

# HARRY OSTREER MAPS THE GENOME—LITERALLY

by Sally Lauckner / GSAS '10

**T**he idea that all Jews originated from one Middle Eastern tribe several thousand years ago—as accounted in the Book of Genesis—has been the subject of much scholarly and political contention. But with recent breakthroughs in genomic science, researchers have uncovered evidence to support this theory and many others. Harry Ostrer, professor of pediatrics, pathology, and medicine at NYU’s Langone Medical Center, has been on the forefront of genetic research that traces the migration patterns of people around the world. The work has yielded scientific proof for some key historical narratives, including the dispersal of Jews following the Babylonian captivity, a population boom among Ashkenazi Jews, and the variable mixing of Native Americans with their colonizers and African slaves.

NYU Alumni Magazine asked Ostrer about the connection between history and science—and the role it plays in medical research.

**YOU STUDY THE GENETIC MAKEUP OF JEWS, HISPANICS, AND AFRICAN-AMERICANS. WHY THOSE THREE GROUPS?**

Together these groups make up the majority of New York City’s population and have interesting genetics and health issues.

We study Jewish populations that for the past 1,000 to 2,000 years have married within their membership and have been remarkably homogenous. We also study Hispanic populations that show significant admixture—that is, the genetic mixing of distinct populations through breeding—during their recent history. Those

grandchildren share a quarter of their segments. If two populations have a recent shared history, then the sizes of their shared fragments will be large.

**WHAT ARE SOME OF THE SIGNIFICANT EVENTS THAT YOU WERE ABLE TO TRACE THROUGH GENETIC MAPPING?**

We see signals of *La Convivencia* in Spain, which refers to a pattern of coexistence among Moors, Christians, and Jews, especially

The work has yielded scientific proof of the dispersal of Jews following the Babylonian captivity, and the variable mixing of Native Americans with their colonizers and African slaves.

two groups provide different perspectives on gene organization.

**HOW ARE YOU ABLE TO LINK THE RESULTS OF YOUR STUDIES TO HISTORICAL EVENTS?**

We do that by looking at the sizes of DNA fragment sharing between populations. Identical twins share 100 percent of their fragments, while grandparents and

during the 12th and 13th centuries. Spanish Jews show significant North African admixture in addition to their Middle Eastern and European admixture; this suggests mixing between Moors and Jews during that time. Among Ashkenazi Jews, we also saw signs of the “Demographic Miracle”—a period between the 15th and 19th centuries when that population grew from 50,000 to five

million people. Their fragment sizes are smaller despite the high degree of relatedness among them. Any two Ashkenazi Jews are related to each other in a way that fourth or fifth cousins might be, so the smaller fragments suggest that there was a period of very rapid growth in Ashkenazim history.

**YOUR STUDIES ON HISPANIC POPULATIONS SHOWED THAT GENETIC MAKEUP VARIES THROUGHOUT DIFFERENT COMMUNITIES. WHAT DOES THAT TELL US?**

It tells us admixture with local Native American populations was important and that it differed between North and South America. Proximity to the slave trade was also crucial; people who worked along the Caribbean coast show high degrees of African admixture.

There were differences between the paternal and maternal lineages of Hispanic populations: The maternal lineages were Native American or African whereas paternal lineages were European or African. That matches the colonization of the New World: European male settlers and enslaved African men came to Latin America and mixed with Native American or enslaved African women.

**PROVING THE MIDDLE EASTERN ORIGIN OF JEWS HAS RESULTED IN VARIOUS RELIGIOUS CLAIMS. HOW DO YOU FEEL ABOUT YOUR WORK BEING INTERPRETED THIS WAY?**

Well, I think we will see people

increasingly trying to do that. When one looks at the history of physical anthropology, people use measurements, whether they are precise or predictive, as a basis for political agendas. That cer-

tainly happened with IQ. For that reason, I think it's important for the public to understand human and population genetics so that they aren't swayed by misinformation.

**WHAT ARE THE SCIENTIFIC BENEFITS OF GENETIC MAPPING FOR SPECIFIC ETHNICITIES?**

Different health issues occur within different populations. For instance, we're doing a study about the prostate-cancer health disparity among African-American men. Each population can have personalized medicine. The risks that are predicted for Caucasians may not necessarily be applicable to others.

**COULD THIS LEAD TO "RACE-BASED MEDICINE," AND ARE THERE DANGERS IN PURSUING THAT?**

Using race as a proxy for genetics is imprecise. Saying, for example, that all African-Americans with hypertension will have a certain physiological response to blood pressure medication is an oversimplification; some will and

some won't. It's important to determine individual differences, but many of those will be reflected through ancestry. Recently, researchers linked a gene to the higher risk of kidney disease in African-Americans with hypertension. That's a major public-health problem. Understanding who is at risk is crucial in early identification and aggressive treatment. I don't think that's something to be shunned; it's something to be embraced. ■



# Death, Dictators, and Democracy

WHAT NATURAL DISASTERS REVEAL ABOUT POLITICAL POWER STRUCTURES

by Wesley Yang



In January 2010, a 7.0 magnitude earthquake in Haiti killed 222,000 people. A month later, when a stronger earthquake hit Chile—at a magnitude of 8.8, some 500 times more potent—only 500 people died. Chile is a much wealthier country than Haiti, but wealth doesn’t account for the vast disparity in lives lost. The resilient infrastructure and competent emergency services that make the difference between life and death in a disaster can exist in poor or in

rich societies, two NYU political scientists, Alastair Smith and Alejandro Quiroz Flores (GSAS ’10), argue. The difference, they say, is politics.

Consider two earthquakes that struck in Peru: In 1970, a 7.9 magnitude quake killed 66,000 people. In 2001, an even stronger one killed fewer than 150. The wealth of the country had not changed: Between 1970 and 2001, income remained nearly identical in real terms. But in 1970, Peru was under military rule; in 2001, it was a democracy. And while Haiti is now a democracy, years of autocratic rule had left the country without the infrastructure and response services it desperately needed.

After mining a database of historical disaster statistics dating to the early 20th century, the professors confirmed that this pattern holds. “You have a better chance surviving a disaster in a poor democracy than a rich autocracy,” says Smith, who with Flores published a paper on the findings in last July’s issue of *Foreign Affairs*.

“You have a better chance surviving a disaster in a poor democracy than a rich autocracy.”

And the reasons behind the difference are based entirely upon the structures through which rulers remain in power. Democratic and autocratic politicians face very different sets of incentives, Smith says, which end up motivating their actions when faced with crisis.

Democrats have to please a large segment of the voting public and will be punished if they fail to provide public goods, such as the enforcement of building codes, or contingency plans to protect people when disaster strikes. Public protests and a change in leadership

ILLUSTRATION © LARS LEFTARU

become twice as likely in the aftermath of a major earthquake. The Bush administration's lag-gard response to Hurricane Katrina, in which nearly 2,000 Americans died, Smith says, probably contributed to the Republican party's poor showing in the 2006 and 2008 elections. It's too early to predict what impact the March 11 earthquake and tsunami in Japan will have on its politicians, although Smith, who co-authored this fall's *The Dictator's Handbook* (PublicAffairs Press) with NYU professor Bruce Bueno de Mesquita, believes the strong infrastructure and efficiency of Japanese relief services saved many lives that would have otherwise been lost.

In the case of autocrats, however, they have to please a small minority of the governing power elite—either generals at the top of a military hierarchy or a tiny group of wealthy cronies—who will punish them if they fail to dedicate the public purse to their private enrichment. The fact is, an autocrat has an incentive to do as little as possible to protect the majority of his people. "Deaths are actually good for autocrats," he says. "They help them stay in office." This is partly because, as Smith and Flores observe, "Dead people cannot revolt." But it's also because the flow of international aid is often a boon to autocrats; dispensing funds to their cronies helps them consolidate their hold on power.

Both autocrats and democrats are rational actors seeking to maximize their self-interest, Smith says. Changing their behavior is a matter of changing the incentives they face. It would do no good to exhort an autocrat whose rational self-interest is to do little or nothing for his people. But, Smith adds, democrats do not necessarily deserve the moral credit they seek when they act to protect citizens. They too are ultimately serving their rational self-interest. ■

■ business

## SILICON SQUARE

### NYU BECOMES A VENTURE CAPITALIST FOR HOMEGROWN TALENT

by Kevin Fallon / CAS '09

It was a science fair of sorts, but with no tiny volcanoes and no biology teacher awarding blue ribbons. The students, crammed into the bright Henry Kaufman Management Center auditorium on West Fourth Street, were burgeoning entrepreneurs from seven NYU schools participating in the university's first technology expo, an offshoot of the newly launched NYU Innovation Venture Fund. They showcased their information-technology ideas—among them a networked water-testing device for disaster relief and a "dark flash" for low-light photography—to an audience of more than 100 investors, venture capitalists, tech experts, and fellow start-up entrepreneurs offering feedback and advice.

Set to dispense its first investments this spring, the fund seeks to commercialize research, technologies, and discoveries by NYU students and faculty with a \$20-million venture-capital pool headed by managing director Frank Rimalovski. It makes the university a venture capitalist, investing in its own community's research, ranging from biotechnology to computer software. "We're looking for technologies that are addressing a measurable need with a team that can make that happen," Rimalovski says. A sum of \$2 million from the sale of an undisclosed IT company spun out of research conducted at the Courant Institute of Mathematical Sciences launched the fund, and donors are supplying the rest.

Like any other venture capitalist, the fund wants to invest in start-ups—about six per year—that will generate a financial return to be reinvested in the fund, making it evergreen and self-financing. If the fund has net returns, donors may direct excess proceeds within NYU or toward the university-approved project of their choosing.

In years past, NYU has had much success in tech transfers—that is, in creating a legal entity within the university and then transferring ownership to another company. In fact, it has been the top university in technology licensing, beating out both MIT and Stanford in income from such transfers.

But, according to Rimalovski, those schools excel at—and NYU and New York City lag behind in—creating a group of locally based start-ups. He points to their legacy of entrepreneurship and strong ties to their communities: The legendary Sand Hill Road, for example, Silicon Valley's hub of venture companies, forms the northern border of Stanford University's campus. Rimalovski plans to capitalize on the university's position in the city. "Entrepreneurship is really an industry that is newer to New York, and ties are not as deep and entrenched as they are at MIT or Stanford," Rimalovski says. "I'm trying to create some of that connective tissue."

In order to be competitive with the other major entrepreneurial universities, the fund will supplement its start-up funding

with a network of support. Beyond the initial investment—ranging from \$100,000 to \$1 million—Rimalovski will offer introductions to service providers such as law and PR firms, connections to other entrepreneurs and investors, incubators, staff, recruiters, and other tools that will create the early infrastructure for the companies and help launch their businesses. He's modeling a mentorship program after one at MIT and plans to work closely with student clubs in the Leonard N. Stern School of Business, with the idea of fostering a new community.

One young alumna, Dennis Crowley (TSOA '04), co-founded the location-based social networking site Dodgeball while a student in the Tisch School of the Arts' Interactive Telecommunications Program. In 2005, Crowley sold Dodgeball to Google and has since developed the even more popular "check in" service Foursquare. Stern student Trevor Owens (STERN '11) made national news for his GoGo Chinese, an iPad and iPhone app that teaches Mandarin to children. Rimalovski hopes to use these examples to inspire others.

The ultimate goal for the fund is to create what Rimalovski calls the "virtuous circle," an entrepreneurial culture that attracts like-minded students and faculty as well as more resources for research. One priority so far has been to get that message out to the NYU community. "I [recently] had a meeting with a faculty member at the med school, and he whips out the press release for the Venture Fund," Rimalovski recalls. "He points at it and says, 'Before I read this, I didn't even know I was allowed to do that.' That's the mind-shift change we're driving here. Letting people know that entrepreneurship is permitted, supported, and encouraged." ■



# BRAND-NEW GAME

## NYU REIMAGINES ITS PLACE ON THE WORLD'S STAGE

by Jason Hollander / GAL '07

Sitting on a shelf in John Sexton's office is a photo of him on the field at Nationals Park in Washington, D.C. It was a steamy evening in July 2009, and while in town to launch the university's latest study-away site, he had been invited by the team to throw out the game's first pitch. Many who perform this ceremonial act freeze up in the moment, all too aware of the thousands of fans focused on their motion. But Sexton strode to the mound intently. Without hesitation, he coiled his body and launched the ball across 60 feet, six inches. In the photo, one can see the fire in his blue eyes.

Not unlike that moment, Sexton—and the university he leads—is now being watched more than ever as NYU sets to redefine itself as a global institution. The effort has triggered a range of opinions—and, perhaps, emulators: Yale University recently announced plans to build a campus in Singapore, saying it believes all major universities will follow suit by the middle of this century. So the new venture requires NYU to be more self-aware—and self-assured—than perhaps any time since its founding in 1831.

This transformation, into the world's first global network university, isn't just about expanding study-abroad options or offering degree programs in foreign locales. It's about the construction of two brand-new universities—one in Abu Dhabi, where the inaugural class completes its freshman year this May, and one in Shanghai, which will open in

fall 2013. Both will join New York to become the three portal campuses of the global NYU network, reconstructing the architecture of a 21st-century university.

Sound different? It should, because nothing on this scale has been undertaken in higher education. And as with any such giant leap, there have been no shortage of questions, concerns, confusion, and excitement. *NYU Alumni Magazine* recently sat down with President Sexton to understand the reasons behind this pursuit and how the university will be changed.

### ONE QUESTION ON MANY PEOPLE'S MINDS IS: WHY? WHY DO WE NEED TO BECOME A GLOBAL NETWORK UNIVERSITY?

For the moment, the American university in its traditional form is still the standard for the world, and much of that preeminence can be measured by our ability to attract the huge reservoirs of talent from outside the United States. But our continued preeminence is not inevitable.

In recent years, as the effects of globalization have become more pronounced, a subtle but fundamental reformulation of the great universities has occurred—one that promises to become even more dramatic in the decades ahead. Nations that traditionally have sent their intellectual talent to the United States now strive to keep students at home by creating their

own great universities. And they are attracting talent from other countries as well. At the same time, it's been reported that fewer than 30 percent of American citizens have passports and only 10 percent of America's college students have studied abroad. American scholars are falling behind while academics from other countries have become increasingly globalized.

Our plan embraces a new landscape in which cultures around the world meet at their creative centers to learn from one another. From this, a relatively small number of idea capitals will emerge, and the global network university will be a principal connection among them. In the new NYU model, all students and faculty, regardless of where they're situated, will be members of a system structured to facilitate mobility. The opportunity to live, study, teach, and

conduct research unbound by borders will strengthen our ability to continue attracting the very best.

NYU is a complex organism. This university has never organized itself in traditional ways—not around Saturday football games or around a campus quad. For us the unifying element has long been the cosmopolitan opportunity that NYU offers those preparing to lead and shape the world. The evolution of that experience now requires that we move beyond the borders of the city—and the country.

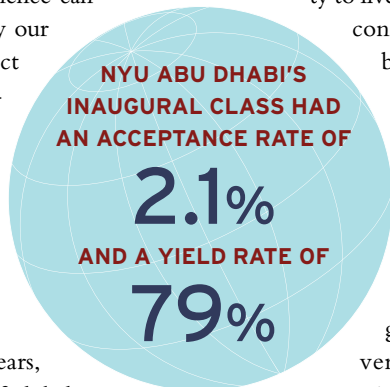
WHAT ABOUT CONCERN THAT THESE NEW NYU CAMPUSES IN THE MIDDLE EAST AND ASIA, AS THEY FORGE THEIR OWN IDENTITIES, MAY BECOME DISCONNECTED FROM THE WHOLE?

The circulatory nature of the network is designed to prevent that from happening. The global network we're creating will allow the brightest students, faculty, and staff to experience unparalleled options for research and learning. And the structure of our network is key to this. Each part is designed to connect to and be enhanced by the whole; ideas, activity, conversation, and people will flow freely.

This allows us to overturn the assumptions of classically linear educations. Upperclassmen traditionally have been the ones studying abroad, but NYU has observed that many entering students prefer to begin their studies at foreign sites. They can then move to New York as sophomores, study at yet another network site in their third year, then return to New York as seniors. One 2010 graduate told me that she completed her bachelor's degree with five semesters [out of the required eight] spent at sites abroad.

Many faculty will be drawn to a similar model for teaching and research. So, for example, if the economics department in New York could say to a scholar interested in sovereign wealth funds and Middle Eastern markets that he or she could spend semesters on the Abu Dhabi campus, they increase the likelihood of attracting that professor. Same thing if the Courant Institute could say to a renowned computer scientist that he or she could spend one out of every four years at our campus in Shanghai.

Still, the global sites will indeed develop their own "personalities," much as our schools here at Washington Square have their own personalities now. One of the joys of creating new global sites—and in particular the portal campuses—is



that they are tabula rasa; NYU and its faculty have an opportunity to keep our same high standards of academic excellence while creating brand-new curricular models at these sites.

**WITH SO MANY DYNAMIC CITIES IN THE WORLD, WHY CHOOSE ABU DHABI?**

Early in this century, two truths came into focus. First, the study-away programs NYU offered were Eurocentric. Second, less than 10 percent of NYU students were going abroad for a semester. For a major university rooted in New York, neither of these things was acceptable, and we've made huge strides since. More than 40 percent of students now study abroad, and we have sites in South America, Asia, and Africa, with Australia under way.

When we conceived of the global network, the question then became: Is there an appropriate partner in the Middle East? Several options were considered, but when we spoke with some of the most prominent, thoughtful consultants, we kept being led toward one realization: The leadership and the culture of Abu Dhabi made it the best choice, and they shared an unswerving commitment to academic excellence.

**WHAT ELEMENTS OF THEIR CULTURE STOOD OUT?**

That city and New York are not identical, of course, but both possess a similar cosmopolitan ethos. People from three-quarters of the world's countries call Abu Dhabi home, and roughly the same number of languages is spoken there as in New York. It is a crossroad city blessed with a visionary government, economic dynamism, and an increas-

ingly tolerant and welcoming society. It is both a repository of a great culture and a symbol of adaptation to modernity.

This is evident in the response we've received. While we expected the initiative to interest senior NYU staff and faculty, even our high expectations proved modest. Some are attracted by the mission. Others are drawn by research interests, as in the case of a Middle Eastern studies professor who is organizing definitive translations of major Arabic works and of a linguistic neuroscientist interested in the languages of the region.

And it can be seen in the results: NYU Abu Dhabi has already proven itself to be one of the most selective universities in the world. Its inaugural class had an acceptance rate of 2.1 percent and a yield

rate of 79 percent. Our students there—whose SAT scores ranked fifth among all colleges in the U.S. on critical reading and sixth in the U.S. on math—declined offers from eight of the top 10 liberal arts universities in the U.S. and 18 of the top 25 research universities.

Still, the students and faculty themselves testify that the key factor in their choice was the desire to be exposed to the other campuses of the global network university. For all of its advantages, were NYU Abu Dhabi a traditional, single-campus institution rather than a portal campus, it would not have this level of interest. A key attraction of NYU Abu Dhabi, as will be for Shanghai, is the circulatory nature of the network.

**YOU HAVE SPOKEN ABOUT CERTAIN CORE PRINCIPLES—AMONG THEM "TOLERANCE OF DIFFER-**

**ENCE" AND "COMMITMENT TO TRUTH"—AS FOUNDATIONS OF NYU'S MISSION. HOW DOES THE UNIVERSITY INTERACT WITH CULTURES WHERE THESE PRINCIPLES ARE NOT SHARED?**

NYU's global network will operate in many cultural contexts where values will not always be defined and prioritized in familiar ways. But it is not the case that to accommodate these differences we must compromise our core values. Indeed, our values will be defended most effectively if we realize the destructiveness of cultural hubris. NYU's core values will not be sacrificed, but smug insularity must be. Such cultural humility is perfectly consistent with, and perhaps demanded by, the traditional values of the university.

So far, the experience is encouraging. Al Bloom, the vice chancellor of NYU Abu Dhabi and former president of Swarthmore, has noted that students there, because of the unprecedented degree of diversity, have been challenged to develop relationships with one another despite differences on even the most personal, significant issues. That's the kind of evolution we dreamed of when we started this venture.

And there is an additional, essential point here: Ethnocentrism is an intellectual mortal sin. Americans, unfortunately, are specialists at living ethnocentrically; it is one of our primary vices. We tend to think we have the right view of the world and that others should just get in line. We frequently do not see our own imperfections, and we rarely consider different perspectives valid. In addressing matters of cultural difference, we must avoid defining "progress" in terms of the

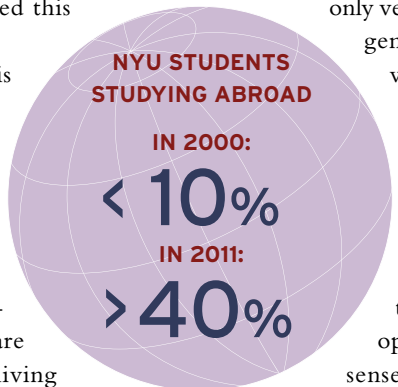
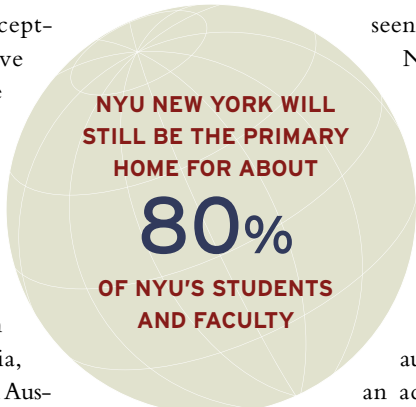
degree to which others accept our positions.

**TWENTY-FIVE YEARS AGO, NYU WAS PRIMARILY A COMMUTER SCHOOL, AND IN SOME WAYS WE'RE STILL SETTling INTO THE CHANGES WE'VE MADE. IS THE UNIVERSITY PREPARED FOR YET ANOTHER DRAMATIC TRANSFORMATION?**

It was NYU's boldness in the 1980s and '90s that provided the groundwork for becoming the nationally recognized research institution we are today, the "dream school" we've become for so many students and faculty. We didn't achieve that by waiting for a period of long-term stability. Such a thing is never promised, as we've learned over the past decade. Instead, we chose to, as Jack London said, "Light out after it."

Inherent in NYU's DNA is a distinct lack of self-satisfaction and a perennial search for improvement through innovation. Of course, ours will not be the only version of the next generation of universities; there will be other successful responses to the forces of globalization inside higher education. Different options will make sense for other universities. But for NYU to fail to embrace the structure and spirit of a global network university would be to break faith with our founding spirit. ■

*To read John Sexton's recent global network university reflection, go to [www.nyu.edu/president](http://www.nyu.edu/president) and click on "speeches and statements."*



# HIGH-MINDED DESIGN

A NEW AESTHETIC FOR FIXING THE WORLD'S UGLIEST PROBLEMS

by Assia Boundaoui / GSAS '12 and Nicole Pezold / GSAS '04

A team of four gathers around a table, mulling how to improve public transportation in New York City. Wesley Cook sketches one idea, an interactive map for commuters, on a Post-it note and pastes it to a wall littered with other drawings. Heather Diaz adds, “Right before you swipe the Metro-

The term “design thinking” might sound like the title of a new show on HGTV, but it was coined by the global design firm IDEO, and it describes a creative process that favors nonlinear thinking and brainstorming, where the outcome (whether a product or a service) is almost secondary to the enterprise of building ideas. Intrigued by this notion, Wagner Dean Ellen Schall

er, the class aims to unsettle the usual approaches to public-policy questions with the assumption that innovative answers lie in a messy, failure-prone process. “The fact is you *never* see a design course in a public-policy setting,” says Peng, who uses this idea to “get students really uncomfortable and thinking about a problem in a totally different way.”

The pilot class in fall 2010 filled immediately, attracting students from other schools within the university. Associate Dean for Academic Affairs Rogan Kersh was so impressed that he foresees it becoming a “signature part of the curriculum” and believes its value will draw students to Wagner not only from around NYU, but from across the country.

Before IDEO entered the classroom, they were already known as the brains behind the Apple computer mouse and the mechanical whale

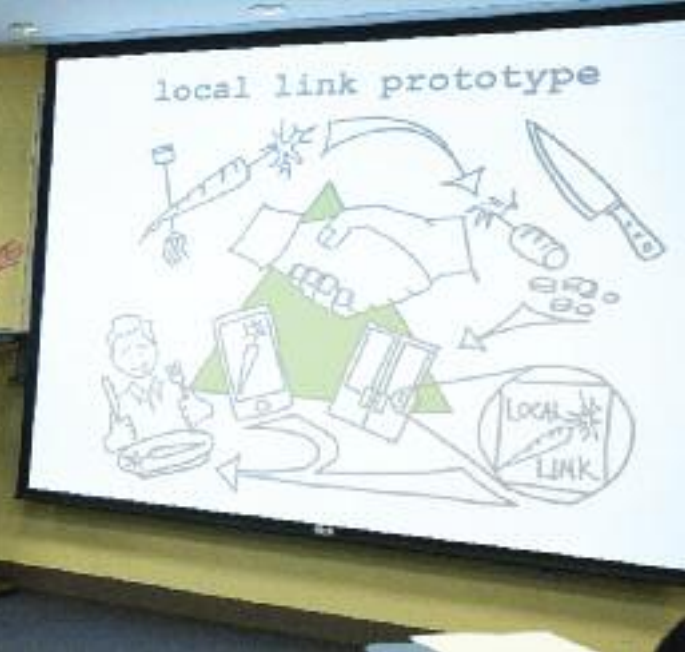
in the 1993 film *Free Willy*. The ABC *Nightline* episode “Deep Dive” followed its designers as they reinvented the shopping cart. In fact, IDEO improved a number of products we take for granted today. Lately though, the firm has turned to “innovating” ideas.

At Wagner, this meant understanding what motivates students. For several months, Peng and his team hung out at Wagner’s home in the Puck Building, attended classes, interviewed scores of students, faculty, and alumni, and concluded that there were three types of people studying there: those who are passionate but unsure what to do after graduation; those who like to

“We teach in public policy that you can’t bite off the apple in one go. But through a design thinking alchemy, [the class] tackled enormous problems.”

Card—that’s the most stressful moment.” The team ponders what to do. They aren’t professional designers, engineers, or even MTA officials—they’re students in a new course, called Design Thinking, at the Robert F. Wagner Graduate School of Public Service—yet they just may revolutionize how New Yorkers get around.

hired IDEO last year, she says, to “enhance the overall student experience” at the school. Administrators found the experience so transformational—upending their notions of what draws applicants to the school—that they decided to offer it as a course. Taught by Michael Peng, the IDEO project manager who worked with Wagn-



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AT LEFT AND BELOW: STUDENTS PRESENT THEIR RESEARCH AND SOLUTIONS TO IDEO DESIGNERS.

deeply explore one field at a time; and those who're certain where they want to end up. "IDEO's framework enabled us to craft and design additional support mechanisms for our student body," Kersh recalls. Understanding the diversity of their mind-set, the school is now investing in more sophisticated ways of welcoming new students and is developing informal study areas and an academic networking site.

To teach design thinking, Peng split the class into teams and charged each with a mammoth question. To answer it, they had to create a lean and tangible solution using design methods, such as interview-focused research, prototyping, and experimentation. He gave one team the task of providing sustainable living in the city and another of improving the U.S. health-care system. All would present their ideas at the end of the semester.

When presentation day came, Peng gathered several IDEO designers, as well as Kersh and other Wagner faculty, to critique each group's idea. Wesley Cook, Heather Diaz, and the transportation team screened a video to walk viewers through the daily frustrations of a New York City subway commuter. They zeroed in on the system's shortcomings and then presented a string of solutions, including a smartphone app that alerts riders of service changes, a digital panel outside subway stops to inform people—before they descend into the station—when the next train is arriving, and signage to channel and diffuse the human traffic jams at rush hour.

"We teach in public policy that you can't bite off the apple in one go," Kersh says. "But [the class] tackled enormous problems, reduced them to an important essence, and devised process-based solutions that made sense. I can't imagine a more valuable blending of theory and practice." ■

## campus life

# Fortunate Sons and Daughters

## THE POST-9/11 GI BILL SENDS A NEW GENERATION TO SCHOOL

by Assia Boundaoui / GSAS '12  
and Nicole Pezold / GSAS '04

In 2003, as most of Kevin Torres's friends were taking their seats in air-conditioned college classrooms, he was dressed in U.S. Army fatigues, baking in the Mesopotamian sun 6,000 miles away. Torres, a Brooklyn native, enlisted right out of high school and was among the first soldiers deployed to Iraq as the American invasion began. While friends back home fretted over upcoming exams, he faced challenges with potential life-or-death consequences, from his immediate security objectives to more nuanced worries about striking the right tone with the Iraqi civilians filing past his checkpoint. To treat them disrespectfully, he reasoned, might inspire support for future attacks against Americans, but he also had to be vigilant in his work.

Four years and two tours later, Torres (STEINHARDT '11) rejoined his old friends in the classroom—just as most of them were finishing bachelor's degrees. Now a social studies undergraduate at the Steinhardt School of Culture, Education, and Human Development, Torres is one of thousands of veterans returning from battlefields to enroll in college through the Post-9/11 GI Bill. The program took effect in 2009, just as Torres started his first semester at NYU, and it has significantly increased the educational support—providing tuition, plus a monthly living stipend and yearly books allowance—available to a new

generation of vets. Since August 2009, the Veterans Administration has paid more than \$8 billion in benefits to over 440,000 students. While this pales in comparison to the original GI Bill—which sent nearly half of the 16 million World War II veterans to a college or training program—the numbers continue to rise.

The bill covers veterans who've served on or since September 11, 2001, and vastly reduces the financial obstacle to an education. But many vets still face social hurdles on campus. Fitting in with other students can be a challenge—they're often younger and, Torres believes, sometimes make assumptions about vets being depressed, violent, or spokespeople for unpopular U.S. foreign policies. In his first semester, he told no one about his combat duty. "I didn't want to be the kid who wears it on his sleeve," he says. "The veteran who every time there's a mention of the [Iraq] war or war in general, it's like, 'Oh, yeah, Kevin can speak to that.' I can't speak to the American Revolution—it was 1776!"

This reaction is common among enrolling vets, notes Jodi Bailey, former associate director of NYU's Student Resource Center. "Coming back into the everyday-

ness of things can be disconcerting when the people around you cannot relate to what you have just experienced," she says. The center offers assistance in navigating the civilian world—addressing admissions questions, resolving issues with housing or classes, and connecting them to VA services in the city. It also regularly hosts speakers and is one of several ways that the estimated 270 former soldiers enrolled at NYU can meet others who share the experience of war. Another is the Military Veterans Club at the Leonard N. Stern School of Business and NYU's Military Alliance, an affinity group for students and alumni. Torres, an active member of the Military Alliance, has only recently become more comfortable identifying himself as a vet to classmates, but even so he wonders whether "that will change their perception [of me], like, 'Look at that guy.



KEVIN TORRES SERVED TWO TOURS IN IRAQ.

He was in the army. He loves killing people.' "

One thing Torres is unburdened by, however, is debt. Between the GI Bill and additional scholarship aid from Steinhardt, he will finish his degree in May able to channel all his energy into graduate school. He's applying to master's programs in education and hopes that his own experience in Iraq will give future students a rare and intimate view of recent history. ■

PHOTO © MATTHEW SEPTIMUS



# IN BRIEF

## PRIME MINISTER-IN-RESIDENCE

To be a global leader in education, it's helpful to have a global leader at hand. NYU has just that since naming former Prime Minister of the United Kingdom Gordon Brown as the university's first "distinguished global leader in residence." During the two-year appointment, which started last fall, Brown will spend two weeks each year at the New York campus, one in Abu Dhabi, and one at another study-abroad site, where he'll lead a study group on "global civil society," host discussions with other VIPs, and meet with students. The post neatly converges the university's and Brown's own focus on the ever-shrinking world. "The idea of a global network university, where barriers are broken down and people can use modern technology to debate and educate

each other, is incredibly appealing," he told *The New York Times*.

## NEW SUPPORT FOCUSES ON RESEARCH AND SCHOLARSHIP

NYU students and faculty continue to benefit from the generosity of donors. The following are just some of the important gifts the university has recently received:

- An anonymous donor gave \$2.5 million to establish an endowment in support of Israel studies. The gift will provide support for visiting professors, doctoral and post-doctoral students, and general activities of the Taub Center for Israel Studies at NYU.
- Daniel Holmes (STERN '64, '65) has made a \$1 million gift to be split between the Leonard N. Stern School of Business's undergraduate college and the school's MBA program. Part of the gift will be used to

establish the Joan and Dan Holmes Scholarship.

- A Chinese donor gave a \$1 million anonymous gift to NYU to endow a visiting professorship in the Faculty of Arts and Science. This endowment will support visiting scholars in a number of academic pursuits and will allow the university to bring a scholar from China every year to teach undergraduates.
- The Jhumki Basu Foundation has made a leadership gift toward the development of the Science Education Center at NYU Steinhardt, inspired by the vision of Jhumki Basu, assistant professor of science education who passed away in 2008. Once established, the Center will transform science education and develop a master corps of highly trained teacher-scientists who will change the lives of urban children and underserved youth.

- Mounir and Caroline Guen have established the Guen International Study Scholarship Fund in the Liberal Studies Program at NYU's Faculty of Arts and Science. The gift will grant individual awards of \$5,000 to assist Liberal Studies study-abroad students who will be known as the "Guen Family Fellows."
- Edward Mermelstein (WSUC '91), who moved to the U.S. from Ukraine at age 8, established a scholarship fund for students with financial need—to be known as Mermelstein Scholars—who are immigrants or the children of immigrants from Eastern Europe.
- The Schleman family supported undergrad scholarships at the College of Arts and Science. The Schlemans have a rich history at NYU, with alumni dating to the 1930s, and are proud to "assist others starting on their academic journey."



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# Geraldine *Inoa*

class of **2013**

*Hails from:* Rural Nebraska –  
the opposite of New York City!

*How I Got to NYU:* Saving every  
penny I earned since the age of  
12 and studying hard!

*Major:* Dramatic Writing at Tisch.

 *Favorite Class:* Sitcom Writing.

★ *Best Place for Brain Fuel  
on Campus:* Burger Creations  
on 8<sup>th</sup> Street.

♥ *Favorite Thing About Living  
in New York:* Walking home to  
my dorm from the Metropolitan  
Opera House at Lincoln Center.

👍 *How I Want to Make a  
Difference:* I want to have an  
emotional impact on those  
who read my writing.

✦ *Without NYU's Generous  
Scholarship Support:*  
You wouldn't be reading  
about me!



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NEW YORK UNIVERSITY

# CUTTING-EDGE

■ immunology

## Keeping the Peace

Immune cells are divided into two types of T cells: the aggressors that fight infections, and the peacekeepers that monitor the fighters and prevent them from causing harm to healthy tissues. People with rheumatoid arthritis have normal numbers of both, but their peacekeeping cells are inactive and allow

the aggressive ones to wrongly attack healthy tissue. Boosting the activity of these peacekeeper or regulatory cells could hold the key to developing new treatment methods for diseases such as rheumatoid arthritis, psoriasis, and inflammatory bowel disease.

Michael Dustin, professor of im-

munology and pathology at NYU Langone Medical Center, has identified one potential target. "The protein kinase C theta enzyme is a lynchpin," he says. "It is present in both the aggressive and peacekeeping cells. When it is 'on' in both cells, you have a strong immune response and when it is 'off' in both cells, you have a weaker immune response."

By blocking this enzyme, Dustin and his team, whose findings were published last spring in *Science*,

discovered a molecule that boosted the activity of the regulatory cells. In addition to treating autoimmune diseases, this inhibitor molecule could also play a role in preventing tissue rejection following transplants. "Currently the best therapy for people with rheumatoid arthritis is a protein that is expensive and has to be injected with a syringe," Dustin explains. "An enzyme inhibitor is a small molecule, so it could be a pill. It could be as convenient as aspirin." —Sally Lauckner

■ sociology

## MAPPING THE EFFECTS OF VIOLENCE

**IT HAS LONG BEEN KNOWN THAT VIOLENCE IN CHILDREN'S LIVES AFFECTS THEIR COGNITIVE DEVELOP-**

ment. But a violent crime in the neighborhood—even if it occurs many blocks away, and even if a child doesn't know the victim—has a direct impact on their ability to function, according to Patrick Sharkey, whose research was published last summer in the *Proceedings of the National Academy of Sciences*.

Sharkey, an assistant professor of sociology, analyzed the effects of local homicides on the test scores of African-American children in Chicago and found that living close to the location of a murder is enough to impair a child's performance on assessments of cognitive skill. To isolate the impact of specific incidents of violence, he compared the scores of children living within the same neighborhoods who, by chance, were assessed before

or after local homicides. Extreme incidents of violence cause children to perform substantially worse, he says. "The results imply that children

in the most violent neighborhoods of Chicago spend roughly one week out of every month functioning at a low level."

Sharkey mapped the location of the more than 6,000 murders reported in Chicago between 1995 and 2002, and then analyzed the cognitive test scores

from two surveys of children 5 to 17 years old who lived across the city's neighborhoods. He discovered that the closer the violent event was to the testing date, the worse the student's performance, regardless of whether the child had a direct relationship to the victim. Effects were strongest—and children's performance poorest—when the murder occurred within six to 10 blocks of a child's home, but effects were present when violence occurred farther away as well. "Most of the research that's been put forth makes the assumption that children have to actually witness a violent event in order for them to be affected," Sharkey says. "This research is saying that it may be a broader group of children who are in need of resources and support in the aftermath of violence."

Since the study's publication, police officers and teachers alike have approached Sharkey, telling him that his work confirmed



neurology

## THE SCIENCE OF LISTENING

**W**hy do listeners respond better to a Bach composition than to a toddler banging on piano keys? Is it innate, wondered Josh McDermott, a researcher at the Center for Neural Science, or are humans influenced by exposure to Western music? According to his study, published last summer in *Current Biology*, the human ear has indeed been conditioned—

but it's the general acoustic property of harmony, and not the chords per se, that listeners have been taught to like.

"We've wondered since the time of the ancient Greeks why certain combinations of music sound good to people and others just don't," McDermott says. To help answer this, he asked 250 subjects to rate musical chords and nonmusical sounds. By isolating beating rhythms—beats that char-

acterize dissonant chords—from the harmonic relationships believed to underlie consonance, he determined that those consonant chords give pleasure because they sound more like a single note. And this harmonic preference correlated with a listener's musical experience: the greater their exposure to music, the more they preferred harmonic sounds.

McDermott has now turned his ear to something he calls the Cock-

tail Party Problem. "In crowded, noisy rooms, most of us are able to focus and hear one thing in particular," he says. "A computer speech-recognition program can't do this. Why can we?"

If McDermott can understand how the brain discerns one specific voice in a loud crowd, he could build algorithms to imitate it, which could allow hearing aids—now mostly useless in noisy rooms—to focus on specific sounds, as the human ear does. "This type of hearing aid will definitely happen in my lifetime," McDermott says. —Emily Nonko

what they already suspected to be true. But the professor adds: "There are a lot of skeptics as well who look at gaps in cognitive test scores and assume that those gaps are due to underlying differences in innate ability or genetics, and have a hard time believing that environmental factors play a role in producing these gaps in achievement."

In what Sharkey notes is still "a puzzle," however, the study found that Latino students living in close proximity to a homicide didn't show diminished academic performance. A possible explanation might be that African-American children experienced especially adverse reactions because the victims in Chicago were predominantly black. "Identifying with a victim may have more of an impact on a child," Sharkey says. He hopes that a similar study mapping homicides and standardized testing in New York City public schools will shed more light.

—Assia Boundaoui

cardiology

## Heart of the Matter

When patients develop symptoms of heart problems, one of the first things physicians test for is Coronary Artery Disease (CAD), the buildup of plaque commonly found in those who have reduced heart pump function yet no history of cardiac arrest.

But to diagnose CAD, patients have traditionally needed to undergo an angiography, a surgical procedure that runs catheters and wires from the arteries in the legs into the heart. Harmony Reynolds (WSUC '93, MED '97), an assistant professor in cardiology at NYU Langone Medical Center, aimed to change that. "Testing for CAD is expensive and invasive, and we wanted to simplify the whole procedure," she says. Moreover, for many patients it's often unnecessary, as one-third of those who undergo angiography are found not to have CAD.

Reynolds and her colleagues believed a simple carotid artery ultrasound could be an effective screening tool. Like the more invasive test, it can capture images of plaque buildup in the arteries. And because previous research has shown plaque usually accumulates in all arteries, they looked at arteries in the neck.

Since testing the ultrasound with patients already scheduled for a coronary angiography, they showed 98 percent effectiveness in preliminary diagnosis. "Most importantly," Reynolds says, "we're now able to rule out the need for surgery associated with the angiography." After their findings were published last summer in the *American Heart Journal*, other hospitals followed suit in adopting the ultrasound testing, a procedure that almost every health-care facility has the means to perform. —E.N.

A SIMPLE ULTRASOUND OF THE CAROTID ARTERY CAN BE AN EFFECTIVE SCREENING TOOL FOR CORONARY ARTERY DISEASE.

IMAGES COURTESY HARMONY REYNOLDS