

CORNELL'S QUARTERLY MAGAZINE SPRING 2009

# EZRA

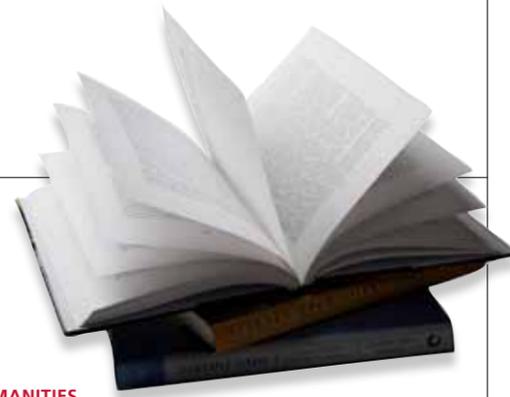


## RESEARCH WITH LEGS

UNDERGRADS ARE TURNING EDUCATION INTO DISCOVERY

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## EZRA

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## FROM THE PUBLISHER

In this third issue of Ezra, we take a look at the experiences of some of the many Cornell undergraduates doing hands-on research. Cornell has long been a leader in involving undergraduates in research in all disciplines, making them an integral part of campus intellectual life and partners in scholarship and discovery. Our cover story shows you why involving young students in intellectual discovery is so important, especially in today's economic climate.

New features that debut in this issue include Ezra's version of the Cornell Chronicle section and online blog The Essentials and a Cornell Books section, spotlighting new and notable publications from faculty and alumni.

Thomas W. Bruce  
Vice President, University Communications

BY DAVID J. SKORTON

## DISCOVERY: THE UNDERGRADUATE RESEARCH EXPERIENCE



President David Skorton answers questions from students during a fireside chat in Willard Straight Hall in 2008.

Cornell ranks among the most distinguished research universities in the world and is also known for its long-standing commitment to undergraduate education. Our students – undergraduate, graduate and professional – have the opportunity to work with expert faculty who guide them in their paths to discovery.

One of the attributes that distinguishes Cornell is its broad opportunities for undergraduates to be full partners in research, scholarship and creative activity. Our university's faculty are the key models and mentors for research and discovery. They inspire students to be forward thinking and to tackle issues in innovative ways. Professors at Cornell not only instruct students, they also actively involve them in the task at hand, as did Steve Squyres and Jim Bell on the Mars Rover project. This type of experience

propels Cornell graduates into the upper echelon of professional candidates for jobs that require developed skill sets and hands-on experience.

A second feature of research at Cornell is its cross-disciplinary nature. We often focus on the life and physical sciences as obvious fields of study where students and faculty work closely to investigate and innovate around their areas of focus, but at Cornell cross-disciplinary collaborations also are encouraged to allow our future leaders to fully understand and explore concepts that defy simple categorization. And let us not forget that the humanities and social sciences are critical, not only in their own right, but also as context and setting for all other inquiry. Cornell's Institute for the Social Sciences, for example, aims to encourage collaborations across disciplinary and institutional boundaries and to engage students, faculty and staff in discussions on cutting-edge topics in the social sciences. It is currently involved in a three-year study of science, social science and social movements that requires research at the intersection of fields such as political science, sociology, anthropology, economics, psychology, bioethics and the natural sciences. It is this type of active cross-disciplinary collaboration that enhances perspectives and allows students to graduate with a broader worldview of the important issues they will tackle as they begin their careers.

But perhaps the most important aspect of the undergraduate experience at Cornell is the application of translational research. Undergraduates have the advantage of attending a land-grant university with a mission to find creative ways to translate their research into innovations that advance the public good. At a land-grant university with a commitment to public service and outreach, students are encouraged to look for ways to bring the fruits of their research to the public, particularly to those who are poor or marginalized. That was certainly the case with students from the College of Engineering, who designed water treatment systems for use in Latin America and, with generous alumni assistance, implemented those designs in Honduras. Cornell's research programs create new leaders who are both scientific and social entrepreneurs.

It is this combination of professional development, collaborative partnerships and outreach that denotes Cornell University as a setting for comprehensive undergraduate research and discovery. Cornell offers even those near the very beginning of their intellectual journeys the prospect of advancing knowledge. In the process, it nurtures in students the courage to seek truth, the humility to appreciate the provisional nature of what is considered "truth" today, and the determination to persevere in the hope of contributing not only to the growth of knowledge but also to well-being of the planet and its peoples.

As the world economy struggles in the midst of a severe recession, we cannot help wondering about the fate of university research programs, many of which receive a significant amount of funding from the state and federal governments. It is critical that these programs remain funded, not only to provide a robust and comprehensive education for tomorrow's leaders but to bring about the social change that can only come from an intensive examination of issues and discovery of solutions.

*David J. Skorton is president of Cornell University.*

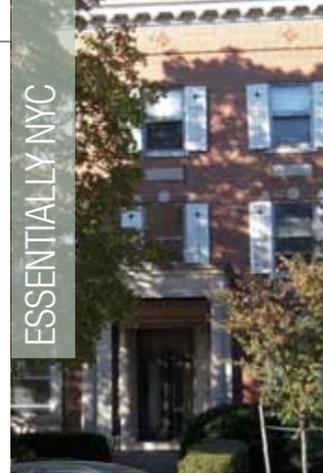


## SEEN & HEARD Out of the park

Michael Goldsmith '72, J.D. '75, a Brigham Young University law professor in Utah, was diagnosed with amyotrophic lateral sclerosis, or A.L.S., known as Lou Gehrig's disease, in September 2006. Goldsmith, a baseball fan (shown here at a Baltimore Orioles fantasy camp in 2008), challenged baseball to publicly take on the killer

disease in a Newsweek article. The baseball commissioner read the story, and on July 4, Major League Baseball will help fight the disease that bears the name of one of its heroes (the Yankee slugger retired July 4, 1939, and died June 2, 1941) by raising money for and awareness of A.L.S., which has no cure. "Their response has been

in keeping with the 'Field of Dreams' image," said Goldsmith, father of Austen '07 and Jillian '10 and known to many Cornell classmates as Mickey. He plans to travel to a major league stadium on July 4 and read part of Gehrig's famous farewell to baseball speech.



ESSENTIALLY NYC

## Borough bound

Cornell University Cooperative Extension in New York City is returning to the boroughs as part of the Eat Smart New York program, which includes an emergency food-assistance program and food and nutrition learning centers. Two of these are in Brooklyn (pictured) and Queens. The program provides nutrition education to adults, seniors and youth in the communities of Brownsville, East New York and Ocean Hill in Brooklyn, and Far Rockaway in Queens. CUCE-NYC expects to make more than 45,000 contact hours with New York City residents through this programming in 2008-09. "CUCE-NYC has always prided itself on making the most relevant research available to improve the lives of NYC residents," said Donald Tobias, CUCE-NYC executive director. "These offices will increase our capacity to connect world-class researchers with New York City."



SNAPSHOT

## It's history in the making

Tiny pinpricks of Big Red stood out amid the sea of furiously waving American flags on the National Mall, Jan. 20. Among the 1 million-plus people attending the inauguration of Barack Obama as the nation's 44th president were 100 Cornell students, faculty and staff who took an all-night bus together to brave the cold and witness the historic ceremony.

"It's my freshman year, so this is really exciting," said Nenha Young, AAP '12, at 4 a.m., as the bus arrived in Landover, Md., after an eight-hour journey. "It's history in the making, and we're going to be part of it."

Students from seven Cornell colleges - chosen by lottery - were on the trip with representatives from Campus Life, Employee Assembly, Faculty Senate, Graduate and Professional Student Assembly, Student Assembly and other organizations. The excursion was the brainchild of Curtis Ferguson, assistant director of multicultural programs in the School of Hotel Administration, and Leon Lawrence, director of the Office of Diversity and Inclusiveness in the College of Architecture, Art and Planning.

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## BIG RED ATHLETICS

### Men's basketball clinches ride to March Madness

As we went to press, the Cornell men's basketball team - buoyed by a boisterous Newman Arena crowd - clinched its second-straight Ivy League title March 6 by defeating the University of Pennsylvania, 83-59. The victory earned the Big Red an automatic berth to "March Madness" - the NCAA tournament. On March 15, the team learned it will take on the University of Missouri Tigers in Boise, Idaho, March 20, in the first round of the tournament.



PATRICK SHANAHAN

"It's something you really can't explain. It's the greatest feeling," said junior forward Ryan Wittman (above), who scored a game-high 25 points against Penn.

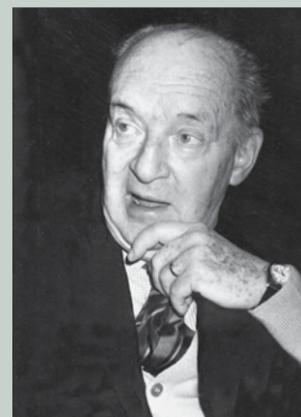
Cornell's Ivy League championship came with help from Columbia University, which defeated Princeton University, 58-44, that same night. To cap the regular season, Cornell then beat Princeton, 60-51, March 7. The Big Red finished its regular season 21-9 and 11-3 in the Ivy League. They have had 21 consecutive home victories.

Men's basketball is not the only winter sport in which the Big Red secured championship spots this season. In all, Cornell captured four Ancient Eight titles, with the men's and women's indoor track teams bringing home Heptagonal titles and wrestling winning its seventh straight conference crown.

In women's track, senior Jeomi Maduka was named Most Outstanding Performer for the second year in a row. And the men won their fifth indoor Heps title in the last seven years, propelled by middle distance and distance runners.

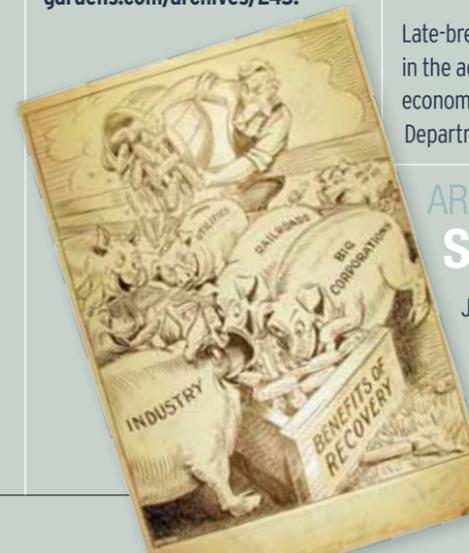
Follow the Big Red online at [www.cornellbigred.com](http://www.cornellbigred.com).

## DOWNLOAD THIS Nabokov reads 'Lolita'



After his controversial 1955 novel "Lolita" became a best-seller, Cornell professor Vladimir Nabokov found himself famous. He moved his family to Switzerland and accepted speaking engagements well into the 1960s. It was at one of these events that he recorded a spoken-word album, the 1964 LP "Lolita, Poems."

Read and listen at [www.dinosaurgardens.com/archives/245](http://www.dinosaurgardens.com/archives/245).



## Obama sees Red x 5

Obama nominee William J. Lynn III, J.D. '80, was confirmed in February as deputy defense secretary, the No. 2 position at the Pentagon. During the Clinton administration, Lynn oversaw the Department of Defense's strategic planning and then was its chief financial officer. He previously worked for Sen. Edward Kennedy as liaison to the Senate Armed Services Committee and was a lobbyist for Raytheon Co., a manufacturer of defense technology.

Nancy Sutley '84 has been named chairwoman of the White House Council on Environmental Quality, the president's chief environmental adviser. She was deputy mayor for energy and environment for Los Angeles and has had a long career in environmental policy, including serving as senior policy adviser to the U.S. Environmental Protection Agency regional administrator in San Francisco and a special assistant at EPA headquarters in Washington, D.C. during the Clinton administration.

The president will be getting legal advice and analysis from Cornell Law School alumna Alison J. Nathan J.D. '00, who has been named associate White House counsel. Previously, Nathan was the Fritz Alexander Fellow at New York University School of Law and a visiting assistant professor at Fordham University School of Law. Before entering academia, she was a litigation associate at Wilmer Cutler Pickering Hale and Dorr LLP in Washington, D.C., and New York. She has clerked for Judge Betty B. Fletcher on the Ninth Circuit Court of Appeals in Seattle and Justice John Paul Stevens on the United States Supreme Court. Nathan worked on both the Obama-Biden and Kerry-Edwards campaigns, focusing on voter protection and LGBT issues. At Cornell, she was editor-in-chief of the Cornell Law Review and was a member of the Order of the Coif.

Late-breaking news: Obama has nominated two ILR alumni to key positions in the administration - Alan B. Krueger '83 as assistant secretary for economic policy and Seth D. Harris '83 as deputy secretary of the U.S. Department of Labor.

## CORNELL PEOPLE



Lynn



Sutley



Nathan

## AROUND CAMPUS Serious humor

John Baer drew more than 12,000 cartoons from the Great Depression through the 1960s and was known as the "dean of labor cartoonists." His 1930s cartoons have a particular resonance today as Americans grapple with economic turmoil. A sampling of his work has been donated to the ILR School's Kheel Center for Labor-Management Documentation and Archives. The collection includes Baer's sketches, scrapbooks and correspondence.

# Frogs to fuels to freedoms

## Undergrads seek to change the world through research



**W**hen Adriana Garcia '11 transferred to Cornell last year from the University of Puerto Rico, she was thrilled to find that one of her professors was working on a fungus that has been devastating one of Puerto Rico's iconic treasures, a tiny brown frog with an outsized singing voice known as the coquí. Loved across the island for its all-night lyrical chirping, the songs have been growing a little quieter in recent years.

The fungus, *Batrachochytrium dendrobatidis* (Bd), which has been linked to massive declines and even extinctions in some amphibians around the globe, also has been taking a serious toll on the coquí population.

Garcia, who had learned about the fungus in a biology class in Puerto Rico, wanted to be involved in research that would help reverse the coquí calamity; so when she transferred to Cornell, she sought out ecologist and evolutionary biologist Kelly Zamudio, who was working on Bd in her Corson Hall lab.

Today, Garcia spends much of her time in Zamudio's lab researching the pathways of the fungus's amphibian destruction. In doing this, she has joined hundreds of undergraduates across the campus whose college academic experience is as much about doing original research as it is about lectures and coursework. "Research is an essential part of my life. I find it crucial to study current changes affecting biodiversity," she said.

The concept of involving undergraduates in original research, from science to the humanities, has been gaining support from educators across the country in recent years. Much of the focus stems from a 1998 report resulting from a three-year study by the Boyer Commission on Educating Undergraduates in the Research University. Funded by the Carnegie Foundation for the Advancement of Teaching, the report took a critical look at the state of undergraduate education at U.S. research universities and argued for a new approach to include undergraduates in every aspect of the research life of the institution.



"There needs to be a symbiotic relationship between all the participants in university learning that will provide a new kind of undergraduate experience available only at research institutions," the authors wrote. The researchers would be stimulated by the creativity and energy of undergraduates, while graduate students would benefit from integrating their research and teaching experiences.

### A question of funding

Since the 1950s, a major source of funding, both of undergraduate research and research by faculty who work with undergraduates, is the National Science Foundation. The agency currently spends about \$55 million annually supporting undergraduate research, with some of that support going to the summer Research Experiences for Undergraduates program, the rest to other year-round projects.

"A lot of studies have shown that research experiences are one of the best tools for recruiting students into science careers and retaining them," says Corby Ellis, REU coordinator at NSF.

Funding also is available from a wide variety of other sources, says Peter Lepage, dean of Cornell's College of Arts and Sciences. "In the sciences there is considerable

support from federal funding agencies who appreciate the importance for science of involving undergraduates in real research," Lepage says. "We also rely upon donor support, which is essential for research areas that are not supported by funding agencies."

He adds, "The increased amount of undergraduate research taking place is one of the more significant changes in undergraduate education over the past few decades."

The Howard Hughes Medical Institute, for example, has awarded research grants to more than 1,000 Cornell undergraduates in the biological sciences through the Hughes Scholars Program. The program, established in 1990 by HHMI vice president for grants and special programs Peter Bruns (a former Cornell professor), supports nine weeks of full-time research for students in the summer after their sophomore or junior year.

Cornell has long been a leading institution in encouraging undergraduates to do original research, in part because of the belief that it stimulates an increased level of engagement both in their major and in the institution in general. "[Undergraduate research] is ubiquitous. It's in every department, in every college," says Lesley Yorke, projects coordinator in the Office of the Vice Provost for Research.

At right, Adriana Garcia '11, pictured with a gray tree frog, is conducting research on a fungus that is devastating the coquí, a tiny brown frog species native to her home territory of Puerto Rico.



## ALUM JIM MOORE LIKES TO TINKER AND BUILD – AND TO HELP STUDENTS DO THE SAME



From left, Professor David “Wink” Winkler, Jim Moore '62, his daughter Lori Prichard, and biology major Tom Johnson '10 after installing a solar array to power equipment that will monitor the food supply for birds at Hill Bank Field Station in northern Belize.

The way Jim Moore '62 sees it, there's just no substitute for learning by doing – and no satisfaction like finding an answer that isn't in a textbook.

When he was an undergraduate in electrical engineering, Moore worked with professor Ralph Bolgiano Jr. solving technical problems and calibrating instruments at the old radio astronomy lab next to the Tompkins County Airport. He also worked for now-retired professor Simpson “Sam” Linke, devising a means to interrupt large DC currents.

“I like to tinker and build stuff,” says Moore, who holds eight patents. “I got more out of that than any of the courses I took.”

Moore went on to a successful career with his family's company, Moore Products Co./Moore Process Automation Solutions, until its acquisition by Siemens Energy and Automation Inc. in 2000. When he wanted to do something philanthropic, funding undergraduate research projects seemed like the perfect match.

Moore has supported undergraduate research at Cornell for more than 20 years through the Moore Undergraduate Research Fund, which aids several engineering students each year. Goodwin “Win” Wharton '10 is one recent beneficiary.

During the summer of 2008, Wharton spent two weeks in Greece, working in the field with earth and atmospheric sciences associate professor Christopher Andronicos. Wharton's goal was to identify active faults and the principal stress axes in a 900-square-kilometer area, information that may lead to an improved ability to predict earthquakes.

“Win's experience is fairly typical of how I've worked with students,” Andronicos explains. “During the summer we go into the field, I provide some training, and together we collect data and do geologic maps. When we come back, they use computers to turn their data into a product.”

Wharton and Andronicos used a Brunton surveying compass to measure the “strike” and “dip” that describe the orientation of a plane in three-dimensional space. They noted these measurements in field notebooks, identifying each location with a hand-held global positioning device. They talked geology all day, every day, as they gathered data. In the evenings they camped alongside 17 archaeology, architecture and classics students from France, Serbia, Bulgaria and the United States – including several from Cornell – at a field camp run by retired Cornell classics professor John Coleman.

Says Wharton: “I'm more engaged in what I'm studying. A longer-term project with greater depth is a fantastic thing.”

Moore has also supported the work of professor David W. Winkler in ecology and evolutionary biology, whose projects involve setting up environmental sensors and remotely monitoring bird nesting sites in Ithaca, Belize and other locations.

Occasionally, when Moore funds summer stipends for undergraduates, he pitches in to help. For example, he helped to design an off-grid solar webcam for nesting sites, and in Belize he worked with Winkler installing a solar array and 500 pounds of rechargeable batteries to power a large “bug sucker” – a device that pulls insects out of the air and traps them in an alcohol-filled bottle so that field scientists can monitor the food supply for birds.

“That stuff, it's really fun getting involved in the engineering aspect of it,” he says.

It's no surprise, then, that Moore identifies most with students who want to get into the field and put their knowledge to work on practical problems.

“What I'm looking for is real hands-on,” Moore says. “I think the Cornell students are a cut above many other students in terms of hands-on knowledge.”

– Laura McGrath and Bryce T. Hoffman

Undergraduate research also is a vital goal of the current Cornell campaign. Three central campaign priorities are students, faculty and facilities; undergraduate research is a major instance where all three of these priorities converge. (See story, page 24.)

Michele Moody-Adams, vice provost for undergraduate education and herself a former undergraduate researcher at Wellesley College, firmly believes that the process of conceptualizing a problem, figuring out its solution and then making that solution intelligible and accessible to others is an invaluable aid to intellectual development. “[Research] draws on an incredible number of cognitive skills that I think nothing else in an academic setting can,” she says.

Many on campus date Cornell's major commitment to undergraduate research to 1996, when Hunter R. Rawlings III, Cornell's 10th president, announced the creation of the Cornell Presidential Research Scholars program through an anonymous gift, providing research support over four years for undergraduates who demonstrate superior academic potential and intellectual curiosity. Rawlings continued to emphasize the importance of involving undergraduates in the intellectual life of the university, especially through research, throughout his tenure as president.

The program is now called the Hunter R. Rawlings III Cornell Presidential Research Scholars program in honor of the man who has helped forge Cornell's dominant national role in undergraduate research. (See End Note, page 29.)

Currently 200 students participate in the program, in which undergraduates collaborate with faculty to design an individualized program of research. Recent projects have included studies of music and cognition, radiation in neutron stars, professional pay scales among university professors, field work in Hawaii and New York City, and projects in architecture, the social sciences, biology, human development, physics and genetics. Many projects are interdisciplinary – bridging the gaps between disciplines and bringing fresh perspective to traditional subjects. The research can take place in the lab or at the computer – in the mountains of Central America, the library archives or the design studio. Anyplace, really, where there are secrets to uncover.

### Across the disciplines

“We have a really broad scope of research,” says Brenda Bricker, director of leadership and undergraduate research in the College of Human Ecology. Bricker's office works with students in fields from biology to apparel design, raising awareness about research opportunities, helping students identify faculty whose work they find most interesting and presenting their research interests to the professors, and finding funding from a variety of sources.

Which raises the question: What exactly is research? Download a brochure for the Cornell Undergraduate Research Board, and you'll find the dictionary definition: Scholarly or scientific investigation or inquiry; close, careful scrutiny. In the Office of the



Associate professor Kelly Zamudio with a lizard while on vacation in Utah.

## BLURRING THE LINES BETWEEN WORK AND PLAY

BY KELLY ZAMUDIO

“... and can you believe we get paid for this?”

That was my undergraduate mentor speaking – standing on top of a rock outcrop in central California with a lizard he had just captured dangling from a noose at the end of a pole. We were studying the evolution of egg size in lizards to better understand how

the environment shapes decisions that females make when allocating energy to reproduction. I was hooked.

It was my sophomore year, and my mentor had already included me in both field and lab aspects of this project. Almost daily during the summers and the academic year I worked on this project, either gathering data on lizards in the field or raising eggs in the lab. Our association was mutually beneficial – for those opportunities, I paid him back with my hard work and some very long hours.

It was my undergraduate research experience that first made me realize the line between work and play could be blurred, and it was this sentiment that my mentor was expressing on the rock outcrop that day. Of course, it isn't always fun and games, but the process of scientific discovery is continually engaging because it offers us the opportunity to explore and explain some of the unanswered questions about the natural world – and those questions never end. I credit my undergraduate experiences for jump-starting in me this view of science.

My experiences shaped my approach with the undergraduate researchers who are now in my own lab. I like to think of my lab as a place of blurry lines, where students are drawn in because of their projects but don't necessarily think of their time there as work. It's a place where undergraduates come to collect data, but also where they find conversation about science and the latest findings and the opportunity to observe and participate in academic life.

An academic lab is a perfect environment for undergraduates, because professors, graduate students and postdocs form a critical mass of productive scientists who are excellent and varied examples of how people approach their work. It is only by interacting with and behaving as academics that undergraduates will be able to evaluate whether this is the path for them and be better prepared for beginning the next step in their careers.

One of the great rewards of my job is watching those undergraduate students change over time. I have done this long enough now that I can sometimes detect the point at which students are convinced that this is a job for them. Commonly, students start complaining that their classes are taking too much time from their research. Other times they will excitedly describe a result, saying, “Check out what I found!” In many cases, they will make the lab a second home and work incredible hours to finish data collection or a manuscript. That is when I know their research is not just an obligation, and although they may not realize why so much work gives them such satisfaction, I know it is because they are hooked on the process of science.

*Kelly Zamudio is an associate professor of ecology and evolutionary biology and faculty curator of herpetology.*



Above: Jeanette Abate '09 is conducting research in the Hotel School for her honors thesis on LEED-certified buildings and the linkages between LEED certification and the rents and valuation of the building. Here, she tours the basement of Statler Hall with Jan deRoos, Hotel School associate professor, with building blueprints. Below: Marianella Casasola, associate professor of human development, holds a student-made research toy for infants during a tour of human development labs held in the College of Human Ecology in February. Undergraduate students interested in research opportunities took the tour to learn about research happening in the college and to talk to professors about future openings in their labs.



Above: Jane Olin-Ammentorp '09 is a Rawlings Presidential Research Scholar whose research looks, in part, at the role public art and graffiti play on the West Bank barrier (top image). Below: Maki Inada, center, observes Ryan Clagg '10, left, and Diane Cheng '11 in the lab. Inada, a senior research associate in molecular biology and genetics, teaches a Writing in the Disciplines course (BIOBM/ BIOGD 3990: Research Practicum in Molecular and Cellular Biology) that gives undergraduate students experience working on a real research project. Some of the students use the class's lab experience to get undergraduate research assistant jobs from which they were previously turned away.



Vice Provost for Research, Yorke calls it “experiential learning with a goal toward developing new knowledge.” Thus, traditional test-tube experiments qualify, but so do investigations of prison inmates’ access to courts or the viability of biofuels as an efficient energy source. Compensation is equally flexible. Many students volunteer to get experience and perhaps a faculty recommendation for graduate school; others also receive course credit.

Student Garcia from Puerto Rico says her life has definitely been changed by the research experience. “It’s rewarding to be actively involved in work that could save unique species around the globe. Disappearance of a single species can have countless effects on other species, including humans. Working on understanding Bd can help us develop methods to conserve amphibian diversity and, in the long term, prevent chain reactions that will otherwise result in loss of species related to amphibians.”

“AT FIRST I WAS PETRIFIED. AND YOU CAN ONLY IMAGINE HOW MY MOTHER FELT.”

—JASON BEEKMAN '08

The work itself is valuable in other ways, she adds. “Research is a way of exercising the mind. Every day you are faced with vast amounts of information, and as a researcher, you must decipher its meaning in terms of cause, effect and solutions to the issue of interest – in my case, amphibian massive extinctions,” she says. “At a more personal level, research promotes critical thinking and expands the ability of dealing with new situations” – both skills that apply to life in nearly every sense.

Student research crosses all disciplines, and the humanities are well represented. Says Tim Murray, professor of comparative literature and English and director of the Society for the Humanities: “What we try to instill in Cornell undergraduates in the humanities is the value and delivery of focused and extensive research in their fields of study. This can range from exploration of original manuscripts in rare book libraries to studies of cities, cinema systems, interrelationships between science and literature, science and philosophy.”

One example: Michael Barany '08, a Marshall Scholar whose undergraduate research, supported by the Rawlings Presidential Research Scholars and College Scholar programs, culminated in a thesis examining the history of witnessing truth in mathematics. “It’s an extraordinary piece of research that envelops the history of math in the context of interdisciplinary histories, rhetoric and institutional authority,” Murray observes. “Our hope is that [work like Barany’s] will provide students with the critical awareness and acuity with which they can leave Cornell and make crucial moral, critical and ethical interventions on the social scene – something that is very much a part of our ethos in the humanities at Cornell.”

Another case in point: Jason Beekman '08, who was a government and history major in the College of Arts and Sciences. Now a first-year law student at Cornell, Beekman was a sophomore when a course with government professor Mary Katzenstein inspired him to learn more about the prison system. After several years as a research assistant for Katzenstein, he took part in a summer project teaching theater and performance at Auburn Correctional Facility, a maximum-security prison in central New York.

“At first I was petrified. And you can only imagine how my mother felt,” he says. But his summer experience led to an honors

thesis on the financial obstacles to legal access for prisoners. He interviewed law librarians, N.Y. Department of Correctional Services personnel and nonprofit legal services personnel, analyzed filing fees and other hidden costs, and considered a multitude of angles from access to prison law libraries to how the issue fit within the merging internationally recognized human rights framework.

The project, he says, was “the highlight of my academic career,” leading him to law school and, he hopes, to a career in public interest law. “I will always have the lessons I learned from my thesis in mind,” he says.

The same goes for Jane Olin-Ammentorp '09, whose research, also supported by the Rawlings Presidential Research Scholars program, examines the legal standing and human rights effects of the barrier in the West Bank (between Israel and Palestine) as well as the role of public art and graffiti. The research, she says, combines her various interests – from human rights and international law to aesthetics and public art – into a project she hopes will influence the way people view the ongoing conflict.

“I hope my work will draw more attention not only to the conflict itself but also to the politics of public art and the way in which all issues are ultimately interdisciplinary,” says Olin-Ammentorp.

### Publication and prestige

“Sometimes, the fruit of undergraduate research goes beyond publication in such campus student journals as Research Paper and Cornell Synapse to national, peer-reviewed journals. Alison Marklein '08 is one of many undergraduates whose work has led to authoring a published paper. “Research is attractive to me as a way to combine creativity and rationality,” says Marklein, now a graduate student in ecology and biogeochemistry at the University of California-Davis.

She co-authored “Food Versus Biofuels: Environmental and Economic Costs,” published in February 2009 in the journal *Human Ecology*. The paper is the culmination of a yearlong research-based course in which students take on a broad issue – in this case, the viability of biofuels as an alternative energy source – and investigate it in depth from a variety of angles.

The angles in Anthony Auletta's research, meanwhile, are of the eight-legged kind. The junior is particularly interested in the social behavior of spiders from Australia – particularly in the way huntsman spiders share their prey.

“When I started college I was unsure whether I wanted to study entomology or ... classics,” Auletta says. “This research has solidified my interest in entomology. ... It has made me realize that I want to do nothing else in life but study arthropods.”

He's well on his way to becoming an expert. Last year, Auletta was interviewed by the Discovery Channel for two shows about dangerous scorpions on “Nature's Deadliest.” He also wowed other undergrads as a teaching assistant in senior research associate

## RESOURCES FOR UNDERGRADUATE RESEARCHERS AT CORNELL

### UNDERGRADUATE RESEARCH AT CORNELL

[www.research.cornell.edu/undergrad](http://www.research.cornell.edu/undergrad)

The university's main Web site for undergrads interested in research. The site includes information about student organizations and funding sources, answers to common questions, and links to department- and college-specific sites for undergraduate research opportunities.

### CORNELL UNDERGRADUATE RESEARCH BOARD

[www.research.cornell.edu/curb](http://www.research.cornell.edu/curb)

CURB supports undergraduate research through a variety of events and programs. Each year CURB sponsors a fall open house where undergrads can explore research opportunities and a spring forum with a convocation and poster sessions showcasing student research. CURB also sponsors the Marilyn Emmons Williams Award, annually presented to the dean, administrator, faculty member or student who has most contributed to promoting undergraduate research at Cornell. Named for CURB's beloved adviser emeritus, a former assistant dean in the College of Arts and Sciences, the award is a tribute to Williams' commitment to Cornell and to undergraduate research.

### THE RESEARCH PAPER

[www.research.cornell.edu/TRP](http://www.research.cornell.edu/TRP)

The Research Paper is a magazine written and published by undergraduates featuring research stories from across campus. Published twice a year, the publication spotlights how Cornell students extend their academic interests beyond the classroom. Regular columns include a look at research by a graduate student, a faculty member and an alumnus.

### CORNELL UNDERGRADUATE SOCIETY FOR NEUROSCIENCE

[www.cusn.org](http://www.cusn.org)

CUSN publishes Cornell Synapse, a journal featuring research in neuroscience by Cornell undergraduates. Published annually, Synapse examines an array of topics such as learning, memory, cognition and courtship through a prism of biochemistry, genetics, physics, mathematics, psychology, behavior and evolution. It aims to promote undergraduate research through a variety of primary research articles, reviews of current research and proposals for research projects.

### HUMAN ECOLOGY RESEARCH ASSOCIATION

[www.human.cornell.edu/che/Academics/Undergraduate/Student\\_Services/honors/Undergraduate\\_Research/HERA.cfm](http://www.human.cornell.edu/che/Academics/Undergraduate/Student_Services/honors/Undergraduate_Research/HERA.cfm)

HERA is a student organization whose mission is to promote undergraduate research in the human ecology disciplines. The programs provide students with outlets to share their research with the Cornell community and help other students find research positions within human ecology.

### CORNELL UNDERGRADUATE INFORMATION COMPETENCY INITIATIVE

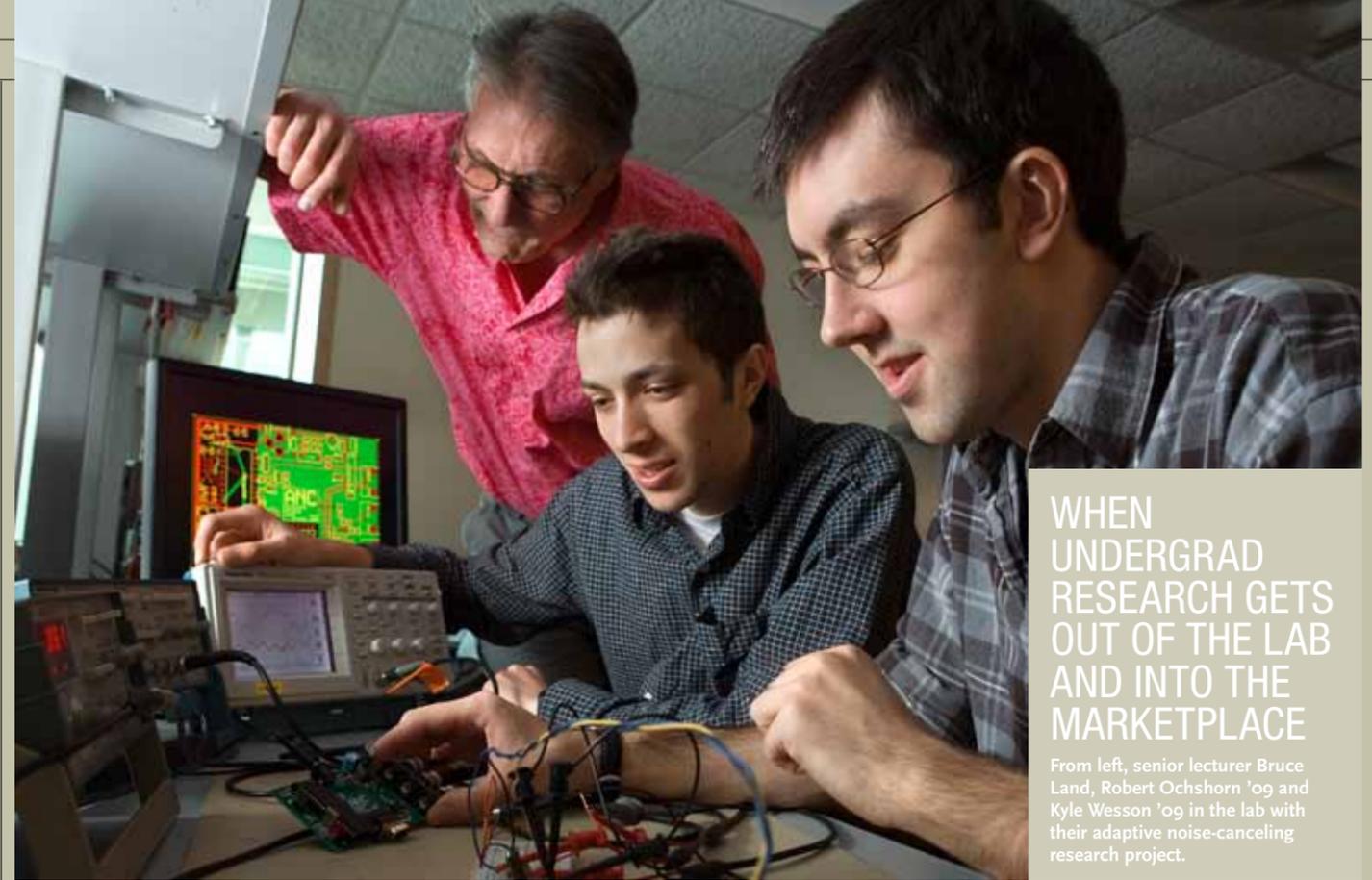
<http://infocomp.library.cornell.edu>

Funded by a grant from Cornell University Library and the Office of the Vice Provost for Undergraduate Education, the initiative encourages faculty to explore creative ways to engage students by integrating research skills into the classroom and curriculum through the redesign and creation of assignments for undergraduate courses.

### THE TRIPLE HELIX

[www.thetriplehelix.org](http://www.thetriplehelix.org)

The Triple Helix Inc. is an international nonprofit organization with 27 chapters involving more than 800 students from the world's most prestigious universities. Together these students are the world's future leaders in science, business and law.



## WHEN UNDERGRAD RESEARCH GETS OUT OF THE LAB AND INTO THE MARKETPLACE

From left, senior lecturer Bruce Land, Robert Ochshorn '09 and Kyle Wesson '09 in the lab with their adaptive noise-canceling research project.

**W**hat's all the noise about undergraduate research? In the case of seniors Robert Ochshorn and Kyle Wesson, a project they developed in engineering design class and then as an independent project has led to Cornell filing a provisional patent application based on their adaptive noise-canceling technology. Ochshorn, a computer science major, and Wesson, electrical and computer engineering, developed a prototype in a five-week design lab, Digital Systems Design Using Microcontrollers (ECE 4760). Then in an independent research option the next semester – with the support of their instructor, Bruce Land, a senior lecturer in electrical and computer engineering – they turned the prototype into a product useful to researchers.

The invention is a low-cost method of canceling noise in electrical signals used to measure low-voltage processes (such as electrocardiogram measurements), in audio recordings from electrical instruments (like guitar “hum”) or when using electronic systems near an AC transformer.

One way to remove this type of noise is to use digital signal processors or field programmable gate arrays, but they are far more expensive than Ochshorn and Wesson's solution, which uses a low-cost microcontroller to monitor the reference signal and output an out-of-phase signal to cancel the noise in analog.

The adaptive noise canceller could be used, as one example, to help neurobiology researchers make sensitive, noiseless measurements.

Using an adaptive filter for noise cancellation is a well-known, well-researched area, says Land. “The cleverness here is in how exactly it was implemented to make it inexpensive and high quality.” Land notes that he often encourages his students to consider the intellectual property implications of their projects. “There are one, two or three every year that seem to me both interesting and unique. This one struck me in that way.”

At Land's suggestion, Ochshorn and Wesson submitted a patent disclosure last fall to the Cornell Center for Technology Enterprise and Commercialization, which handles intellectual property and patent applications for Cornell-owned inventions. In January, they were notified that CCTEC had decided to file the provisional patent application based on their work.

Martin Teschl, CCTEC's technology commercialization and liaison officer, said that while it's not unusual for undergraduate research projects to result in invention disclosures, CCTEC rarely files a provisional patent application – which gives Cornell a year to explore the marketable opportunities for the invention – on student projects.

One reason is that nearly all undergraduate research that comes out of the labs or classrooms isn't actually owned by Cornell. “Under Cornell's inventions policy, Cornell only owns inventions made by its employees, and undergraduate students aren't considered employees,” he says.

Cornell would only have ownership of a student invention or a claim to that intellectual property if research grants were used directly in the research, or if the students made what is called “substantial use” of Cornell facilities that wouldn't normally be available to them or that wouldn't be available to any other student in the class.

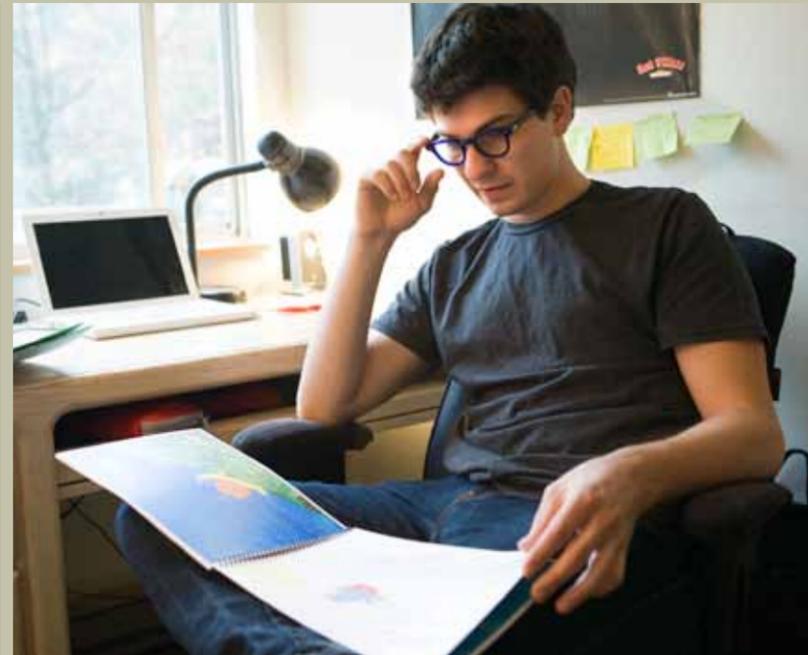
Ochshorn and Wesson, however, agreed to be treated as Cornell inventors, thus giving the university ownership. The benefit to the students “is that Cornell pays for the patent [application],” Teschl says, “and, through CCTEC, provides professional services related to our efforts in protecting and commercializing the invention.”

For the students, the rewards are more in the research than the product. “One of the best parts of the whole experience has been getting to apply the theory we're taught in class,” says Wesson.

– Joe Wilensky



Top: From left, Sarah Elizabeth Long '09 at work with environmental engineering professor Christine Shoemaker and fellow student Paul Muller. Long has researched managing water quality through sensor networks and weather forecasts.



Above left: Anthony Auletta '10 studies social behavior of huntsman spiders in senior research associate Linda Rayor's lab (one of these spiders graces the cover of this issue of Ezra). Left: Hekia Bodwitch '09, left, in a human ecology lab with local students last summer during the filming of an episode for the PBS children's show "DragonflyTV." In the episode, which will air in April, Bodwitch appears as a guest scientist and demonstrates how socks made with silver nanoparticles can kill bacteria. Bodwitch conducts undergraduate research on nanoparticles with Juan Hineostroza, assistant professor of fiber science and apparel design. Above: Sammy Perlmutter '10 researched themes in children's picture books and ultimately designed and illustrated one of his own.



## RESEARCH EXPERIENCE IS VITAL FOR QATAR PRE-MEDS



Sara Buhmaid, now a first-year medical student at Weill Cornell Medical College in Qatar, was one of 12 WCMC-Q students to spend the summer of 2008 doing research on Cornell's Ithaca campus. Buhmaid's work involved mapping a gene in the worm *C. elegans*. "It's been very positive," she said of the experience. "I definitely have research in my future."

At Weill Cornell Medical College in Qatar (WCMC-Q), students in the two-year premedical program have daunting amounts of information to absorb in an ultra-condensed curriculum. But even so, exposing the students to research has been a goal since the beginning, says David Robertshaw, professor of biomedical sciences emeritus and former WCMC-Q associate dean.

Robertshaw established a program in 2003 that brings second-year WCMC-Q premedical students to Ithaca every summer for research in labs across campus.

The program was designed to introduce the pre-meds to the spirit of inquiry, according to Robertshaw: to allow them to explore their own interests instead of simply being fed information, and to gain an appreciation for the collaborative nature of scientific research.

"That's an important point – collaboration – because that's what research these days is all about," Robertshaw says. The program, which links the Qatar students with Cornell undergraduates doing research in the biological sciences supported by the Howard Hughes Medical Institute, has gotten rave reviews from students and faculty alike.

The laboratory is also a perfect setting for cross-cultural diplomacy, Robertshaw adds, with students from Qatar, the United States and dozens of other countries and backgrounds working together toward a common research goal.

Sara Buhmaid, a first-year medical student at WCMC-Q, was one of 12 doing research in Ithaca last summer in the pre-med program. The project, which involved mapping a gene in the worm *C. elegans*, gave her insight far beyond the staged labs of a chemistry or biology class, she says.

"We studied all the principles [in class], but when you're actually doing the research all the little details become very important," Buhmaid said. "I definitely have research in my future."

– Lauren Gold

Linda Rayor's spider biology class. "His lecture on scorpions was out of sight – it was a wonderful talk," says Rayor. "The truth is he knew far more about scorpions than I did. My scorpion lectures have been based on book learning, while his lecture had a large component of personal experience."

In the College of Engineering, nearly 50 percent of undergraduates do hands-on research in faculty labs, working for a semester, a summer or longer. The college's Engineering Learning Initiatives office makes it easy for students to connect with faculty by providing structured opportunities for undergraduate research.

"Getting their feet wet in academic engineering research is really powerful for our students," says Lisa Schneider, ELI director. "It does amazing things for their lab and research skills, as well as giving them confidence and a sense of their own capabilities."

ELI works with the Intel Foundation and others to fund undergraduate engineering research projects. One of Intel's goals is to retain students in science, technology, engineering and mathematics disciplines and foster their interest in pursuing graduate degrees in these fields. "Our own self-interest is in ensuring that we have an ongoing supply of brain power to stay at the leading edge of the semiconductor and information technology industry," says Intel Foundation's Kimberly Sills. "But it's much bigger than that. It's about investing in a global future we all share."

Part of that future is in the hands of senior Sarah Elizabeth Long, whose summer work was partially funded by Intel. "I didn't expect to be involved in such big-deal research," says Long, a civil and environmental engineering major. She worked on a project run by professor Christine Shoemaker for the U.S. Department of Agriculture on using sensor networks with weather forecasts and watersheds to manage water quality.

"We are looking at sustainability issues," says Shoemaker, because storms add more phosphorous to the water supply than evenly distributed rainfall. "So we are looking at thousands of weather files to understand not only the total amount of rainfall but also the timing and magnitude of high-flow events."

"It felt good to know I could contribute to results that will ultimately help people," Long says. The experience was beneficial to her personally, too. Doing some real-world data analysis "will help me decide whether I want to go into the computational and theoretical side of engineering or do more hands-on, applied work."

In the College of Arts and Sciences, art history major Sammy Perlmutter '10 says he feels the same way, even though he is doing an entirely different kind of research. With support from the Einhorn Discovery Grant, established by Cheryl Strauss Einhorn and David Einhorn (both '91), Perlmutter completed an independent study project on some of the major themes in contemporary children's picture books.

Although Perlmutter did valuable research exploring the relationship and interaction of postmodernism and critical literacy, perhaps his ultimate achievement was writing, illustrating and designing a children's book of his own, "This Little Snail Climbs the Mountain," which has yet to find a publisher. Important research, yes, but as Perlmutter admits, "Now I'm mainly just focused on how much fun it is." ■

"[I was] sitting at a Baltimore Orioles game on a beautiful spring night with Andrew Stifel. End of the ninth inning, the Orioles win. I turn to Andrew and say, 'Truck?' He thinks for a moment, nods, then we get into his car only to arrive on Stewart Avenue around 4:15 a.m., just before Bob pulls out. We took our cherished, hot sandwiches back to the car, drove up to the Straight, got out and ate them in front of McGraw Tower. We finished, sang the alma mater, got back in the car and drove home."

— ERIC SKOLNICK '90



"What I remember most about Bob was his unfailing sense of fairness. The truck was often mobbed, and the customers never formed any kind of organized line. But Bob always knew who showed up when, and if you tried to call out an order before someone else who had been waiting longer than you, he would ignore you until he determined that it was your turn. I still don't know exactly how he did that, but he managed to teach all of us about the meaning of fair play and honesty."

— GENEVIEVE (MURPHY) NELSON '85



## Cold nights and warm memories: Customers, friends remember 'Hot Truck Bob' Petrillose



For thousands of Cornell students and alumni who ever stood shivering in line at the Hot Truck, a legend has passed. Robert C. Petrillose Sr., known to generations of patrons as "Hot Truck Bob," died Dec. 8 in Elmira. He was

77. For 40 years until his retirement in 2000, Petrillose owned and operated the Hot Truck on Stewart Avenue, where he served hot subs seven nights a week from 10 p.m. until as late as 5 a.m.

Hungry, stressed-out college students relished the taste of the quirky menu items that were Hot Truck staples. Even the names made you hungry: the Poor Man's Pizza (French bread with tomato sauce and cheese), the MBC (French bread with two homemade meatballs, tomato sauce and cheese) and the Crazy Korean (garlic bread with homemade hot sausage, mushrooms, hot peppers and onions).

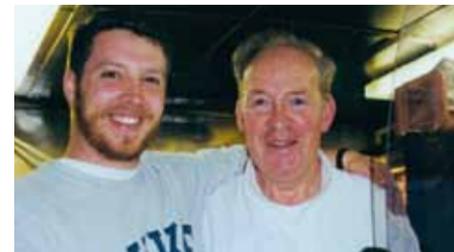
Remembrances of Petrillose and the Hot Truck piled up on Facebook (the group Johnny's Hot Truck, created by Dan Milstein '91, with 1,511 members and counting) and were posted on an alumni affairs tribute page.

Included here are just a few of the tributes to Petrillose offered by former students, customers and co-workers. An alumni memorial service for Petrillose is being planned for Reunion Weekend in June.



"Back in the winter of 1993, Cornell closed for the first time in decades due to a massive snowstorm. More than two and a half feet of snow fell, and when Sunday came around, the snow finally stopped, and it was time to begin digging out. I'll never forget walking over to Bob and Sharon's house on Pleasant Grove Road with 20 of my KDR brothers. Everyone chipped in to shovel their long driveway while Bob and I began making subs in the truck. I am not sure who was more appreciative — my brothers, who got to have Hot Truck for dinner — or Bob, for helping him get out of his driveway so that he could be at his usual spot on Stewart Avenue. What amazed me about that day was how important it was for Bob to be out that night. It wasn't about missing a night of business — it was about being there to serve the students."

— TOM LAFALCE '94



Lehmann with Petrillose

"Bob had the most disarming smile I've ever seen. It could make the coldest Ithaca night a few degrees warmer. What amazed me most is that everyone got his smile. If you arrived to the truck after we cleaned every surface and started the engine, he would smile, turn on the ovens and make you a sandwich exactly how you wanted it. If you didn't do as well on a prelim as you had hoped, he would smile at you and say, 'I know you're a smart person, you'll show 'em next time.' If you had one too many at the Palms, he'd smile and know that an MBC was just what you needed."

— ERIK LEHMANN '95, who worked on the truck for seven years and then moved to Boston to open PMP: The Original French Bread Pizza

"I began working for Bob during my senior year at Cornell, and whether it was a hot evening in August or a cold night in December he always arrived at West Campus with a smile. As we would work side by side, he would share stories about his life, from his start at his father's restaurant to raising his children with his wonderful wife. Even more so, he cared about us — all of us — all the students, friends and alumni who would spend many nights waiting outside his truck."

— MARGUERITE DUANE '92

"Bob was a great man. He was only selling sandwiches, but he handed out so much more. ... [He] will be missed, but I take a part of him wherever I go."

— BRAD H. RICHARDS '80

"I arrived at Cornell from Philadelphia in January 1979. I stood in the snow for my first visit to the Hot Truck and naturally ordered a 'cheesesteak hoagie wid' meaning with Cheese Whiz and grilled onions. Bob cracked a smile and said, 'Hello Philly boy. We call them steak 'n cheese subs up here. Don't compare the two sandwiches, just enjoy the one that will be in your hands in a few minutes.' ... My next trip to the truck I ordered a PMP and discovered the blissful marriage ceremony that Bob celebrated between mozzarella cheese and tomato sauce so many times each night."

— THEODORE SEALE '83



"I'll remember Bob more for his kindness and generosity than for his delicious late-night meals. Bob was even kind enough to provide a ride home to our fraternity in the Hot Truck one night after a friend injured an ankle. 'Hold onto the handle,' we were instructed, as he slowly wound his way down Cayuga Heights Road in the early morning hours."

— CHRIS MILLER '93

"My family has known the Petrillose family since my father and mother came to Cornell in 1928 and 1929 and settled in Ithaca after graduating from Cornell. From the days of Johnny's Coffee Shop and Grandpa Joe to Johnny's Big Red Grill in the early '50s, we were customers; friends and I worked at Johnny's alongside Bob and tended bar during college. I was the other guy in the truck on that first night in 1960. We planned to move around but only made one stop as the truck was overwhelmed by the horde of students who'd gladly wait more than an hour for a pizza. All we had was a cigar box to hold the money, and we just started throwing the money on the floor, and it accumulated up to our ankles."

— ROBERT FABBRICATORE '66

# Second act: Cook House alumnae return as graduate resident fellows

**C**hizoba Ekemam '07 was one of the first students to live in Alice Cook House. Now she spends her days helping a new generation of residents benefit from all the West Campus House System has to offer. Ekemam is one of three house alumnae who are the first to return as graduate resident fellows.

She is joined by Margaret (Lesch) Adams '08 and Ioana Vartolomei '06, who say their new roles as academic mentors to undergraduate residents give them a fresh perspective on Cornell's approach to residential life.

The alums' return signifies the maturation of the West Campus system, according to Ross Brann, Cook House dean.

"They offer academic support to our residents in their areas of expertise as well as résumé workshops and the like," Brann says. "As they are closer in age and experience to the undergraduates, they also have the opportunity to develop unique relationships with the residents, and they look out for their well-being."

Vartolomei, a doctoral student in French literature, lived in the Language House within Cook House as an undergraduate. In her senior year she became a member of the Cook House forum, a group that meets weekly to plan programs and activities with residents' input. She says the intellectual energy there impressed her. She started attending activities planned by other residents and soon was planning her own events, including a faculty panel on the riots in France in October 2005.

"More than 100 people showed up who came from all over campus," says Vartolomei. "I had never done

anything like that before, and it was very encouraging. Now, I'm on the other end, and I'm trying to help students organize those types of activities."

Ekemam, a second-year law student, has organized information sessions for residents interested in careers in law or public service.

"I think the best part of being a graduate resident fellow is being around all the students, being able to share with them my experiences here as an undergrad and also my experiences in law school, particularly for those students who are interested in going into law or into a career in government," she says.

For Adams, who studies education, the best part is helping residents cope with the rigors of attending an academically demanding institution. "I want to be a teacher, and when you're in the classroom you can't control what's going on with the students at home – you just have to do the best you can with them at school," Adams says. "But being a graduate resident fellow, it's the other way around. I've got 59 residents, and Alice Cook House as a whole has more than 300 students. We actually have some power to influence their home lives, to make their experiences very positive and to support them academically and socially."

**The oldest of the five West Campus residences, Alice H. Cook House first welcomed students in 2004. The house is named for the late Alice H. Cook (1903-1998), a professor at the School of Industrial and Labor Relations and one of the first scholars to address working women's issues, such as equal pay, comparable worth and maternity leave. For more information on the Residential Initiative at Cornell, see [www.campaign.cornell.edu/residential](http://www.campaign.cornell.edu/residential).**



Ross Brann, house dean for Cook House, right, and Laura Autumn Floyd '09 during Faculty Night at Alice Cook House in March 2008.

"I THINK THE BEST PART OF BEING A GRADUATE RESIDENT FELLOW IS BEING AROUND ALL THE STUDENTS, BEING ABLE TO SHARE WITH THEM MY EXPERIENCES HERE AS AN UNDERGRAD AND ALSO MY EXPERIENCES IN LAW SCHOOL, PARTICULARLY FOR THOSE STUDENTS WHO ARE INTERESTED IN GOING INTO LAW OR INTO A CAREER IN GOVERNMENT."

– CHIZOBA EKEMAM '07

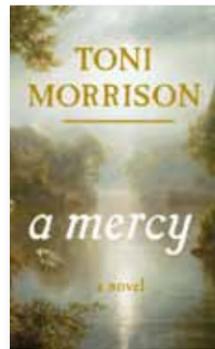


From left, Chizoba Ekemam '07, Ioana Vartolomei '06 and Margaret (Lesch) Adams '08, pictured in Alice Cook House, each say their positive experiences as residents of Cook House greatly influenced their decisions to apply for graduate resident fellowships at the West Campus house. Ross Brann, Cook House Professor-Dean, says their return marks the maturation of the West Campus House System.

Below: Alice H. Cook House



# Celebrating 105 years of creative writing



Cornell writers – both famous and lesser-known – are in the limelight throughout 2009, with “The Centennial Celebration of Creative Writing at Cornell,” a yearlong series of events celebrating the work of alumni and faculty writers.

Cornell first offered creative writing courses in 1905 as part of the English department curriculum. Since then, the university has counted many literary greats among its faculty and former students, including E.B. White, Thomas Pynchon, Kurt Vonnegut Jr., A.R. Ammons, Vladimir Nabokov, Lorrie Moore, Robert Morgan, Susan Choi, Pulitzer Prize winners Junot Díaz and Alison Lurie, and Nobel laureates Toni Morrison and Pearl S. Buck. (For a complete list, see [www.writers.cornell.edu](http://www.writers.cornell.edu).)

Above: Cornell’s current Creative Writing Program faculty, pictured in Goldwin Smith Hall’s Pale Fire Lounge, includes, left to right: Helena María Viramontes, Stephanie Vaughn, Phyllis Janowitz, Kenneth A. McClane Jr., Michael Koch, Alice Fulton, Lyrae Van Clief-Stefanon, John Robert Lennon, Ernesto Quiñonez and Maureen McCoy.

Graduate students in the program are nurtured as artists, and first-year M.F.A. students receive a tuition waiver and a stipend for their work on Cornell’s 62-year-old literary magazine, *Epoch*.

“Most of them stay on as readers for us after they get their degrees,” said *Epoch* editor Michael Koch.

Fiction and poetry first appearing in *Epoch* has been picked up for inclusion in major anthologies, and some short stories have also won O. Henry awards.

“The program is just getting stronger and stronger, in part because *Epoch* is doing phenomenal work,” said Creative Writing Program Director Helena María Viramontes.

Fiction writer Díaz, M.F.A. ’95, is one of the most recent of the program’s literary success stories; he paid a two-day visit to campus in February to kick off the celebration. Díaz received the Cornell Council for the Arts’ Eissner Artist of the Year Award Feb. 19, delivered a solo reading at the Herbert F. Johnson Museum of Art and participated in a Centennial Reading in Rockefeller



Toni Morrison

Junot Díaz

Archie Ammons

Melissa Bank

Robert Morgan

Alison Lurie

Hall with two creative writing alumnae: Melissa Bank (“The Girls’ Guide to Hunting and Fishing”) and Julie Schumacher (“Black Box,” “An Explanation for Chaos”). Díaz, Bank and Schumacher also signed books and met with students and faculty.

Díaz wrote most of his first collection of short stories (“Drown,” published in 1996) while in the Creative Writing Program at Cornell. He also was part of a student effort to improve Latino studies at Cornell in the mid-1990s.

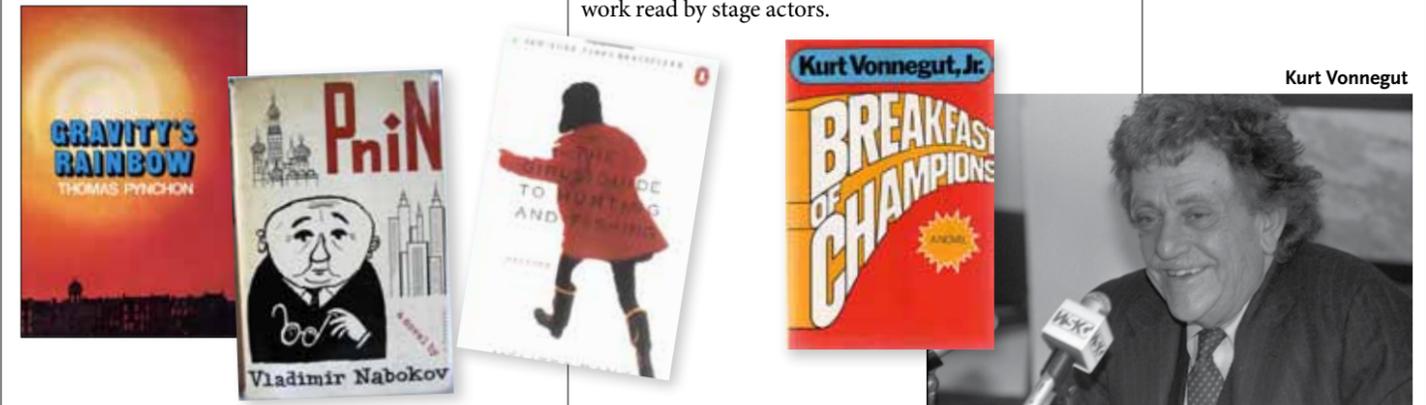
The Dominican-American author won the 2008 Pulitzer Prize for fiction and the 2007 National Book Critics Circle Award for fiction for his debut novel, “The Brief Wondrous Life of Oscar Wao.”

“This is not just a writing program that develops M.F.A.s,” Viramontes said. “This is a writing program that nurtures incredible talent – people who engage in the social sciences and engage in politics.”

The Centennial Readings are a continuation of a program-sponsored reading series, offered each semester and supported by a gift from two anonymous alumni donors. The readings “have given us the opportunity to bring in these huge names,” Viramontes said. “They meet with undergraduate students, and they really enrich and engage and create this ambience around them.”

All readings in 2009 will feature accomplished alumni writers. The second Centennial Reading, on Feb. 26, welcomed back to campus fiction writer Helen Schulman and poets Emily Rosko and Lisa Steinman.

The next such event is on April 16 in Goldwin Smith Hall’s Hollis E. Cornell Auditorium, with poet Crystal Williams and fiction writers Stewart O’Nan and A. Manette Ansay.



Kurt Vonnegut

Other events in the celebration include two community readings by more than 40 local writers, March 26 and Oct. 22 at the State Theatre in downtown Ithaca; and a publication party on campus April 2 for new books by faculty members J. Robert Lennon, Kenneth McClane, Jonathan Monroe and Lyrae Van Clief-Stefanon. All events will be free and open to the public.

Current faculty members in English and creative writing are closely involved in the centennial events. Molly Hite is offering her course on “The Great American Cornell Novel” this spring, featuring many of the authors mentioned here; and a March 4 “Cornell Scholars on Cornell Writers” panel discussion included Hite’s presentation on Thomas Pynchon. That event also offered talks by Robert Gilbert on the work of A.R. Ammons and his influence on Cornell English faculty members Alice Fulton and Kenneth McClane, and Mary Pat Brady on Latin American writers Manuel Muñoz (M.F.A. ’98) and Loida Maritza Perez.

Muñoz, who won the prestigious Whiting Prize in 2008, gives no small credit for his development as a writer to Cornell and to Viramontes.

After graduation from Harvard University, “I wound up at Cornell and ... the woman I now consider my literary godmother stepped in and helped me shape what has become my work. Helena María Viramontes, above all others, has been the single most important person in my writing life, and I count myself lucky that her presence at Cornell kept me confident and calm. ... You’ll have to come to a reading to hear how she phoned my mom (!) after I dragged on about accepting the offer to attend Cornell in the first place.”

The celebration will not be a strictly local one. Cornell authors will also be featured on Public Radio International’s “Selected Shorts” this spring, with their work read by stage actors.

“I WOUND UP AT CORNELL AND ... THE WOMAN I NOW CONSIDER MY LITERARY GODMOTHER STEPPED IN AND HELPED ME SHAPE WHAT HAS BECOME MY WORK.”

– MANUEL MUÑOZ, M.F.A. ’98

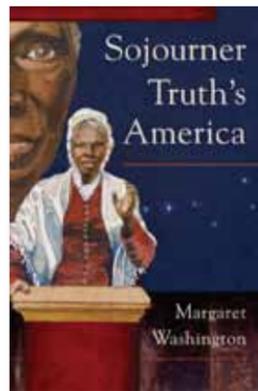
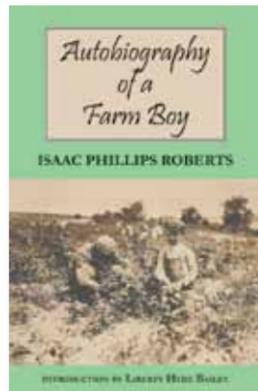
# Books from faculty and alumni explore Truth, birds and the art of reading



## From Bailey, green writings and an intro

Two new books from Cornell University Press (CUP) involve the history of the College of Agriculture and Life Sciences and two of its most important historical figures. “Liberty Hyde Bailey: Essential Agrarian and Environmental Writings” (2008), edited by Zachary Michael Jack, is the first anthology of the seminal writings by the legendary Cornell professor and dean of the Cornell Agriculture College from 1903 to 1913. It offers a comprehensive introduction to Bailey’s revolutionary thinking on the urgent environmental, agrarian and educational issues of his day – and our own.

In 1946 Bailey also provided the introduction to “Autobiography of a Farm Boy” (2009) by Isaac Phillips Roberts, who was a professor of agriculture at Cornell from 1873 to 1903, first dean of the faculty of agriculture and director of the Cornell Experiment Station. This book was originally published in 1916, reprinted by CUP 30 years later and is now back in print under CUP’s “Fall Creek Books” imprint, which is dedicated to reviving classic books documenting the history, culture, natural history and folkways of New York.



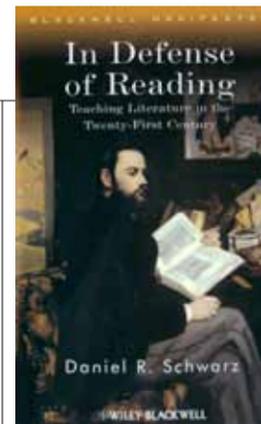
## Through the eyes of Truth

“Sojourner Truth’s America” (University of Illinois Press, 2009) by Cornell history professor Margaret Washington and slated for release in April, tells the story of 19th-century America through the life of Truth, a slave who became an unlikely anti-slavery activist. Washington unravels Truth’s world within the broader panorama of slavery and abolition. Organized chronologically, the book examines the dynamics of Truth’s times, beginning with her spirituality and early life as a slave. Washington traces Truth’s

awakening during the progressive surge that propelled her ascendancy as a rousing preacher and political orator despite her inability to read and write. For Truth, the significant model for the vision of the common humanity she embraced was a primitive, prophetic Christianity.

## Pleasure reading

An eloquent defense of the pleasure of reading literature is the heart of Daniel Schwarz’s “In Defense of Reading: Teaching Literature in the Twenty-First Century” (Wiley-Blackwell, 2008, one of the books in the “Blackwell Manifesto” series featuring leading critics).



The book explores why we read, how we read and what we learn from reading imaginative literature. Schwarz, the Frederic J. Whiton Professor of English at Cornell, based the book on his “experience as a teacher, faculty member and scholar-critic at Cornell these past 41 years.” He said writing the book not only gave him a chance to “articulate my ideas about reading, teaching and critical and scholarly writing – and the crucial interrelationship among all three – but also to argue for the place of traditional reading projects in the digital age.

“I think that my present and former students – and perhaps other Cornellians who have majored in the humanities or taken some literature courses – will smile when they read about my teaching and reading philosophies,” he said.

## Seven birdsapes, all atwitter

A new pop-up book, “Birdsapes: A Pop-Up Celebration of Bird Songs in Stereo Sound” (Chronicle Books LLC, 2008) by Miyoko Chu, director of communications at Cornell’s Lab of Ornithology, celebrates diverse bird sounds in contrasting landscapes through art (illustrations by Julia Hargreaves) and audio.

Opening the book triggers 45 seconds of stereo bird songs and calls of recordings recently acquired by the lab’s Macaulay Library.

The book’s seven elaborately engineered, full-color pop-ups depict dozens of bird species in such North American habitats as grasslands, the Sonoran desert, an eastern deciduous forest, a Pacific seabird colony, the Arctic tundra and a cypress swamp.

Chu, author of “Songbird Journeys: Four Seasons in the Lives of Migratory Birds,” includes text about various birds’ fragile ecosystems. “We included the sounds of nocturnal fork-tailed and Leach’s storm-petrels recorded on Saint Lazaria Island near Sitka, Alaska, just last year. Our recordists lay in sleeping bags with microphones as the air and ground pulsated with the sounds of storm-petrels flying overhead and courting in the burrows below,” Chu told Amazon.com.

O magazine, published by Oprah Winfrey, called the book “a chirping, twittering, cawing, trilling love of a pop-up book.”

The 18-page book retails for \$60 and comes with batteries – and an off switch.

## Fathers demanding rights

A new book by Jocelyn Elise Crowley ’92 explores the fathers’ rights activist movement in the United States. “Defiant Dads: Fathers’ Rights Activists in America” (Cornell University Press, 2008) has been featured – unusual for a university press title – on such programs as “Imus in the Morning” and Fox News’ “Hannity and Colmes.”

Crowley says this burgeoning rights movement gives voice to men who claim that with the breakdown of their own families they have been deprived of access to their children. The mostly white, middle-class rights groups examined by Crowley protest current child-support

and child-custody policies and advocate on behalf of legal reforms that will lower fathers’ child-support payments and help them obtain automatic joint custody of their children.

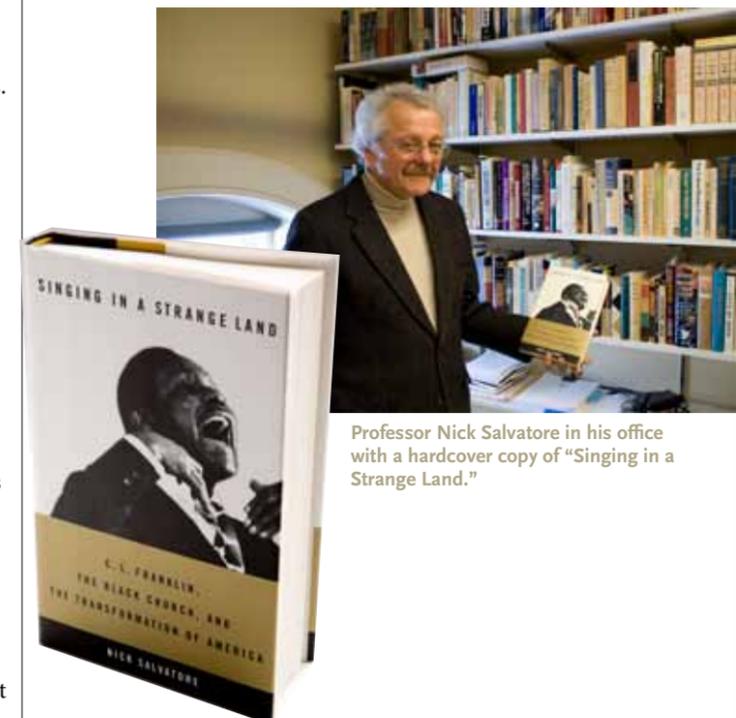
The author offers a balanced examination of these groups, based on interviews with more than 150 fathers’ rights group members, observations of group meetings, and analyses of rhetoric and advocacy literature.

## What did Aretha give Barack on Inauguration Day?

What was in the beautifully blue-bowed box for President Barack Obama? On Inauguration Day, Jan. 20, Aretha Franklin presented Obama with 17 recorded sermons on CDs from her father (Rev. Dr. C.L. Franklin’s collection of homilies recorded at the New Bethel Baptist Church in Detroit, where he was the pastor for 38 years), a small bible engraved with a personal message and a copy of her father’s biography, “Singing in a Strange Land: C.L. Franklin, the Black Church and the Transformation of America” (Little Brown & Company, 2005) by Nick Salvatore, author, historian and ILR School professor at Cornell. The copy presented to Obama was signed and inscribed by Salvatore for the occasion.

While Salvatore did not want to divulge the exact wording of his inscription to the new president, he said it expressed appreciation of how Obama has given renewed meaning to the 137th Psalm, the one that opens “Singing in a Strange Land” and figures prominently at the core of many of C.L. Franklin’s sermons and performances.

“I am deeply pleased that Aretha Franklin included my biography of her father in her gift to the president – and honored at the thought that, when time permits, he may indeed read it,” Salvatore said.



Professor Nick Salvatore in his office with a hardcover copy of “Singing in a Strange Land.”

# CU Winds treks to Philadelphia schools, taking instruments and role models

“THE OPPORTUNITY FOR US TO BE HERE WITH YOUNG AND ENTHUSIASTIC MUSICIANS IS REALLY REMARKABLE FOR US.”

– COLETTE KOPON '09, CU WINDS PRESIDENT

“WE KNEW VERY WELL THAT A POSITIVE MOMENTUM HAD BEEN GROWING FOR ARTS EDUCATION IN PHILADELPHIA PUBLIC SCHOOLS.”

– MATTHEW MARSIT, ASSISTANT DIRECTOR OF WIND ENSEMBLES



Photos on these pages: Philadelphia middle school students rehearse and perform with CU Winds musicians during a three-day project last fall.



**M**ore than 60 student musicians in the Cornell Wind Ensembles (CU Winds) rehearsed and performed with young instrumental music students in the School District of Philadelphia last fall. The three-day music education and outreach project featured the donation of 10 instruments to two Philadelphia middle schools.

The project was coordinated by Matthew Marsit, Cornell’s assistant director of wind ensembles, who has ties to Philadelphia – he taught at Drexel University and studied at Temple University, where he met Dennis Creedon, currently the school district’s director of comprehensive arts education. Creedon’s office was created to revive arts education and offset cuts to arts programs in Philadelphia schools, Marsit said.

“We knew very well that a positive momentum had been growing for arts education in Philadelphia public schools,” Marsit said. “We’ve seen a wonderful growth of programs at these schools.”

On Nov. 17, director of wind ensembles Cynthia Johnston Turner, Marsit and 65 members of CU Winds worked with 55 student musicians from Grover Washington Jr. and Russell H. Conwell middle schools at the Philadelphia school district administration building.

Cornell students led the younger students in seven breakout workshops grouped by instrument or orchestra section, and then sat side-by-side with them in a joint rehearsal – preparing for an evening concert at the High School for Creative and Performing Arts (CAPA), intended to promote music in the schools.

“It is a great benefit for our children to know you not only as mentors but as role models,” said Virginia Lam, a music content specialist for the district’s School Reform Commission, introducing Cornell at the concert.

A “Grand Band” of university and middle school students performed Cornell graduate composer Stuart Duncan’s piece “On Time,” which was commissioned for the occasion. The piece, conducted by both Marsit and Johnston Turner, involved parts played simultaneously by two sections of the combined ensemble.

“The musicians play different material, so that they are never on time or in time,” said Duncan, who was inspired in part by a memory of the cacophony of young musicians in school practice rooms.



The concert also featured fanfares by CU Winds brass players positioned on three sides of the audience in the school’s small auditorium, and four Cornell players accompanying the Washington Middle School drumline on “When the Saints Go Marching In.” CU Winds also performed Cornell songs, among other pieces.

The Philadelphia project is an extension of CU Winds’ outreach mission in Costa Rica, which brought more than 150 instruments, cultural exchange and instruction to schoolchildren during concert tours there in 2006 and January 2008. Some of the larger instruments given to the Philadelphia schools were originally collected for the second Costa Rica trip. (“Music is the gift that keeps on giving,” Johnston Turner said.)

After presenting the instruments at the CAPA concert (including a cello, a trombone and an electric guitar and amplifier), the Cornell group was given an oversized thank-you card signed by the Philadelphia students and educators.

“The opportunity for us to be here with young and enthusiastic musicians is really remarkable for us,” said CU Winds President Colette Kopon ’09.

The next day, CU Winds visited Grover Washington Jr. Middle School for a schoolwide assembly and concert program. The Washington school – named for the late jazz saxophonist who settled in Philadelphia in 1967 – has seen its music programs grow from 30 students to more than 200 students in the past two years, and Conwell is a nationally recognized magnet school, band directors Frank Machos and Robert Fitzgerald said.

A teacher at Washington Middle School was inspired by the concert program to incorporate it into a follow-up lesson in her literature class, which sent notes of thanks to the Cornell students, Marsit said.

“She explained how moved she was by the performance and how she was able to integrate our selections – particularly the Giroux ‘Symphony of Fables’ – into a lesson,” he said.

CU Winds is planning its next outreach tour of Costa Rica for early 2010. For more information, contact Johnston Turner at cpj6@cornell.edu or Marsit at mmm326@cornell.edu.

# 'Why I decided to come to Cornell'



AS A HIGH SCHOOL STUDENT, LEEANN LOUIS '09 DREAMED OF COMING TO CORNELL UNIVERSITY TO STUDY BIRDS.

In fact, she was so in love with the idea that she spent part of her high-school career doing independent research based on the work of Cornell professor Kevin J. McGowan, one of the world's foremost experts on crows.

She calls her selection as a Hunter R. Rawlings III Cornell Presidential Research Scholar "a big part of why I decided to come to Cornell." It also enabled her as a freshman to work with McGowan on his research.

"I had spent so much time reading his papers," she said. "I felt as though I was meeting a celebrity."

Louis' story highlights how research opportunities can affect the school choice of talented students – and the educational experience they receive after they arrive.

Whether students plunge into research programs led by faculty or launch their own independent projects, they face expenses beyond tuition, room and board. The costs of equipment, travel and off-site living also can stand between a student and the pursuit of knowledge. That is why a vital goal of *Far Above ... The Campaign for Cornell* is to increase support for student research. Doing so will provide more



Leeann Louis '09 spots birds with binoculars (top image) and with high-tech cameras (above) during a research trip to Milpe Preserve, a high-altitude tropical forest in Pichincha Province, Ecuador.

Cornell undergraduates with more freedom to explore questions and, in turn, strengthen the university.

Louis has seen her interests evolve in the past couple of years, and now she is working on projects related to functional morphology, or how anatomical features allow animals to accomplish different tasks. For example, she has worked with Kimberly Bostwick, the Cornell Museum of Vertebrates curator for birds and mammals, on studying the unique ability of the club-winged manakin, a small Amazonian bird, to create sound by beating its wings behind its back.

A presidential research scholarship, funded by trustee emeritus Robert J. '53 and Helen '55 Appel, gave Louis the means to visit the Ecuadorian rain forest, where she observed the birds up close and recorded their flight using high-speed cameras, infrared lights and a sound recorder. The research ultimately will contribute to scientists' understanding of bird flight and how the manakin is able to produce tonal sounds without relying on vocal cords.

Faculty often point to such research as an example of how undergraduates' fresh ideas infuse their own work with new energy

and creativity. "Conducting research involves students in the production of knowledge and allows them to work side by side with faculty in an environment of intellectual discovery," said Provost Kent Fuchs.

"They become problem solvers," said Alan Hedge, professor of design and environmental analysis in the College of Human Ecology, who incorporates research into his undergraduate ergonomics course. "That, to me, is really rewarding because those students are going to go on and contribute a great deal to society."

When President David Skorton launched the current campaign in 2006, he described what he called the Cornell formula: "A combination of motivated, prepared students; talented faculty and staff; and the appropriate support structures and mechanisms, all driven by the desire to learn, to help, to solve, to unravel, to change for the better."

Skorton's formula encapsulates the three central priorities of the campaign – students, faculty and facilities. Undergraduate research is one instance where all three converge.

BY BRYCE T. HOFFMAN

## A COMMON VISION LED TO RESEARCH SCHOLARSHIP PROGRAM'S INCEPTION

The Hunter R. Rawlings III Cornell Presidential Research Scholarship program is a testament to what can happen when philanthropists and university leaders stand behind a common vision.

Since an anonymous gift led to its inception in 1996, the program has helped hundreds of undergraduates engage in scholarly research by providing them with up to \$8,000 in research funds to be used over four years.

A little less than half of Presidential Research Scholars also receive supplemental need-based aid through the program, said its coordinator, Kristin Ramsay '88. The program supports about 200 students from all seven undergraduate colleges. Students are notified of their selection at the time of admission, and many point to it as a factor that made Cornell their first choice.

Ramsay says the program's approach to undergraduate research is unusual in its structure and the high number of students it supports. "There isn't a model

nationally," she said. "I've been researching this lately. It's been encouraging to see the uniqueness of this program."

In 2006, the Cornell Presidential Research Scholars program received a major boost from members of the Cornell Board of Trustees who wished to honor outgoing President Hunter Rawlings. His passion for the program led to its being named for him, generating more than 30 gifts in his honor from trustees, trustees emeriti and friends of the university.

"We gave because we admired Hunter's leadership as president and were pleased to have this opportunity to honor him," said Ronay Menschel '64, trustee emerita, who made a gift with her husband, Richard. "One of Hunter Rawlings' significant legacies is the research scholars program that provides a special opportunity for undergraduate students to work with faculty on research. This was one piece of a greatly enriched undergraduate experience for all students."

Since its inception, the program has attracted more than \$5 million in gifts and commitments, including a substantial gift by Ann S. Bowers '59, trustee emerita.

However, a large portion of its yearly budget continues to come from operating funds. The RCPRS has also relied on \$1 million annually in grant support from the Pew Charitable Trusts, which will expire in 2010.

A goal for the *Far Above ...* campaign is to fully endow the program at \$20 million, which would assure its continuation in perpetuity, Ramsay said.

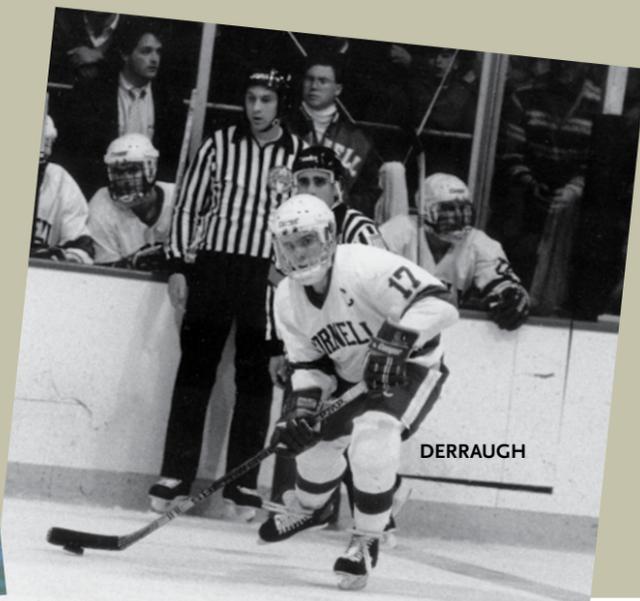
"It has become more and more essential that philanthropic fundraising be directed at financial aid and at scholarships," Menschel said. "I'm pleased that the Cornell Presidential Research Scholarship program exists, and that it carries Hunter's name."

BY JULIE GRECO

# Alumni players who now coach for Big Red



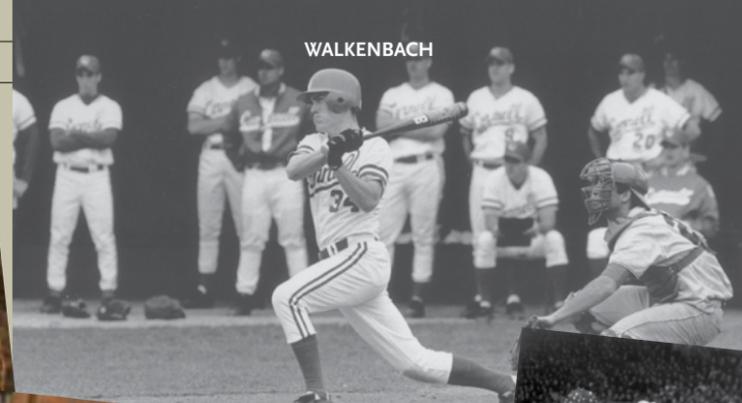
KENNETT (third rower from left)



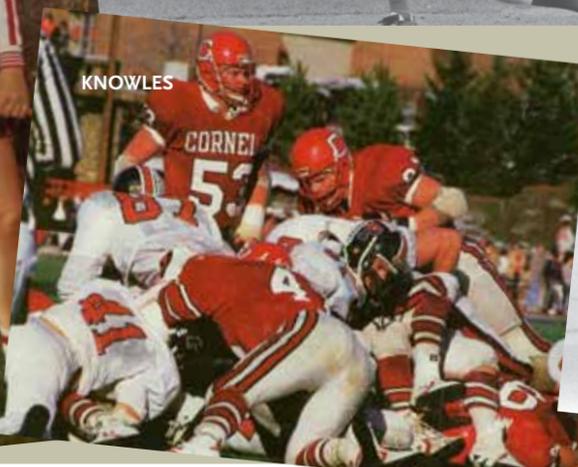
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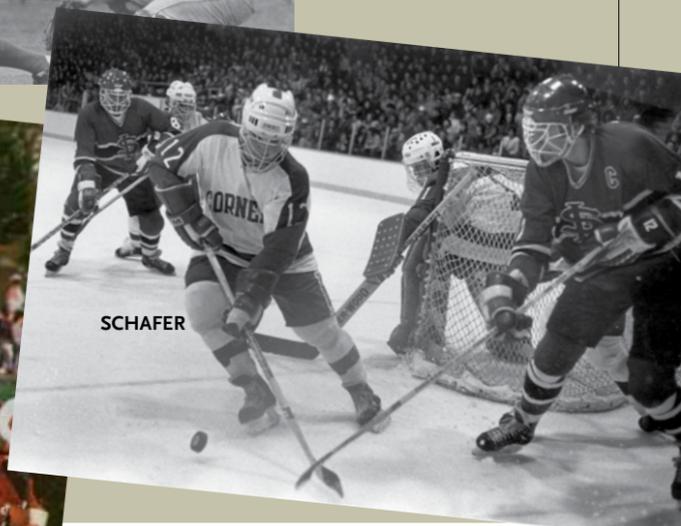
GRAAP



WALKENBACH



KNOWLES



SCHAFER

Every year, more than 1,000 students proudly don uniforms, jerseys, singlets and sweaters with “Cornell” plainly visible in athletic competition. They bring their school identity with them to national championships and Olympic trials, while simultaneously preparing themselves for careers in banking and finance, engineering or labor relations.

But some student-athletes catch the bug – the coaching bug. And some even come home to their alma mater.



## Todd Kennett '91, heavyweight rowing

After 10 seasons as the lightweight rowing coach, Kennett was named the Spirit of '57 Director of Rowing/Heavyweight Rowing Coach last June. As a freshman in 1987, the idea of becoming a coach, or even rowing for that matter, was the furthest thing from his mind.

But a funny thing happened while waiting for registration in Bartels Hall.

“One of the crew coaches came over trying to recruit my roommate,” explained Kennett. “My roommate says, ‘No, I’m playing baseball, but my roommate might be interested.’ And I said, ‘Sure. Whatever.’”

From those humble beginnings, an illustrious rowing career was born.

Under Kennett’s direction, the Big Red lightweights won three consecutive Intercollegiate Rowing Association national titles (2006–2008) and two Eastern Sprints titles (2006, 2008) to go along with four top-three finishes. His boats earned four straight invitations to the renowned Henley Royal Regatta, including a pair of runner-up finishes. His 2008 squad became the first lightweight eight-boat to capture three straight IRA titles.



## Doug Derraugh '91, women’s ice hockey

Derraugh '91, now in his fourth year directing the Big Red women’s ice hockey program, was able to see firsthand the magic of Lynah Rink. Derraugh served as hockey team captain as a senior before beginning a professional playing career in Europe. Derraugh returned to Cornell to coach the women’s hockey program after then-head coach Melody Davidson left to coach the Canadian National Team.

“When working with our team, I feel like I know more what they are going through,” Derraugh explained. “I lived through many of the same experiences and know what it’s like to be in their shoes. When I talk about playing at Cornell, I feel like I am able to really explain our proud hockey tradition. I want to help to continue to build that pride.”



## Jenny Graap '86, women’s lacrosse

When Graap '86 was a member of the women’s lacrosse team, things were a bit different than today. Travel? Vans driven by coaches. Uniforms? Don’t even ask. An eight-time varsity letter winner who played both field hockey and lacrosse, Graap played in an era when women’s athletics were almost an afterthought.

Now, the 2002 Intercollegiate Women’s Lacrosse Coaches Association and Inside Lacrosse magazine national coach of the year has built a program that has recorded nearly every first in program history. The first NCAA tournament appearance in women’s lacrosse? In 2001. The first NCAA Final Four appearance by any Cornell women’s team? That came in 2002. The first Ivy League title in women’s lacrosse? That was in 2007.

“The fact that I’m an alumna is important to me every day on the job,” Graap said. “It’s the reason why I’m here and not somewhere

else. I feel such a sense of pride in the program, and I’m also very invested in my athletes’ futures. I care about their education, and I recruit young women who want to attend Cornell first and play lacrosse second.”



## Jim Knowles '87, football

In January 2004, Knowles got off a plane to accept the Big Red’s offer ... the other Big Red, the University of Nebraska-Lincoln. With new head coach Bill Callahan taking over one of the nation’s most storied football programs, he needed someone to run his defense and special teams, and that person was Knowles. While waiting for the introductory press conference, however, Knowles received a call from Cornell Athletics Director Andy Noel.

“Cornell is one of the most unique universities in everything, including admissions and academics,” Knowles said. “From day one, no one has had to teach me anything about Cornell. I know exactly how things are done. It is the easiest transition I ever made. I’ve been places where I couldn’t give a tour of campus by the time I left. Here, I know the place like the back of my hand.”

“It’s much more than a head coaching job to him,” childhood friend and assistant head coach Clayton Carlin said. “From the first day he stepped on campus his freshman year, he talked about how special this place was. When he decided he wanted to get into coaching, he wanted to do it here. He’s had this vision since 1988, so it’s certainly not just any head coaching position to him. The plan has been in place for a long time ... it’s a decision he made long ago.”



## Bill Walkenbach '98, baseball

The newest member of the fraternity of Cornell alumni to guide their varsity programs,

Walkenbach made his baseball head coaching debut in February after longtime coach Tom Ford stepped aside last summer.

Walkenbach is unique among his fellow alumni in that he is the only one coaching with the man who coached him during his playing days, as Ford will serve as associate head coach. The relationship that was forged during the recruiting process out of high school helps to ensure a smooth transition from one era into the next.

“As an alumnus, I hold the university very near and dear to my heart,” Walkenbach said. “Ithaca and Cornell have become a second home to me and my wife. When the opportunity to return arose, it was a no-brainer for both of us. We love the Cornell community and everything that Cornell represents. It is a great place to raise a family and a fantastic place to work.”



## Mike Schafer '86, men’s ice hockey

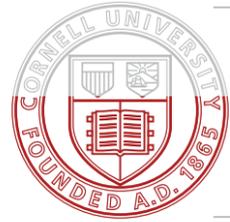
The longest-tenured coach of the group is men’s ice hockey coach Schafer, who took over the Big Red a decade after his playing days ended. Like so many others in this group, Schafer honed his coaching skills as an assistant at Cornell before departing, only to return to East Hill.

When Schafer took over the Big Red, his arrival paid immediate dividends. He became the first Cornell hockey coach to lead the Big

Red to a league title in his first season, a full decade after he won its last league crown as a senior captain in 1986. Fast-forward 14 years, and Schafer now holds the most victories of any coach in the storied program, surpassing the legendary totals of Ned Harkness and Dick Bertrand '70.

“I think that anybody who gets into coaching always hopes they might get a chance to coach where they played,” he said. “Coaching is a tough profession from that standpoint, so I feel very lucky that the opportunity came, and I was able to capitalize on it.”

# Strength in a crisis: Cornell is well positioned to thrive today and in the future



Campaign progress to  
date: \$2.4 billion

**A**s Cornell weathers today's economic storms, two financial resources are fundamental to its continued vitality: the university endowment and the Cornell Annual Fund. Both remain sound. The first provides a source of perpetual support, while the second is a critical source of ongoing operating funds. Together, they form a revenue stream that bolsters the work of our students and faculty.

Even in challenging economic times, the state of Cornell's endowment and annual fund offer encouragement.

Cornell's chief investment officer, James Walsh, reports that while Cornell's endowment is down with the broader market, it remains healthy. Currently, it is valued at more than \$4 billion. This is about 27 percent less than in June 2008. Many of Cornell's peers have announced similar or larger losses over the same period. Taking a longer view, however, Cornell's endowment has increased by an average of 6.7 percent each year over the past five years.

"We are a long-term investor with a perpetual timeframe," Walsh said. "The endowment is structurally strong. We're looking to gain returns for the university over the next five to 10 years, and we think we're in a good position to do that."

In addition, Walsh noted that Cornell is less vulnerable to the market's vicissitudes than its peer universities because endowment returns fund only about 11 percent of the operating budget. Such schools as Harvard and Yale have counted on investment income to provide 30 percent or more of their budgets.

When investments falter, the Cornell Annual Fund becomes even more important. Gifts made to the fund are the principal means of enhancing the university's operating budget, that is, the resources Cornell needs on a day-to-day and week-to-week basis. Put into one perspective: Every \$5,000 in annual fund support has roughly the same buying power in one year as \$100,000 in endowment.

Our alumni, parents and friends continue to make their annual gifts at all levels, which is a real sign of support for Cornell. The annual fund currently stands at \$13.1 million for fiscal year 2009. That pace is in keeping with fiscal year 2008, when the fund raised \$21.5 million.

Many Cornellians share a strong belief that investing in knowledge creation and education promises to make the biggest difference in revitalizing our economy. We believe that is a major reason why more than 31,000 alumni, parents and friends have contributed to the Cornell Annual Fund in this past year and thousands continue to make gifts to sustain our endowment.

Especially during the past six months, as Cornell trustees and as co-chairs of *Far Above ... The Campaign for Cornell*, we have been grateful for and heartened by President David Skorton's fiscal leadership, the stewardship and management skills of Cornell's staff and the continuing dedication of our alumni, parents and friends. Now, more than ever, we need to do everything in our power to provide financial aid for students, recruit and support vibrant faculty, and preserve the strength and character of Cornell.

Stephen Ashley '62, MBA '64, *Campaign Co-Chair*

Jan Rock Zubrow '77, *Campaign Co-Chair*

Robert J. Appel '53, *Chairman, Discoveries that Make a Difference: The Campaign for Weill Cornell Medical College*

LEARN MORE AT [WWW.CAMPAIGN.CORNELL.EDU](http://WWW.CAMPAIGN.CORNELL.EDU)

BY HUNTER R. RAWLINGS III

END NOTE

# The value of undergraduate research

**T**wo decades ago, broad-based, formal programs for undergraduate research were almost unknown at American colleges and universities, and rare was the freshman or sophomore who pursued scholarship or research under the supervision of a faculty mentor. Today, undergraduate research programs are commonplace, and large research universities and small colleges alike trumpet the research opportunities available on their campuses. Why this dramatic change?

There are many reasons, but two of the most important resulted from observations by faculty members: first, that students spent much of their undergraduate careers in large classes, where they had little opportunity for independent work or for meaningful dialogue with the faculty; and that, while the faculty were themselves heavily engaged in scholarship and research, their undergraduate students knew and appreciated very little about what their teachers were doing in the library and the laboratory. To most students, the intellectual life of the faculty outside the classroom was a total mystery. (Today it remains a partial mystery, caused by some professors' allegiance to pre-digital media; at least that's true in my case.)

In the 21st century, enterprising students often begin research work in their first semester at college and continue it throughout their undergraduate careers. And professors increasingly devote lots of time and energy to advising undergraduates on research projects running the gamut of academic disciplines. It is perhaps not surprising that undergraduate research tends to center in the sciences and engineering, where the collegial environment of the laboratory is so conducive to teamwork and natural mentoring. The first college at Cornell to take full advantage of the Cornell Presidential Research Scholars program when it was introduced in 1997 was the College of Engineering. Faculty members in engineering immediately began to sponsor large numbers of freshmen in CPRS and to offer them four years of individual mentorship and opportunities in the lab. Many engineering faculty found undergraduate students eager to participate in the kind of hands-on problem solving that is characteristic of research in the field of engineering. It was not long before the College of Agriculture and Life Sciences, with its similar approach to collaborative research, followed suit.

The departments that took the longest to take advantage of opportunities for undergraduate research were, unsurprisingly, those in the humanities and the arts. These disciplines are marked

IN THE 21ST CENTURY, ENTERPRISING STUDENTS OFTEN BEGIN RESEARCH WORK IN THEIR FIRST SEMESTER AT COLLEGE AND CONTINUE IT THROUGHOUT THEIR UNDERGRADUATE CAREERS.



Hunter Rawlings chats with Varat Intaraprasong '08 at the Rawlings Presidential Research Scholars graduation ceremony, held at the Moakley House during Commencement Weekend 2008.

by a tradition of independent, single-author scholarship and performance, and are characterized by solitary work in the library or studio. In addition, the kind of "apprenticeship" available in the science lab is lacking in the humanities, where scholarly teamwork is rare. Furthermore, most undergraduates, even seniors, are not ready to pursue serious scholarship in the humanities or high-level performance in the arts, even under faculty guidance. They simply do not have the experience with theoretical modes of study or with close textual or visual analysis required to conduct this kind of scholarly inquiry.

Fortunately, some Cornell undergraduates are exceptions to these general rules, and some faculty members in the arts and humanities have started to find them. One distinguished professor of musicology at Cornell, initially skeptical of the idea that undergraduates, particularly freshmen, could carry out serious work in his discipline, became a convert when he found a Cornell freshman who could do astonishing scholarship in the history of music. In fact, he told me, this first-year student was better prepared and more capable than most graduate students he had mentored over a long career. In my own Department of Classics, I have had three undergraduates in the past three years write papers of a quality and level comparable to those achieved by only the best graduate students in the department.

There is something immensely exciting about a young undergraduate student doing high-level research in close partnership with a professor. This form of collaboration is inspiring to both parties: to the student because she is making discoveries at the forefront of a discipline, presenting papers at scholarly conferences and publishing her ideas while still taking introductory and mid-level courses in a wide variety of departments; to the professor because she gains another fine collaborator, and because she has the intellectual and moral satisfaction of helping a young student enter the field to which she has devoted her career. Here's to the value of undergraduate scholarship at a great research university!

Hunter R. Rawlings III, *president emeritus and professor of classics, was Cornell's 10th president (1995-2003) and served again as interim president in 2005-06. In 2006, the Cornell Presidential Research Scholars program was renamed the Hunter R. Rawlings III Cornell Presidential Research Scholars program.*

## SCHOLARSHIPS: GATEWAY TO CORNELL AND THE WORLD



For Ryan Richards '11, a scholarship is the first step in his dream of starting a medical clinic in a developing country.

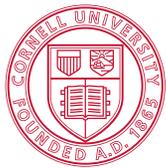


For Stephanie Palacios '11, attending Cornell wasn't even an option without a scholarship.



For alumnus Ruben King-Shaw '83, supporting scholarships helps secure access to education.

This year, Cornell will do more than ever to grow and support student aid. Learn more about alumni who give and the students they support at [www.campaign.cornell.edu/scholarship-aid.cfm](http://www.campaign.cornell.edu/scholarship-aid.cfm).



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