Ideals and Institutions



THE ROBERT J. GIUFFRA '82
CONFERENCE ON
**Abraham Lincoln and
American Statesmanship:**
Reconstructing the Law
of the Constitution

May 16 – 17, 2016

Princeton University Campus, Location TBA

*Cosponsored by The Association for the Study
of Free Institutions at Texas Tech University and
The Bouton Law Lecture Fund*

MONDAY, MAY 16, 2016

10:30 to Noon

Keynote by Allen C. Guelzo, Henry R. Luce III
Professor of the Civil War Era, *Gettysburg College*

1:30 to 3:15 p.m.

The Historian's Craft: A Consideration of
Writings of Allen C. Guelzo

3:45 to 5:30 p.m.

Reconsidering Reconstruction, Rights,
and Progress

TUESDAY, MAY 17, 2016

9:00 to 10:45 a.m.

What Is the Relationship Between Originalism
and Judicial Restraint?

11:15 to 1:00 p.m.

The Statesmanship of Abraham Lincoln

2:30 to 4:30 p.m.

Roundtable on Lincoln and the Challenges
of Statesmanship in Our Time

It is a sobering reflection that the progress of free institutions has often come at the cost of much blood spilled in the midst of rebellion and civil war. "Reconstruction" is one of the supreme challenges that statesmanship can face, and it is one upon which Abraham Lincoln reflected deeply, even if he did not live to implement the plans that emerged from his reflections. Given the magnitude of the issues with which Lincoln had to deal, his political career and thought are a school of statesmanship to which free people should turn for instruction.

With a view to advancing the education in statesmanship that the study of Lincoln can provide, the James Madison Program in American Ideals and Institutions is pleased to announce this public conference that includes scholars from a variety of disciplines in the social sciences and humanities. We seek to address a number of questions. What principles and aims informed Lincoln's statesmanship? How did Lincoln understand and embody the virtue of prudence as mediating between principles and ideals, on the one hand, and stubborn realities, on the other, with a view to identifying achievable political improvements? How does wise statesmanship manage the difficulties involved in trying to secure new rights while also protecting old rights in a period of reconstruction? What role do courts play in preserving fundamental legal and constitutional principles in the midst of political and social upheaval? Finally, what lessons does Lincoln offer to statesmanship in our own time?

**For full details on panelists and conference
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**The James Madison Program would like to
thank Robert J. Guiffra '82 for his
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PRINCETON UNIVERSITY

PRINCETONIANS



FOR LAUGHS: Pedro Hernandez '99 performed his first stand-up routine at a campus talent show his freshman year. Now he appears under the name Black Pedro at Los Angeles comedy clubs and on a podcast called "Black & White With You and Me" that covers politics and race from a humorous perspective. He loves "the instant gratification of making people laugh," he says. ♦

Steve Anderson

Alumni Conference on Jewish Life

On April 14–16, the University will hold a conference for alumni celebrating 100 years of Jewish life at Princeton. “L’Chaim! To Life” will include keynote addresses by President Christopher Eisgruber ’83 and



Jonathan Sarna, the chief historian of the National Museum of American Jewish History in

Philadelphia; conversations with former Princeton presidents William Bowen *58 and Harold Shapiro *64; a plenary session on Israeli-American relations; discussions highlighting student life on campus today; and panels, lectures, and workshops featuring alumni and faculty.

There also will be informal gatherings with students, a Shabbat dinner, opportunities for networking, and a closing party with a performance by the Klez Dispensers. For more information, visit alumni.princeton.edu/goinback/conferences/jewishlife/. ♦



Klez Dispensers

Subscribe to Princeton Books, our monthly email newsletter about alumni and faculty authors, at paw.princeton.edu

YUSUFI VALI '05

REACHING OUT

The American mosque should be an engine of community engagement, says a Muslim leader

Arriving at Princeton as a freshman, Yusufi Vali '05 wanted to be an investment banker. But a week into his first semester, terrorists launched the Sept. 11 attacks, and Vali, a Muslim who was not observant, felt that he needed to understand Islam better. He decided to read the Quran, and to do that he began studying Arabic. After graduation, he was a Fulbright scholar in Syria, where he studied interfaith dialogue. Then he went to the University of London on a Marshall Scholarship to earn a master's degree in Islamic studies.

A decade later, Vali is executive director of the Islamic Society of Boston Cultural Center, the largest mosque in New England. The center serves 1,400 congregants representing 64 nationalities. Vali embraces a vision of American mosques not just as places of prayer, but as engines of community engagement. The center has an active youth program, a food pantry, and a program to welcome converts. Vali learned community

organizing on the streets of Minneapolis when he worked on President Barack Obama's 2008 campaign.

One of Vali's biggest challenges has been countering distrust after attacks such as the 2013 bombing at the Boston Marathon, committed by two Muslim extremists. It can be frustrating, Vali says, that “anytime something crazy happens, we get lumped in, and that distracts us from doing good work.” He responds with openness, inviting news reporters into the center and “taking the microphone and sharing who we are,” he says.

Responding to presidential candidate Donald Trump's call to ban Muslims from entering the United States, Vali says he is worried not only for the Muslim-American community, but for American democracy at large. And while he says the Boston community has been very supportive, he has been fielding frequent requests from schools asking for help with strategies to stop the bullying of Muslim children. ♦ By Jessica Lander '10



Yusufi Vali '05, center, is executive director of the Islamic Society of Boston Cultural Center, the largest mosque in New England.

Far left, from top: courtesy Jonathan Sarna; Valerie Trucchia; left: Ian Thomas Jansen-Lonnquist/The New York Times/Redux



Q&A: LEANN CAMILLE HACKNEY '90

MUSICAL MARKETING

Navigating the 'big personalities' — and partnerships — of the music industry

LeAnn Camille Hackney '90 is a matchmaker — she forges partnerships between top music artists and big businesses. As an executive vice president at Atlantic Records and the head of the global brand partnerships council at Atlantic's parent company, Warner Music Group, she was behind the partnership between the NFL and singer-songwriter Bruno Mars, who performed during the 2014 and 2016 Super Bowl halftime shows. She also develops brand campaigns, tour sponsorships, and endorsement deals.

What do you look for in matching artists with brands?

Companies want to engage with consumers in a fun way — music provides that. We look for partnerships that seem organic. Even before an artist is signed, I meet them and assess their likes and dislikes. I ask them what they wear, where they shop, what they like to do. Their answers give us ideas of what brands we might be able to reach out to.

You started out on Wall Street. How did you switch to the music industry?

Music was always a part of my life, and I knew I wanted to do something with entertainment. So I went to

Harvard Business School and met a lot of people in the industry. I started calling Princeton and Harvard alumni in entertainment — I think I took 65 informational interviews over the course of 18 months. The day I graduated from business school, right before walking across the stage, East West Records (a subsidiary of Atlantic Records) called me and offered me a job.

What is the toughest part of working in the music business?

There are a lot of really big personalities, and it sometimes can be challenging to navigate them.

What do you enjoy the most?

To see an artist build and sustain a career based on doing something that they love. There is no better satisfaction. ♦

Interview conducted and condensed by Jessica Lander '10

LEANN CAMILLE HACKNEY'S MUSICAL TASTES:

I'm a Michigan girl at heart: I love top-40 radio. I also love UK dance/house music and East Coast hip-hop.

FAVORITE ARTISTS:

All the kids on my label — I can't pick favorites. Outside of Atlantic, my favorites include Kendrick Lamar, Drake, and Lil Wayne.

BEST SHOW:

My nights are spent at shows — sometimes I see four shows in one night. I saw U2 at Madison Square Garden, and it blew me away. We've heard the same songs for decades, but they were able to use the visual and staging elements to make it seem new again.

FOLLOWING: WWW.WEIRDISHWILDSpace.COM

Bloggers:
ALEXANDRA KRUPP '10
COLE MORRIS '10
A Trip Around the World



After marrying last October, Krupp and Morris embarked on a nine-month journey that has taken them to South Korea, New Zealand, Laos, and many other spots.

“Taking a brief break from life to live, travel, explore, learn. We could not be more excited for the adventures that await. ... As we embark on the much

longer journey of life together, we want to get perspective on the choices we make and the implications of those choices on our health and happiness.”

CLASS NOTES

Online Class Notes are password protected. To access, alumni must use their TigerNet ID and password. [Click here to log in: http://paw.princeton.edu/class-notes](http://paw.princeton.edu/class-notes)

MEMORIALS

PAW posts a list of recent alumni deaths at paw.princeton.edu. Go to "Web Exclusives" on PAW's home page and click on the link "Recent Alumni Deaths." The list is updated with each new issue.

THE CLASS OF 1944



Alfred Kelley Bates Jr. '44

Kelley died Aug. 24, 2015, in Portsmouth, N.H. He grew up in Auburn, N.Y., sailed on the Finger Lakes, hiked in the Adirondacks, and built model airplanes growing up.

He distinguished himself at Exeter by setting a pole-vault record and was class president. At Princeton he was active in sports, roomed with Ham Carothers, and left in 1942 to attend Rochester Medical School.

Kelley married Frances "Francie" Rendall in 1944. After earning a medical degree, he served as an Army captain in Frankfurt, Germany. In 1949, Kelley returned to medical school to specialize in internal medicine and then joined the Exeter Clinic in New Hampshire.

Friends and family often commented on Kelley and Francie's love of sailing and mountain hiking. Kelley climbed all 48 of New Hampshire's mountains over 4,000 feet, including Mount Washington at age 80. He had a well-equipped workshop for crafting tables, bookshelves, and boats.

Kelley attended four reunions — the 25th, 30th, 40th, and 50th.

He was preceded in death by Francie in 2005. He is survived by their children Eliza, Hilary, Frances, and Kelley; and three grandchildren.

THE CLASS OF 1948



James F. Anderson '48

Jim died Oct. 7, 2015, in Glen Allen, Va.

His career was in the Presbyterian ministry. Born in Elizabeth, N.J., in 1927, he prepared at Newark Academy. After serving as a Navy hospital corpsman and graduating with a psychology degree from Princeton, Jim had originally aimed to attend medical school. However, as he noted in our 50th-reunion book, "Princeton was an important factor in bringing me to the conviction that I was being called to the Christian ministry."

After graduating from Princeton Theological Seminary in 1952 and being ordained in his

hometown church, he taught at the Hun School and at Lafayette College. Then he held pastorates in Pennsylvania, Virginia, and Michigan. Jim served for 22 years as pastor at Kirk in the Hills in Bloomfield, Mich., and was elected honorary pastor emeritus there in 1994.

Jim married Bette Dillensnyder in 1953; she survives him, as do their children James Jr., Mark, and Rebecca Williams; and nine grandchildren.

As Jim wrote, "The word ... for our attitude better than any other is 'thankful.' We have been blessed with a great marriage and a loving family ... good friends at Princeton, and help ... in discovering how to learn."

THE CLASS OF 1949

John B. Fairchild '49

John died Feb. 27, 2015, in New York.

The publisher of *Women's Wear Daily* since 1960, he retired in 1997 but continued to take an active part in that publication.

John came to Princeton from Kent School. He majored in English, was a member of Court Club, and left without graduating. John spent the rest of his life working at Fairchild Publications, which owned *Women's Wear Daily* and *W* magazine, serving as its chief executive. He was without question an enormously influential figure in the world of fashion.

John's intense focus on that world tended to minimize any interest in, or connection with, the Class of 1949. Yet occasionally he let a comment slip, and we can get a hint of his puckish sense of humor. In a 1968 article in *Civilization* magazine, he wrote about his life under the title "Souffle or P.B. & J." It described some of his luncheon experiences and included a delightful photograph of John slurping from a jar of Skippy peanut butter.

He is survived by his wife, Jill; and children James, John L., Stephen, and Jill. Our condolences go to John's family and friends.

Harvey M. Heywood '49

Harvey died May 4, 2015, in Asheville, N.C., his home for many years.

He came to Princeton after a short stint in the Navy. While on campus, Harvey majored in history and belonged to Campus Club. He

was a member of the skeet and bridge clubs and was advertising manager of *The Daily Princetonian*.

Harvey left Princeton and went to North Carolina State University, where he earned a degree in civil engineering. He then went into construction work and joined the North State Material Co. in Asheville in 1964. About 15 years later, he became president and owner of the firm now known as Normat Inc.

Although we had little contact with Harvey over the years, his life in Asheville showed a variety of interests: He was a trustee of St. Genevieve/Gibbons Hall School, a member of Biltmore Forest Country Club and the Asheville Civitan Club, and an avid sailor and hiker.

Harvey is survived by his wife, Pauline; daughter Suzanne H. Miller; and three grandchildren. The class extends sympathy to them all.



Edward M. Mead '49

Ed died March 11, 2015, in his hometown of Erie, Pa.

He attended Phillips Andover Academy and came to Princeton after slightly more than a year in the Army. Ed is best remembered for playing three years of varsity football and his captaincy of the team that upset Penn, at that time the fifth-ranked team in the country. He majored in history and took his meals at Cap and Gown. Ed was a member of the Undergraduate Council, the Varsity Club, and the Right Wing Club.

After a year of working for *The Trenton Times*, Ed returned to Erie and joined the *Erie Daily Times*, the newspaper founded by his grandfather. He worked in every department of the paper, and as its publisher, he wrote a daily column called "Odds And Ends." Over the span of his long career, Ed wrote more than 14,000 of these columns, a feat few other newspapermen have achieved.

He served on many local organizations, but the newspaper business was his first love. Ed is survived by his wife, Maurita; and sons John '80, Edward (Matt) Jr., and Daniel. We extend our condolences to all of his friends and family.



David H. Semmes '49

David died Jan. 1, 2015, at home in Flint Hill, Va., just four days short of his 87th birthday.

"Tick," as we knew him, came to Princeton after a brief stint in the Navy. An English major, he ate at Cap and Gown and was in the Pre-Law Society. He ran varsity track and played JV football.

He subsequently spent eight years in intelligence work for the government, five of them overseas. David practiced law for the next 41 years, specializing in intellectual

property and patent law.

His greatest loves were hunting and racing thoroughbreds, and he was the longtime master of the Old Dominion Hounds, as well as being an active point-to-point and steeplechase rider. David had ridden nearly 100 races over three decades, retiring in 1986 to concentrate on selecting and training good horses. His proudest achievement was winning the Virginia Gold Cup with the silks of his Indian Run Farm.

He is survived by his daughters, Stratton and Deryn Semmes; and was predeceased by his wife, Dudley, and son David Gibson Semmes. The class extends its deepest condolences to David's daughters and friends.



Henry G. Stifel Jr. '49

Hank died Sept. 18, 2013.

Born Dec. 15, 1927, in Wheeling, W.Va., Hank came to Princeton from Choate, majored in psychology, and played basketball. He was advertising manager of the *Nassau Sovereign* and a member of Elm Club. After service in the Air Force, Hank had a successful business career with Xerox of Canada and Armotek Industries Inc.

A life-changing event for Hank was the injury that left his 17-year-old son paralyzed and in a wheelchair. Refusing to accept the then-conventional wisdom that nothing could be done for spinal-cord injuries, Hank founded the Stifel Paralysis Research Foundation. Through his persistence and hard work and later joining of forces with Christopher Reeve, the actor who had suffered a similar mishap, great progress has been made in an area once considered virtually hopeless.

Hank is survived by his wife, Charlotte Snead Stifel; and their children, Henry G. Stifel III, Amy L. Stifel Quinn, Stephanie E. Stifel Coughlan, and Wendy Stifel Hansen; and nine grandchildren. We are proud of Hank, and we cherish the memory of his friendship. Our sympathies go out to his family on their loss of this good man.

THE CLASS OF 1950



William Kornfeld '50

Bill died July 14, 2015, in Louisville, from a post-surgery heart attack.

He came to Princeton from Roosevelt High School in Yonkers, N.Y. At Princeton he was classical music director of WPRU and a member of Terrace. Bill played on championship interclub softball, ping-pong, and billiards teams. After graduating with honors in philosophy, he entered Harvard Medical School, where he received his degree in 1954.

Following an internship in New York and residency in Boston, Bill served briefly in the Army before setting up a practice in Brookline,

Mass. Along with his private practice, he worked for a national corporation that built in-patient hospital units. In 1992, he was "lured to the mid-South" and relocated in Bowling Green, Ky., where he continued to practice psychiatry until 2012. When asked about practicing into his 80s, he told his son Daniel that it was easy, since "all I had to do was listen."

A lifelong devotee of the arts, Bill and his wife, Gloria, were especially fond of chamber music and regularly attended performances in Nashville and Boston.

We extend our sympathy to Gloria; sons Daniel and Erik; and his grandson.

THE CLASS OF 1952



Patrick McEvoy Cromwell '52

A lawyer and prominent Catholic layman in Baltimore, Mac died Sept. 16, 2015.

He came to Princeton from the Gilman School, took his meals at Ivy, where he was club librarian, and majored in English. Mac played lacrosse, was on the class memorial-insurance fund committee, and roomed with John Stinson, Hunter Goodrich, and Fuzzy Neville.

After two years of Army service, he earned a law degree at the University of Maryland and then joined the firm of Wright, Constable & Skeen. Mac was a board member of Gilman and of St. Mary's Seminary and University. His service to the church included many years on the board of Mercy Medical Center and as founding chairman of the Archdiocese of Baltimore Independent Review Board, which reviewed the handling of child- and sex-abuse cases in the archdiocese. Mac was presented the Pro Ecclesia et Pontifice Medal by Pope Benedict XVI.

Mac's death left his wife, Ruth; sons Patrick Jr. and Gordon; and daughter Elizabeth. The class sends them sympathy and respect for his service to our country.



George S. Heyer Jr. '52

George came from Exeter, majored in history, and joined Quad. He played soccer, was a member of the senior council, and served as associate editor

of *The Daily Princetonian*. George won the Westminster Fellowship and was a chapel deacon. He roomed with Nick Clifford, Spencer Gordon, and Sandy Zabriskie. After graduation George got two degrees at Yale — a bachelor's of divinity in 1956 and a Ph.D. in religion in 1963.

George's career was spent as a teacher at the Austin (Texas) Theological Seminary, where he was honored with a distinguished lectureship in his name.

He found time for much else aside from teaching, including service as chairman of

both the Texas State Commission on the Arts and Humanities and the Advisory Council for the College of Fine Arts at the University of Texas, Austin. George was a trustee of the Museum of Fine Arts in Houston, to which he gave his collection of rare English silver. Other enthusiasms included shooting and summers at his house in Nantucket.

George died Oct. 10, 2015, leaving his daughter, Jennifer; son William '88; stepsons Scott and Jody Ferguson; and stepdaughter Hallie Ferguson. He was predeceased by his wife, Hallie; son Gregory; and stepson Jamie. Our classmate will be much missed.



Russell Pierce Jr. '52

Russ died March 2, 2015.

A geophysicist and Boy Scout leader, Russ came to us from Camden (N.J.) High School, joined Tower, and majored in electrical engineering. He was vice chairman of the Institute of Radio Engineers in the American Institute of Electrical Engineers campus group and roomed with Dave Smith and Al Prus.

Russ was devoted to the Boy Scout movement and held a great variety of roles of increasing rank through his life with resulting awards and recognition. His interest in crafts led him to teach it to generations of Scouts — and he facilitated the creation of 20,000 wooden whistles, by his report. His vocation of geophysics was pursued from graduation until 1983 at Sunoco/Oryx. He was married to Virginia May Gow for 61 years until her death.

Russ is survived by their children Katherine, Virginia, Beatrice, and Russell David. To them all, the class sends its sympathy.



George F. Titterton Jr. '52

George prepared at Farmingdale (N.Y.) High School and came to Princeton to major in mechanical engineering. He ate at Elm and was a member of the Catholic Club, Nassau County Club, and the Outing Club. George worked on the *Bric-a-Brac* and roomed with Parker Monroe.

He served in the Navy Reserve as an aeronautical engineering officer for three years and joined the jet-engine manufacturing company Pratt & Whitney in 1955, where he spent his entire career.

George's taste for the outdoor life is testified to by his memberships in the Hartford Ski Club, Woodledge Swim Club, and the Glastonbury Hills (Conn.) Country Club.

George died Nov. 2, 2015. He is survived by children Susan, Carol, George III, Philip, and Andrew. He was predeceased by his wife, Myleen. The class salutes George for a productive life and for his service.

THE CLASS OF 1953



Frederic S. Coffman Jr. '53

Fred died Oct. 2, 2015, in Savannah, Ga., from complications following a stroke.

He grew up in Princeton and was president of his graduating class at Princeton High School. Deciding he wanted a business career, Fred left the University after his sophomore year and graduated from Babson Institute. He went on to work as a security analyst with the Irving Trust Co. and then became an investment banker with Laird & Co. After 20 years on Wall Street, Fred became vice president for planning at Kimberly-Clark, serving that firm in Wisconsin and Texas.

Fred retired at the age of 55 and moved to Skidaway Island, near Savannah, where he became a familiar figure, bicycling 12 miles every day for 27 years. He is survived by Gail, his wife of 53 years; two children, including Peter '87; and five grandchildren.



Bradley M. Glass '53

Brad died Aug. 6, 2015, after a long struggle with Alzheimer's disease.

He was born in Evanston, Ill., and attended New Trier High School and Northwestern University before coming to Princeton. He was a member of Cap and Gown, an All-American defensive guard on the undefeated 1950 football team, and an NCAA heavyweight-wrestling champion.

After Princeton, Brad enlisted in the Navy, graduated from Officer Candidate School, and served in the Navy SEALs program. He then went to the University of Michigan Law School and joined a Chicago-area law firm after graduating. He served a term in the Illinois House of Representatives and six years in the state Senate. Increasing interest in the land led Brad and his family to eventually move to rural Wisconsin, where he formed a local law firm and devoted his time to issues of land conservation and Habitat for Humanity.

The class extends its sympathy to Barbara, Brad's wife of 62 years; their three sons; and six grandchildren.

THE CLASS OF 1954



Joseph E. Angelo '54

Joe died Sept. 28, 2015, after enduring the effects of a major heart attack in 2002 and a debilitating stroke in 2010.

Born in Ellwood City, Pa., he graduated from Lincoln High School. At Princeton, he majored in biology and was a member of Dial Lodge. Joe graduated from Yale Medical School in 1958 and completed his graduate education in obstetrics/gynecology at the University of Colorado Medical Center. He began private practice in Carmichael, Calif., at

the American River Hospital and subsequently joined the Mercy San Juan Hospital when it opened in 1967.

Joe was a member of numerous medical societies. His career spanned 44 years, and Joe delivered more than 2,000 babies before retiring in 1983. He spent the next two years working at the LBJ Tropical Medical Center in Pago Pago, American Samoa. Joe was a compassionate physician and an excellent sailor, and once made a trip from Berkeley, Calif., to Hawaii.

The class extends condolences to Ann, his wife of 60 years; daughters Leslie and Lynn '82; and his brothers, Rudy and Jerry.



Albert L. Lamar '54

Albert died Oct. 18, 2015.

Born in New Orleans, he attended Metairie Park Country Day School and then followed his father, a member of the Class of 1918, to Princeton. Albert played 150-pound football and was a member of Cottage Club. He majored in English and graduated with honors. After college, Albert continued the family tradition of a tour of duty in the Navy.

He career was in advertising, eventually owning and operating Lamar Outdoor Advertising Co. in Jackson, Miss. In 1978, he purchased a cable television business in Hancock County and added markets in three other states.

He retired after selling the advertising company to start a joyful life of sailing, fly-fishing, golf, travel, and summers on the Maine coast. Albert lived in Mississippi for 30 years and served in many civic capacities. In 1992 he returned to New Orleans and joined many organizations there.

Albert is survived by his wife, Eugenia; children Gabrielle, Albert Jr., Mart, and Madeleine; 14 grandchildren; four great-grandchildren; three stepchildren; and four step-grandchildren. His memorial service recessional music was "Going Back to Nassau Hall." The class extends condolences to Albert's family and is honored by his service to our country.



David F. Lansing '54

David died Sept. 28, 2015, on a journey home from Denmark, where he and his wife had spent every summer since his retirement.

Born in Terre Haute, Ind., he prepared for Princeton at Royal Oak High School. David majored in international affairs at the Woodrow Wilson School, where he studied Canadian foreign policy. He was a member of Quadrangle Club and Orange Key and was a senior recorder. His roommates, Larry Loeffler and Dick Remley, became his lifelong friends.

After graduation, he served two years in the Army in the Counterintelligence Corps in Germany. David joined Smith Kline & French in 1958 and became licensing director in 1972. He moved to Squibb seven years later and retired in 1992, when he formed a consulting business. David was a member of the local planning commission and zoning board, proudly contesting ill-conceived housing developments.

David married Hanne Huebner, a Dane, in 1961, and together they raised two sons, Robert and Nicholas. He read innumerable books on European history, and tended his gardens at homes in Pennsylvania and Denmark. He was a proud and joyful grandfather to Christian, Olivia, and Serena. The class is honored by his service to our country and sends condolences to his family.

THE CLASS OF 1955



Jeremiah R. Nead '55

The son of Kathryn Nead and Prescott Nead Sr., Jerry was born Sept. 4, 1933, in Castleton-on-Hudson, N.Y., and died Oct. 18, 2015, in Albany, N.Y.

He prepped at the Albany Academy and majored in English at Princeton. Jerry joined Terrace, and as its president, he welcomed the club's first African American member. Jerry was chairman of its bicker committee and was a member of Whig-Clio, the Hispanic Club, and WPRU.

At State Bank of Albany, he rose to become a member of the trust department. In the early to mid-1960s, he was president of the Albany Symphony during a time of major change, including the introduction of the orchestra's performing for students at the local high school. His daughter remembers those orchestra days with gratitude.

Jerry was known as a "hail fellow well met" personality — memorable as a smart, determined, outgoing, compassionate, stubborn, very conversant, and strong-willed man with the memory of an elephant.

Predeceased by his sons Jeremiah and Albert, Jerry is survived by Beverly Warner Nead, his wife of 32 years; children Christopher and Stephanie; grandchildren Melanie, A.J., and Corey; and his ex-wife, Ellen Corey. The class offers sympathy to them all.



R. Charles Stockdale '55

The son of Betty and Ray Stockdale, Charlie was born Oct. 20, 1933.

He was a gifted student and musician and an electrical engineering major at Princeton. Charlie joined Tower, played trumpet in the band, and sang in the Nassoons and in a barbershop quartet. He roomed with Bruce Ramer, James Rubins, Rod Dayan, and Peter Brown at Tower Club.

Following Princeton, Charlie moved to Pittsburgh to work for U.S. Steel and met Rita Seibel, with whom he enjoyed 53 years of marriage and raised five children. Charlie was an active supporter of the YMCA throughout his life and brought his grandchildren to Deer Valley Family Camp for more than 15 years. Keenly interested in what was going on, Charlie devoured the nightly news, the local papers, and *The New York Times* (which also carried his beloved crosswords and Sudoku).

In 1984, Charlie went international, working in France, Indonesia, and Turkey, learning much about other cultures. In retirement, he and Rita volunteered to welcome international visitors to Pittsburgh. Charlie also helped seniors file their taxes.

He died Oct. 27, 2015, leaving Rita; his children, Andrew, James, Molly, Carolyn, and Justin; and eight grandchildren.

THE CLASS OF 1956



William E. Hoglund '56

Bill died unexpectedly June 8, 2014, in Harbor Springs, Mich., of complications from a blood clot.

Bill was born in Stockholm, Sweden, and prepared at the Taft School. After graduating from Princeton in 1956, where he was a member of Charter Club, he attended the University of Michigan Graduate School of Business, completing his studies in 1958.

Like his father and brother before him, Bill spent his entire career at General Motors. He became general manager of the Pontiac division, president of Saturn, and chief financial officer of General Motors. He ultimately was elected executive vice president of GM and served on its board of directors.

He was predeceased by his daughter, Susan, in 1979. Bill is survived by his wife, Beverly Scales Hoglund, whom he married in 1958; children Melissa Hoglund '80, Cindy Hoglund Shannon, and Peter Hoglund; and nine grandchildren. The Class of 1956 extends its condolences to his extended family.

THE CLASS OF 1957



Frederick N. Alyea '57

Fred died Sept. 22, 2015, surrounded by his family. He was 79.

He was born Oct. 3, 1935, in Glen Ridge, N.J., and grew up in Princeton. Fred prepared at Deerfield Academy and majored in chemistry at Princeton. He earned a Ph.D. in chemical engineering at Stanford in 1962 and took a job in General Electric's space division as a research scientist three years later, working there until his retirement in 1993.

After retiring, Fred worked as a consultant in chemical and aerospace engineering. He

lived in Bala Cynwyd, Pa., for more than 50 years and spent summers in Brant Beach, N.J. Fred was known for his intelligence, humor, and kindness.

He was a member of the Nassau Club in Princeton, the Brant Beach Yacht Club, and Bryn Mawr Presbyterian Church. Fred enjoyed golfing, sailing, reading, cooking, spending time with his family, and traveling.

He is survived by Retha, his wife of 52 years; daughter Sara '88 and her husband, TJ '88; and three grandchildren. In lieu of flowers, memorial contributions may be made to Princeton University at: <http://giving.princeton.edu/ways-give/memorial-giving>.



George Oram Jr. '57

George died Oct. 3, 2015, due to heart issues.

While at Princeton, he majored in sociology, was a member of the Outing Club, played intramural sports, and joined Dial. He roomed with Robin Lincoln and Bill Jones during his senior year.

He started work at IBM in 1957 and worked there until 1965, taking a two-year hiatus to serve in the Army. After this he headed computer systems for Johns Manville, where he worked with a computer that took up entire floors of New York high-rise buildings.

He then joined the Nixon administration as the administrative director for the Federal Home Loan Bank Board, where he worked until 1978 and was a committee chair on the electronic fund transfer commission. In 1979, he started at PMI Mortgage Insurance Management as vice president of data processing, then went to work at Sears as vice president of human resources before rejoining PMI in 1980. He also founded a data-processing company and received a captain's license from the Coast Guard. In 1986, he founded Elmwood Realty and retired 19 years later.

George and his first wife, Joan, had two children, Wendy and Thomas, who survive him. He also is survived by his second wife, Mary, and their children Elizabeth and Georgina. To them all, the class extends its condolences.

THE CLASS OF 1958



Christopher Mason Mould '58

Chris died July 10, 2015, in Scarborough, Maine. A graduate of the Penn Charter School in Philadelphia, at Princeton he majored in

politics, was active in the Student Christian Association, and was a member of Tower Club, where he served as treasurer. During his senior year, Chris roomed at Tower with Dick Lefever, Bruce Hinson, and Bob Rosenberg.

In 1961, he earned a law degree from the

University of Chicago. In 1967, Chris joined the National Urban Coalition as executive assistant to chairman John Gardner. Later he was on loan to secretary George Romney of the Department of Housing and Urban Development.

In 1973, Chris became director of government relations for the YMCA of the USA in Washington. He oversaw public-policy issues affecting local YMCAs and dealt with Congress on issues impacting them. In 1976, he became general counsel of the organization and relocated to Chicago from New York City.

Chris retired in 1997 and moved to Maine, where he was president emeritus of the General Henry Knox Museum and vice chair of the Maine Grand Opera Co.

To his wife, Patty; daughters Tracy and Jennifer; stepchildren Sarah and John; and several grandchildren; the class extends its sincerest sympathy.

THE CLASS OF 1960



Robert A. Burt '60

Bo died Aug. 3, 2015, while swimming at his weekend home in western Massachusetts, where music, Jacob's Pillow Dance theater, and exercise

were his best-loved extracurricular pursuits. At the time of his death, Bo was the Alexander M. Bickel professor emeritus of law at Yale.

After Princeton, Bo studied law at Oxford, earning a master's degree in 1962, and at Yale, where he was awarded a law degree in 1964. He went on to serve for four years in all three branches of the federal government, then settled into his academic legal career at Chicago, where he worked for two years, then at Michigan, where he taught for six years, and finally at Yale.

Bo was a distinguished scholar of the law. His published works encompassed the Constitution; issues at the intersection of law, medicine, and culture; and legal history. He served his profession and the community in numerous volunteer activities. One of his favorites was as lead plaintiff in *Burt v. Rumsfeld* (unsuccessful) concerning the exclusion of gays and lesbians from the U.S. armed forces. Bo also notably appeared in the PBS documentary *The Jewish Americans*, discussing what it meant to be a Jew at Princeton in the 1950s.

He is survived by his wife, Linda; daughters Anne and Jessica and their spouses; and three granddaughters. The class extends its sympathy to them all.

THE CLASS OF 1963

William E. Merlini '63

Bill died Sept. 9, 2015, at home in Cazenovia, N.Y., from lung cancer.

Known widely as a man of integrity and empathy, Bill had retired in June after flourishing



for 10 years as president of Pelco Electronic Technologies. A crowd from Pelco attended his memorial, at which a close friend summarized: "He treated his Pelco family the

same way he treated all his families, with caring and compassion, seeing that all was fine at work and at home."

He prepared for Princeton at Great Neck North (N.Y.) High School and became a two-way starter in football, winning the Caldwell Cup in his senior year. Teammates remember "Lini" as a crushing running back and a fearsome blocker. He majored in history, joined Tiger Inn, and rose to become head waiter at Commons. Bill roomed with Bordner, DiVincenzo, Fudge, Ibbeken, Terpack, and Wardenburg.

Bill began his career at General Electric Co. in Syracuse. The Adirondacks were a delight for Bill, and he spent much time hiking and canoeing with his family there. He is remembered fondly at Cazenovia Golf Club, where he had been president.

Surviving are his longtime companion, Donna Marcellus; daughters Tjede McVey and Heidi Merlini; two grandchildren; and his former wife, Bobbi Cleaveland. Bill was predeceased in 2009 by his brother and dear friend Chuck '66.

THE CLASS OF 1964



Robert S. Holcombe '64

Bob died April 4, 2015, in Coto de Caza, Calif., from a heart attack.

Born in Bronxville, N.Y., he grew up in nearby Pelham and later moved to Camp Hill, Pa. Bob graduated from Lawrenceville in 1960. At Princeton, he majored in English, joined Cannon Club, and managed the Princeton football teams. Bob roomed with Nick Carter, Bill Doniger, Roger Golden, Malcolm Hawk, Dave Kennedy, and Mike Bogh-Henrikssen.

After graduation, Bob earned a law degree and an MBA from Columbia. He began his career with a large New York law firm and subsequently served as general counsel for several major companies. Bob had outstanding legal, business, and "people" skills, plus a wonderful sense of humor and an unparalleled work ethic that others recognized throughout his professional career. He led by example rather than by words. In 2010, he received the *Orange County Business Journal's* General Counsel Award for Lifetime Achievement. He was executive vice president, general counsel, and secretary of Apria Healthcare when he died.

Bob loved Princeton and always talked about its academic and athletic programs, especially football and basketball. He also loved his family and playing with his kids and grandchildren.

Bob is survived by Mimi, his wife of 20

years; sons Rob and Sam; daughter Kate; and seven grandchildren; to whom the class sends sincere condolences.

Thomas Randlett '64

Tom died Aug. 14, 2015, in San Francisco. He was surrounded by family and had been battling neuroendocrine pancreatic cancer since 2009.

Tom was a fifth-generation Californian and grew up in Redwood City. At Princeton, he majored in politics and was a proud member of the Class of 1964, attending many reunions.

After graduation, Tom became a CPA and rose to become managing partner of KPMG's Oakland office. He went on to start his own consulting practice but later joined Law & Economics Consulting Group as a principal. In 1994, Tom was elected to the board of directors of Essex Property Trust, serving as chairman of the audit committee until his death.

He was an active member and president of the Golden Gate Wine Society and an avid traveler, skier, and hiker. Tom loved nothing more than a day outdoors followed by a great meal, fine wine, and good cheer. He will be remembered for his infectious laugh, incisive wit, and adventurous spirit.

He is survived by his wife, Kathryn; sons Wade '87 and Bradley; older brother John; identical twin Jim '64; and six grandchildren. He will be missed.

THE CLASS OF 1966



James C. Cross '66

Jay died Nov. 6, 2015, at his home in Berkeley, Calif.

Jay liked to point out that he and Bill Clinton were born in the same room in Hope, Ark. At Princeton, he majored in sociology and belonged to Charter Club. After graduation, he served in the Army from 1968 to 1970, stationed primarily in Germany. In May 1970, the month of his discharge, Jay married Uta Bawey in Heidelberg.

Although he was the product of a highly formal education — St. George's School in Newport, R.I., the Paris-American High School in France, Princeton, and then Harvard Business School — Jay became internationally known as a leader in the field of informal education. He initially used the term "informal learning," but later abandoned it in favor of "working smarter."

Jay wrote numerous books on the subject, including *Real Learning*, *Informal Learning*, *Working Smarter Fieldbook*, and *Implementing E-Learning*. For nearly a decade he wrote the "Effectiveness" column for *Chief Learning Officer* magazine. Jay is credited with coining the term "eLearning," and he designed the first business-degree program offered by the University of Phoenix.

The class extends its heartfelt condolences to Uta and to Jay's sons, James III and Austin.



Lathrop P. Johnson '66

Lathrop died Oct. 20, 2015.

Born in Kansas City, Mo., Lathrop grew up in the Middle East speaking Arabic and Farsi along with English.

He prepared for college at the American Community School in Lebanon and Phillips Exeter Academy.

At Princeton Lathrop majored in German, writing his thesis on "The Problem of Good and Evil in German Hesse." He belonged to Charter Club and played soccer and tennis. Lathrop managed a number of student agencies and was president of the German Club.

After graduation, he studied German language and literature at Johns Hopkins University, earning a doctorate with distinction. Over the years, Lathrop continued his studies in Germany, with grants from the Fulbright Commission, the German Academic Exchange Service, and the American Association of Teachers of German.

For 36 years Lathrop was a much-revered faculty member at Ball State University (Ind.), where he taught phonetics, culture, beginning languages, drama, and poetry. A pioneer in the use of computers, he was a national leader in the development of instructional programs in German.

The class extends its heartfelt condolences to Susan, Lathrop's wife of 42 years, and to the rest of his family.



Jon D. Raggett '66 *71

Jon died Sept. 26, 2015, after a short illness.

A lifelong resident of Carmel, Calif., Jon came to Princeton from Carmel High School, where he ran track and was president of the senior class. At Princeton, he majored in civil engineering and was a member of Tower and the Yacht Club.

Jon may have held the class record for number of academic degrees. Aside from his bachelor's degree from Princeton, he earned a master's degree at Stanford and two more degrees at Princeton: a master's degree and a Ph.D. in civil and geological engineering — and was awarded all of them by 1971.

Jon had an illustrious career in engineering. He also created Schools3, a nonprofit organization dedicated to school construction in developing countries. To date, it has built 71 schools in Africa, Honduras, and India. He was also active in community and educational organizations, including the advisory committee to Princeton's Department of Civil Engineering.

Jon designed and built furniture, and

constructed musical instruments. He loved to build boats, a reflection of his lifelong love of being on the water.

Jon leaves his wife, Tory; sons Mark and George; and four grandchildren. The class extends its condolences to all of them.

THE CLASS OF 1968



Thomas L. Kennedy III '68

Tom died Oct. 31, 2015, of complications from cancer.

He was born March 2, 1946, in Allentown, Pa., and was an accomplished athlete at

William Allen High School, where he played varsity baseball and set records in cross country. Tom went on to complete multiple marathons during his lifetime and remained a runner until his health no longer allowed it.

At Princeton Tom majored in biology, pitched for the varsity baseball team, and ate at Charter. He earned his medical degree from Cornell in 1972. Following his training at Children's Hospital of Philadelphia, Tom served two years at Camp Lejeune, N.C., as a lieutenant commander and physician. He then returned to Philadelphia to complete his fellowship in pediatric nephrology.

Tom worked at the University of Connecticut Health Center from 1979 to 1988. He was a clinical professor of pediatrics at Yale School of Medicine from 1994 to 2009 and was acting chief of pediatric nephrology at Yale for three years. Tom also served as chairman of pediatrics at Bridgeport Hospital for 21 years.

He is survived by Nancy, his beloved wife of 47 years; children Todd, Leigh, and Andrew and their spouses; five grandchildren; and his sister, Sally Morgan. The class extends its deepest sympathy to them all.



Peter W. Platten '68

Peter died Oct. 14, 2015, after a long battle with cancer.

He was born in New York City and came to Princeton from the Taft School. While at

Princeton, Peter majored in English and ate at Key and Seal. He was the executive director of Theatre Intime and directed and performed in numerous productions.

After graduation, he performed with the national touring company of *You're a Good Man, Charlie Brown*, until he was drafted. After serving in the Army, Peter returned to New York City, where he met his future wife, Mary June Will. Soon afterward, Peter decided to set down some roots, so he began working for Manufacturers Hanover Trust, which became J.P. Morgan Chase after several mergers.

In 2001, he retired from the bank and moved his family to Virginia. He began working for H&R Block, where he stayed for a decade. Peter served as chairman of the Class of 1968

from 1993 to 1995.

Peter is survived by Mary June; daughters Abigail and Miriam '01; and his sisters, Katherine and Alison. To them, the class extends its deepest sympathy.

THE CLASS OF 1972



Khalid Lum '72

Khalid died Sept. 8, 2015, in New Haven, Conn., of Lewy body dementia at age 64. He was an active community leader there and a pioneering classmate.

Raised in Jamaica, Queens, he came to Princeton from the Hun School of Princeton and was a tireless and passionate advocate on behalf of black undergraduates during his time on campus. "Eric," as he was known to us, served as chairman of the fellowship committee of the Association of Black Collegians and helped establish the Third World Center, the predecessor of the Carl A. Fields Center. He majored in politics and assumed a founding position at Yale as director of its Afro-American Cultural Center after graduation.

Khaled later worked as a reporter for the *New Haven Independent* and served as press secretary for New Haven's first African American mayor, John C. Daniels. He also ran the greater New Haven African American Historical Society.

Khaled is survived by his daughter, Khadija Lum Bshara, and her husband, Timothy Bshara; son Khalid Lum; sister Katherine Curry and brother-in-law Bill; and two nephews. The class sends its condolences to the family.

THE CLASS OF 1976



Thomas M. Colbert '76

Tom died Aug. 21, 2015, in Houston, after an 11-month struggle with stomach cancer.

A native of New Orleans, Tom graduated from Metairie

Park Country Day School before coming to Princeton, where he majored in architecture and urban planning. Fellow architecture classmate Joe Pomar said, "Tom burned bright and hot in our precocious and gifted architecture department."

Following graduation, Tom furthered his studies at Cambridge University, where he earned an honors diploma in architecture in 1978.

Tom began his academic career teaching architectural and urban design at Texas A&M University from 1980 to 1985. From 1985 to 2015, he taught thousands of undergraduate and graduate students as a professor and director of graduate studies at the University of Houston's College of Architecture. His work earned numerous awards and professional

distinctions. In 2014, he was honored as "Educator of the Year" by the American Institute of Architects Houston.

The class extends deepest sympathy to the mother of his children, Marcella Colbert; his sons Michael, Thomas, and William; daughters Marcella C. Burke, Rosemary C. Jordan, and Emma C. Tramuto; his siblings; and seven grandchildren

THE CLASS OF 1979



John R. Hare '79

John died May 17, 2015, in New Haven, Conn., after a lengthy illness.

John, known to many as "Jay," came to Princeton

from The Taft School. Graceful and outgoing, John had a passion for music, loved a good conversation, and was known around campus for his million-dollar smile. His son, Malcolm, said, "He was a walking dictionary; he loved to share his thoughts, genuinely respected others, and welcomed their thoughts, too. He was a wonderful listener."

John was a voracious reader of literature and enjoyed science fiction and comics. His passion for music and people led to a career as a radio DJ and music artist, where, according to Malcolm, "His talent allowed him to orchestrate profound rhythms that touched the souls of the public. People loved him." John was a member of the Association of Black Princeton Alumni and was a Connect Initiative participant.

In addition to Malcolm, Jay's daughter, Chelsea, survives him. He was predeceased by his parents, John and Sylvia Powell Hare. The class offers its condolences to John's family and many friends.

THE CLASS OF 1983



John Briggs '83

John died June 12, 2015, shortly before his 53rd birthday.

Born in Memphis, Tenn., John prepared for Princeton at Milton Academy, where he

was an ABC (A Better Chance) scholarship winner. John was always proud of his longtime affiliation with ABC.

At Princeton, John majored in history and was keenly interested in the history and politics of the Kennedy years. He was a member of Charter Club and played a variety of sports, including tennis and volleyball. John was known for his engaging personality and wide circle of friends.

He graduated from Duke Law School in May 1986, and subsequently became a federal law clerk in Memphis. John was admitted to the Texas State Bar and worked in a large law firm until he moved to Washington, D.C., and then to Atlanta, where he continued his law and



business practice.

John was active in his community and a member of the Providence Missionary Baptist Church. John is survived by Ursula, his loving wife of 23 years; children Jack and Josh; mother Joan; and brother Jerold. The class extends sincere condolences to them all.

THE CLASS OF 1998



Kelly B. Sponberg '98

Kelly died Aug. 28, 2015, in Silver Spring, Md., of cancer.

He was born in Mount Pleasant, Iowa, and later moved to Bentonville, Ark.

Kelly majored in geology at Princeton, was an Outdoor Action leader, and an active volunteer in Trenton and the developing world.

After graduation, he started in the Joint Office of Science Support within the University Corporation for Atmospheric Research. While working for UCAR, Kelly earned a master's degree at Rutgers University in geography. Kelly dedicated his life to finding high-tech solutions to lessening the impact of natural hazards on those less fortunate around the world. As program manager in international extension and public alert systems at UCAR, he worked in the international-activities office of the National Weather Service.

Kelly is remembered fondly by his classmates and roommates for his big heart, love of Jell-O shots, and infectious laugh. The class extends its deepest sympathy to Kelly's wife, Adrienne Sponberg, and their children.

GRADUATE ALUMNI

Hartley Rogers Jr. *52

Hartley Rogers, professor emeritus of mathematics at MIT, died July 17, 2015, at age 89.

Rogers graduated from Yale in 1946 with a bachelor's degree in English. After a year at Cambridge University, he returned to Yale and earned a master's degree in physics in 1950. Then, from Princeton, he was awarded a master's degree in 1951 and a Ph.D. in 1952 in mathematics. From 1952 to 1955, he was the Benjamin Peirce Lecturer at Harvard.

Rogers then became an assistant professor at MIT in 1956 and a full professor in 1964, retiring in 2009. His research interests included mathematical logic, and recursion theory (of which he was a main developer). His 1967 book in the field is a standard reference and remains in print. He was chair of the MIT faculty from 1971 to 1973, associate provost from 1974 to 1980, and chair of the editorial board of the MIT Press from 1974 to 1981. He lectured with eloquence and clarity.

In the 1960s, Rogers took up rowing passionately, winning medals in competitions. He was president of the Boston Rowing Center, which prepared many athletes for

the U.S. national team in the 1980s and early 1990s.

Rogers is survived by his wife, Dr. Adrienne E. Rogers; children Hartley Rogers, Campbell Rogers, and Caroline Broderick; and 10 grandchildren.

James M. Hund *54

James Hund, retired professor emeritus of management at Emory University, died Sept. 13, 2015, at the age of 93.

Hund graduated from Amherst College in 1943 and then joined the Navy, serving in the South Pacific. After the war, he worked in Michigan for Reo Motors. He then entered Princeton and graduated in 1954 with a Ph.D. in economics.

After teaching for three years at Clark University, Hund went to Emory in Atlanta in 1957 to teach until his retirement in 1987. From 1965 to 1968, he was dean of Emory's School of Business (now the Goizueta Business School). In 2001, he received Goizueta's Lifetime Achievement Award.

Passionate about music, Hund was a life director of the Atlanta Symphony Orchestra and a former board member of the Friends of Music of Emory University and the Georgia Chamber Players. He received the Arts Volunteer Award from the Emory College Center for Creativity in the Arts in 2012. For 49 years, he contributed to the Princeton Graduate School's Annual Giving campaign.

In 1967, Hund was predeceased by his first wife, Nancy. He is survived by Barbara, his wife of 46 years; daughters Marcia and Gretchen; stepchildren Stewart and Elaine; and five grandchildren.

Arnold Brooks *56

Arnold Brooks, a retired technology manager at the General Electric Co., died July 24, 2015, at the age of 89.

Brooks graduated from Columbia with a bachelor's degree in engineering in 1947 and served in the Navy. In 1956, he graduated from Princeton, earning a master's degree in aeronautical engineering.

He had a long and distinguished career in engineering and advanced research management at General Electric. For his efforts, Brooks received G.E.'s CEO Award.

For Princeton, he was a member of the APGA board and the Alumni Council's Executive Committee in the 1990s. During those years, he was an Alumni Schools Committee volunteer, interviewing high school students applying to Princeton. He was also a longtime donor to the Graduate School's Annual Giving campaign.

Brooks was predeceased by his wife, Lenore. He is survived by four sons, including Peter '76 and Matthew '85; and grandchildren Sarah, Adam, and Kate.

Abner E. Shimony *62

Abner Shimony, who earned doctorates in philosophy and physics and was a professor in both fields, died Aug. 8, 2015. He was 87.

Shimony graduated *summa cum laude* in mathematics and philosophy from Yale in 1948, and earned a Ph.D. in philosophy in 1953. After Army service, he entered Princeton in 1955 and studied with Nobel laureate Eugene Wigner, completing a Ph.D. in physics in 1962.

He taught the philosophy of science at MIT from 1959 to 1968. He then joined Boston University with an appointment in both the physics and philosophy departments. After 26 years, he retired as professor emeritus.

He advocated and researched the connections of physics and philosophy, despite the common opinion that they were separate disciplines. He was elected to the American Academy of Arts and Sciences in 1985, and was president of the Philosophy of Science Association. In 1996 he received the Lakatos Award.

Shimony was predeceased in 1995 by Annemarie, his wife of 44 years. In 1997, he married Helen-Claire, who died in 2001. In 2005 he married Manana, who survives him. He is also survived by two sons and a stepson.

Jacob D. Bekenstein *72

Jacob Bekenstein, the Michael Polak Professor of Theoretical Physics emeritus at the Hebrew University of Jerusalem who revolutionized the study of black holes, died, unexpectedly, of a heart attack, Aug. 16, 2015. He was 68.

Bekenstein graduated from the Polytechnic Institute of Brooklyn (now the NYU Polytechnic School of Engineering) in 1969. In 1972, he earned a Ph.D. in physics from Princeton under the eminent John A. Wheeler, who popularized the term "black hole." Bekenstein's doctoral dissertation contained his groundbreaking work on black-hole entropy.

In 1974, Bekenstein joined the Ben-Gurion University in Israel, becoming a full professor in 1978 and chair of the astrophysics department in 1983. In 1990, he became a professor at the Hebrew University of Jerusalem and head of the theoretical physics department three years later.

Bekenstein's work on black holes, entropy, and thermodynamics initiated the field of black hole thermodynamics, which became the foundation for the science of quantum gravity. Among his many honors, he received the Wolf Prize in 2012 and the American Physical Society's Einstein Prize in 2015, both of which are often precursors of the Nobel Prize.

He is survived by his wife, Bilha; three children; and six grandchildren.

*This issue contains an undergraduate memorial for Jon D. Raggett '66 *71.*

Graduate memorials are prepared by the APGA.

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Rome, Italy: Breathtakingly beautiful art-filled apartment on via Gregoriana near Spanish steps. 2 bedrooms in a 17th century palazzo. Mariaceliswirth@yahoo.com, 212-360-6321.

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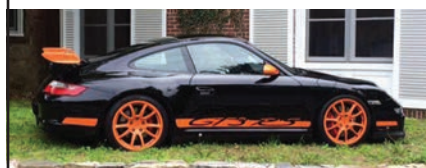
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A bicycle leans against the wall of this student room (date unknown).



The Perils of Pedals

John S. Weeren

In 1880, the bicycle, with its wildly mismatched wheels, was transforming human locomotion, at least among those wealthy enough to own one — and brave enough to ride it. At Princeton, a bicycle club had been formed the previous year, although, as *The Princetonian* observed, “the number of enthusiastic novices to be found about the campus, engaged alternately in mounting the vehicle and picking themselves up from the ground, is small.”

This did not deter the borough of Princeton from taking steps to ban the bicycle, inspired perhaps by New York, where, to quote the *Times*, “its speed and its knock-down powers compel City authorities to prohibit its use on ordinary thoroughfares.” On Jan. 16, the ban provoked a satirical response from *The Princetonian*. “Bicycling contributes scarcely at all to the prosperity of commercial and industrial Princeton. ... The narrow-minded vehicle consumes only a little oil. So it is apparent what a natural thing it would be for the city fathers to rise in righteous indignation at so selfish a sport, and, as

unfortunately happened to be in their power, suppress it.”

By the spring, as the weather warmed and roads grew firm, criticism grew more pointed. On April 9, the ordinance’s constitutionality was questioned. “There are several students in College now owning machines, who are very anxious to ride, and many others would speedily purchase bicycles if this stupid law was repealed. ... Here then is an opportunity for the lawyers to once more come to our aid, and by testing the ordinance or having it repealed, confer a favor on those who enjoy this exercise, and who wish to have it grow in favor as a College sport.”

Perhaps the prospect of legal action was enough to soften the borough’s heart, for on April 21, the ban on bicycles was lifted, fostering a mode of transport that a few years later blossomed with the coming of the “safety bicycle” we know today. ♦

John S. Weeren is founding director of Princeton Writes and a former assistant University archivist.



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