

EZRA



ENGINEERING FACULTY'S CHANGING FACE

COLLEGE, CAMPUS SET SIGHTS
ON INCREASING DIVERSITY
FOR A NEW GENERATION

EZRA

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ON THE COVER
Delphine Gourdon, assistant professor of materials science and engineering and a recent faculty hire, holds up a detail of an 1870 photo showing Cornell civil engineering faculty and students mapping the hill now known as Libe Slope.
Cover photo: Photo by Robert Barker/University Photography; digital postproduction by Matthew Fondeur/University Photography. Surveying upper Libe Slope image: Courtesy of the Division of Rare and Manuscript Collections, Cornell University Library.

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From the publisher

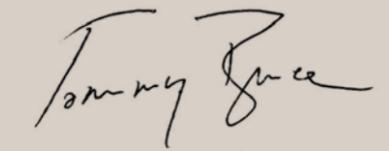
In today's world, and tomorrow's, the most diverse institutions will be the most successful ones. At Cornell, our definition of diversity goes beyond just describing people of different ethnic or cultural backgrounds – it embraces the entire face of America. We think of diversity as also including people of different social and economic backgrounds, of different religions and sexual orientation.

Over the years, Cornell has striven, with increasing success, to broaden the diversity of its student body. But two years ago, as the university began drawing up a strategic plan to take us into its sesquicentennial in 2015, it became clear that a rapidly changing student population required a faculty that reflected these demographic trends. Now we have a game-changing opportunity to put these aspirations into practice: A third of Cornell's faculty is approaching retirement age, and increasing the diversity of the faculty through new hires is a major priority. Cornell's Strategic Plan states our goals as being focused on "gender, racial and ethnic diversity" of all units.

We are already at work to broaden the diverse makeup of our faculty. The university has established a \$100 million fund for hiring 100 new faculty by 2015, with diversity playing a major role in hiring criteria.

This issue's cover story looks at how far one unit of the university – the College of Engineering – has come in increasing the diverse makeup of its faculty, and how much further it intends to go. As Engineering Dean Lance Collins, the first African-American to hold that position, points out, "In a world in which you can bring multiple viewpoints from different backgrounds together, that's a richer environment to be in, for students to grow up in, and for colleagues to interact with each other."

Ezra Cornell must have known that his aspiration to "found an institution where any person can find instruction in any study" would be our guiding light throughout our history – past, present and future. What this issue reveals is how our efforts today might hasten our stride in the years to come.



Thomas W. Bruce
Vice President, University Communications

ENTERPRISING ALUMS

Hot or cold? Thermo-chromic ink business thrives on both



When Lyle Small '93 lived off campus on Willard Way, he used a Ping-Pong table as a workbench for months, testing his evolving recipes for pigments that change color when exposed to light, heat or cold.

While his housemates were annoyed that the table couldn't be used for games, Small says he "amused

them with the weird stuff I was creating down there."

Nearly two decades later, that "weird stuff" has grown into Chromatic Technologies Inc., based in Colorado Springs, Colo., a business with sales approaching \$13 million annually and with 38 employees - and responsible for color-changing ink technology perhaps best known to consumers through the "cold-activated" Coors Light beer cans (the mountains in the logo turn blue when the beer is optimally cold). The technology is being widely used to make consumer packaging stand out.

"I have always been interested in innovation and business, so when a friend introduced me to thermo-chromic materials, I was fascinated and wondered why all consumer goods didn't change colors or interact with people when they used them," Small says. "I have been obsessed with this question, at varying degrees, ever since."

He launched the business a few months before graduation. Small says his experience at Cornell was "crucial in preparing me for life as an entrepreneur. ... I knew that Cornell would not tolerate mediocrity from me or anyone else, and that was invaluable later in my career."

SEEN & HEARD

Robert Lieberman's film 'They Call It Myanmar' reveals the hidden Burma

Filmmaker and senior lecturer in physics Robert H. Lieberman risked imprisonment while making his most recent documentary, "They Call It Myanmar: Lifting the Curtain," shot clandestinely in the former Burma over a 30-month period.

Lieberman shot more than 120 hours of video and interviewed hundreds of people (including opposition leader Aung Sang Su Kyi, who last year was released from 15 years of house arrest by the harsh military regime) to produce the 90-minute documentary - a portrait of the Burmese people and their country, which is mostly unknown to the rest of the world.

"It's a very unusual country because of its isolation, and the Burmese are very different from the rest of Southeast Asians," Lieberman says. "They have an incredible sense of humor, and despite the oppression, they smile, and it's a genuine smile."

Lieberman made four trips to Myanmar, starting with his 2008 posting to the American Embassy in Rangoon as a Fulbright senior specialist, training young directors to produce commercials and public service ads. On a subsequent trip, he taught film production at the fine arts university in Rangoon. Lieberman had others help him smuggle his footage out of the country on hard drives.

Visit <http://theycallitmyanmar.com> for more information.



ESSENTIALLY NYC

Cornell proposes 'transformative' NYC campus

Cornell's New York City footprint may soon grow much larger with the addition of a new applied sciences research center and campus. The campus will be charged with enhancing the commercialization of research and technologies developed at Cornell that will benefit NYC economic development. Answering a call for expressions of interest from the New York City Economic Development Corporation, the university's is one of 18 preliminary proposals from 27 academic institutions and companies planning to respond to a Request For Proposals for the project to be released by Mayor Michael Bloomberg this summer.

"New York City attracts the best and Cornell University is eager to go up against the best," said President David Skorton.

"We welcome the mayor's vision, and we think that this broad and open approach is the best way to identify the most successful potential academic partnership to secure the city's tech future," Skorton said. "We firmly believe that Cornell's combination of academic excellence in engineering and computing sciences, leadership position in the technology industry, and strong existing presence in the city make us an ideal candidate, and that the competitive process will lead to a better outcome for New Yorkers."

The university's presence in New York City is already strong, with over 50,000 alumni, approximately 5,000 employees, a world-class medical facility and many college programs, making it the natural partner for New York City.

This universitywide initiative is being led by President Skorton, Provost W. Kent Fuchs, Dean of the College of Engineering Lance Collins and Dean of Computer and Information Science Dan Huttenlocher.

Follow our progress at www.nyc.cornell.edu.



CORNELL PEOPLE

Bill Vanneman '31 dies at age 102

William "Bill" Vanneman '31, who helped organize - and was planning to attend - Cornell's first 80th class reunion in June, died April 26 at age 102.

Vanneman, of Cape Cod, Mass., had served as president of his class since his graduation eight decades ago and had become an annual fixture at Reunions.

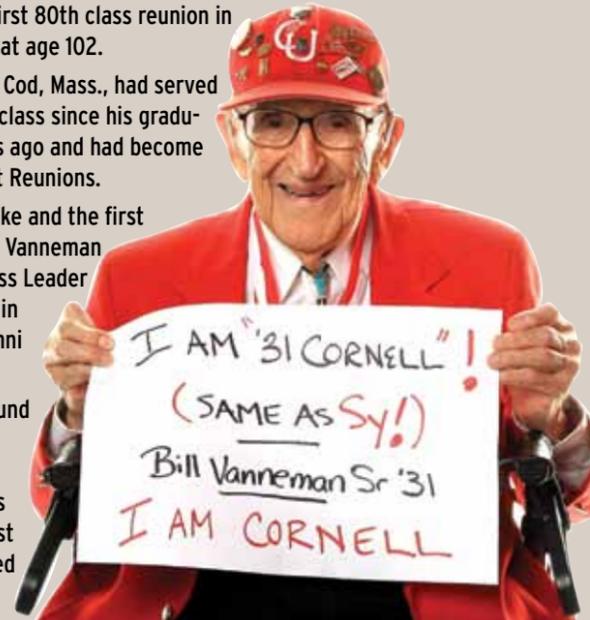
He was the namesake and the first recipient of the Bill Vanneman '31 Outstanding Class Leader Award, established in 2005 to honor alumni service.

When Vanneman found out in 2005 that the Class of 2000's treasury was low as they faced their first Reunion, "he jumped in on behalf of his own Class of '31 to prop up our reunion funds," recalls Andrea Wasserman '00.

"Bill's Cornell pride and enthusiasm were contagious," Wasserman says. "I'll never forget his jovial nature and his affinity for dressing in full Cornell regalia at every event. I'm crushed to learn of his passing and grateful that his spirit and generosity will live on. Personally, Bill inspired me to look for ways to help future generations of Cornell alumni."

Vanneman had planned to join classmates Rosemary Hunt Todd and Ethel Bache Clark at Reunion. The Cornell Vanneman legacy includes Bill's sons, William Vanneman Jr. '65 and Reeve Vanneman '67; his daughter-in-law, Jane Wallace Vanneman '68; his granddaughters, Michelle Moore Vanneman '89 and Kara Vanneman Klein '89, and Kara's husband, Kenny Klein '87. His father, C. Reeve Vanneman, was a member of the Class of 1903.

Share your memories of Vanneman (pictured above at Reunion 2010 during his "I am Cornell" photo shoot) at <http://alumni.cornell.edu/vanneman>.



OFF THE PRESS

Campus mural artist Kingsbury rediscovered in new book

Jillian Piccirilli '08 has formed a close relationship with a woman she'll never meet: the late Alison Mason Kingsbury, an accomplished artist, dedicated Ithacan and wife of Cornell historian and professor Morris Bishop.

Alison Jolly, the artist's daughter, began working with Piccirilli in 2008 to create a catalog of her mother's work that grew into a book, "The Art and Life of Alison Mason Kingsbury," published by Cornell University Library.

Although Kingsbury (1898-1988) wasn't a Cornell graduate - her father, who earned an engineering degree from Cornell, said he "didn't approve of the way the co-eds were treated during his day," Jolly noted - she was unquestionably a Cornellian, creating some of the most recognizable artwork on Cornell's campus. They include murals at the Gannett Health Clinic, Willard Straight Hall and the World War I Memorial.

"Although her art on the Cornell campus is very public, she is really not recognized, and she is an extraordinary artist," Jolly said.

The book contains about 80 illustrations and photographs and is supplemented by an online database with more than 500. Piccirilli estimates that Kingsbury's entire body of work totaled about 1,500 items. The library's Division of Rare and Manuscript Collections holds a large collection of her work, including original sketches and illustrations of some of her husband's books and several Works Progress Administration projects. She also created illustrations for the 10th edition of the Fannie Farmer cookbook, published in 1959.



AROUND CAMPUS

The scoop on Stocking Hall

Instead of shovels and dirt, a May 9 groundbreaking used scoops and ice cream, fitting symbols for New York state's \$105 million project to renovate Stocking Hall - the 88-year-old home of the Cornell Department of Food Science.

Cornell President David Skorton and Kathryn Boor, dean of the College of Agriculture and Life Sciences, along with New York State Commissioner of Agriculture and Markets Darrel Aubertine and more than 150 students, faculty and stakeholders celebrated the groundbreaking at the Cornell Livestock Pavilion. (Image: from left, Skorton, Dennis Miller, professor of food science, Boor and Aubertine.)

The project will replace the iconic Cornell Dairy Bar and Plant with a new building featuring a glass-fronted dairy plant, a wine library and teaching winery, research laboratories and a center for sensory evaluation of foods. From an observation balcony above the dairy plant, visitors will have a bird's-eye view as milk from the Cornell dairy farm becomes ice cream, cheese and yogurt. It will be completed in 2014 and will expand training and boost Cornell's competitiveness in food science.



Engineering takes diversity of its faculty to heart

Why Cornell has become 'a better place to go' for many young professors

At one point, Richard Robinson considered becoming a bus driver. After all, as a middle-class African-American kid growing up in Indianapolis, he knew he had to do something — and it seemed a fine career. But as an eighth-grader, with the help of a National Science Foundation program aimed at minority students, Robinson discovered science and engineering. That was the spark that took him all the way to where he is today: a member of the Cornell University faculty in the College of Engineering.



Above: Richard Robinson, assistant professor of materials science and engineering, in his lab with graduate student Don-Hyung Ha, left, and postdoctoral associate Haitao Zhang. Right: Daisy Fan, senior lecturer in computer science, speaks with prospective students.





Left: Lance Collins, dean of the College of Engineering, speaks to prospective students during the college's joint Prospective Candidates Weekend and Diversity Hosting Weekend in April. Right: Current students answer questions during Diversity Hosting Weekend.

Robinson, an assistant professor of materials science and engineering who researches the chemistry and physics of nanoparticles for energy applications, is now part of his college's – and Cornell's – changing face. Before joining the faculty in 2008, he was courted by other institutions. Cornell's boldly stated commitment to diversity helped tip the scale in its favor.

"It convinced me Cornell was a better place to go," Robinson says. "That's one of the reasons I came here – there is no question about that."

Cornell, along with other top research universities across the United States, is facing a formidable challenge in the next five to 15 years. A third of its faculty is nearing retirement age, and as the university's Strategic Plan states, significantly increasing "the diversity of faculty through new hires and enhanced retention efforts" is paramount. Stated goals focus on "gender, racial and ethnic diversity" of faculty in all units.

The College of Engineering set specific diversity targets in its own strategic plan, published in 2004. Under the leadership of then-dean, now Cornell's provost, Kent Fuchs, the plan set 2015 goals for increasing underrepresented minority faculty members to at least 7 percent and women faculty members to at least 20 percent.

As of fall 2010, the college's 227-member faculty had 28 females, or 12 percent of the total; underrepresented minorities, 6 percent of the total, included seven African-Americans, six Hispanics and one Native American. There were also 28 Asians and Asian-Americans, which as a group are not underrepresented in engineering.

In the College of Engineering, three racial and ethnic groups – African-Americans, Hispanics and Native Americans – fall under the definition of "underrepresented minorities." Nationally, women are also traditionally underrepresented in engineering.

As of 2008, 10.8 percent of tenured or tenure-track faculty in engineering colleges at four-year U.S. institutions were women, according to the National Science Foundation's (NSF) most recent report on women in the sciences.

The national situation with underrepresented minorities is also stark, with faculty representation in the engineering disciplines proportionally far below population figures. In 2006, African-Americans were 12.8 percent of the U.S. population; Hispanics, 14.8 percent; and Native Americans, 1.1 percent. According to a University of Oklahoma report, in 2007 underrepresented minorities were just 6.6 percent of faculty in civil engineering departments at top-tier institutions. Departments in other engineering disciplines fell even shorter.

Diverse students, diverse faculty

Enhancing the diversity of faculty is important, in part, because a rapidly changing student population – an increase from approximately 25 percent in 2004 to 33 percent in 2010 among female undergraduates, and an increase from approximately 6 percent to 12



Sara Xayarath Hernandez, director of Diversity Programs in Engineering.

FACULTY: THE NEXT FRONTIER FOR DIVERSITY

When I began teaching as a professor in the College of Engineering more than 25 years ago, diversity was – to the extent that it was thought of at all – something that we did for the underprivileged, because it was "the right thing to do." Qualified high school graduates, Cornell's ultimate pipeline, were plentiful, and the vast majority were white. The College of Engineering's faculty had one tenured female professor, and the undergraduate population was overwhelmingly male.

My, how times change! Today, the number of white high school graduates nationwide is declining while non-white student numbers continue to increase steadily, a trend that is expected to put the two groups at parity by early next decade. The college's undergraduate population is already less than 50 percent white and is 33 percent female. This increasing heterogeneity – diversity – brings tremendous strength. As a 2007 Harvard Business Review article put it, "Radical innovations often happen at the intersections of disciplines ... The more diverse the problem solving population, the more likely a problem is to be solved." So, the question becomes: How do modern research universities like Cornell leverage the strength inherent in an increasingly diverse pipeline?

In 2004, the College of Engineering, under the leadership of then-Dean, now Provost Kent Fuchs and Associate Dean for Diversity Zellman Warhaft, devised a new model for delivering diversity programs. We refer to this model as vertically and horizontally integrated: vertically, because a single office (Diversity Programs in Engineering, or DPE) handles all diversity issues from high school outreach to junior faculty mentoring. DPE accomplishes these tasks through strategic alliances with partners across campus. This vertical integration allows us to leverage role models across all levels with programs in structured peer mentoring, professional development and recruiting, which are open to all students.

We are also horizontally integrated into the fabric of the college rather than existing in a silo in the corner. The associate dean for diversity manages all tenure and promotion cases in the college, not just those of women and minority faculty. DPE leverages the faculty's natural good intentions and enlightened self-interest by helping all faculty deliver the "broader impacts" that have become a required part of proposals for federal grants and contracts. We help to enable the success of women and minority professors by advising student organizations so that the



faculty can maximize their impact with the students while minimizing their time commitment. After all, the best thing that women and minority faculty can do for diversity is to get tenure.

Finally, DPE is entrepreneurial, raising significant funds to support its programs from corporate and government sponsors, and in partnership with the Graduate School, managing more than \$1 million per year in graduate fellowships for minority students who, like minority and women faculty, have become highly sought after by our peer institutions. This is money well spent: the Cornell Sloan Minority Fellowship Program, one of the largest in the country, has a Ph.D. retention and completion rate of 88 percent, which is significantly higher than that for any other demographic group, white or non-white, male or female, in engineering-related disciplines.

The next frontier for diversity, then, is the faculty. Faculty of my generation developed our teaching and mentoring skills with a much more homogeneous student body. We find ourselves almost literally and seemingly quite suddenly in a new, unfamiliar multicultural world, and yet we are the single biggest factor in our students' academic success or failure. More importantly, still, for Cornell's future, the university will replace 30-50 percent of its faculty in the next decade. As Lance Collins, dean of the College of Engineering, has said: "If we are not successful at diversifying the faculty in the next decade, it will be 30-40 years before we have another opportunity." If that happens, Cornell will be poorly prepared to compete in the coming demographic landscape. As a young professor, I did not anticipate how radically the student body would change during my tenure. Cornell leaders today are well aware of the opportunities to be leveraged in the future, and the risks if we fail to do so.

Richard W. Allmendinger is associate dean for diversity, faculty development and mentoring for Cornell's College of Engineering.

percent underrepresented minorities – requires a faculty that reflects its own demographic trends, say college leaders. But beyond that, says engineering dean Lance Collins, diversity will make the college a better, more vibrant, more intellectually rigorous place.

“In a world in which you can bring multiple viewpoints from different backgrounds together, that’s a richer environment to be in, for students to grow up in, and for colleagues to interact with each other,” says Collins, who is the college’s first African-American dean. “If we are unsuccessful at increasing diversity at all levels, at some point that will erode and undermine our ability to be an outstanding institution.”

For a glimpse into the future, Cornell’s Department of Biomedical Engineering is one place to look.

The department, in some ways, is a “reflection of modern reality” – what engineering departments will look like 10-20 years hence, says Rick Allmendinger, professor of earth and atmospheric sciences who is the college’s associate dean for diversity.

The department is peppered with junior faculty, and half of its graduate students are women. In total, 24 of its graduate students are recipients of prestigious NSF



Hakim Weatherspoon, assistant professor of computer science, at the Diversity Hosting Weekend in April.

fellowships, of which several were awarded to minority students. Biomedical engineering is just one department that has had success with recruiting female graduate students; for example, chemical engineering has also had 50 percent women Ph.D. students in recent years.

There are, of course, many factors that help biomedical engineering achieve these demographics, says Peter Doerschuk, the department’s director of graduate studies. Compared with fields like physics and math, biomedical engineering is relatively new. Though active in the discipline for 50 years, Cornell only established a department in 2004.

“The interdisciplinary nature is attractive, with the idea

THROUGH HIRING AND PHILANTHROPY, UNIVERSITY STRIVES FOR DIVERSITY

“Diversity” – it’s a word spoken often in university and professional settings. It appears 54 times in Cornell’s Strategic Plan. But what, exactly, is diversity?

It depends who you ask, says Zellman Warhaft (right), Cornell provost fellow working on diversity issues campuswide.

In academia, “Diversity” (with a capital “D”) is typically specific to women, African-Americans, Hispanics and Native Americans. A broader definition sometimes includes Asian-Americans.

But “diversity” with a small “d” is even broader, Warhaft says; it can include those from other cultures and parts of the world, though it may not strictly meet the policies around underrepresented minorities. A wider mix of people, ethnic groups, cultures, sexual preferences and viewpoints in academia, he says, leads to more intellectual diversity.

“I don’t see diversity as just another aspect of the university,” Warhaft says. “It is something that has to be completely integrated, and without it, it’s a much poorer institution.”

All colleges at Cornell have slightly different views of diversity. The challenge ahead is to create a unified, university-level set of recommendations on how to increase faculty diversity. Warhaft, a professor of mechanical and aerospace engineering, was asked by Provost Kent Fuchs to explore these very issues during his provost fellow appointment this year.

In the context of setting priorities around diversity at all levels – faculty, all the way to undergraduates – the university is making other strides, particularly with recent high-level hires. Renee Alexander ‘74 (below, left) is the new associate dean of students and director of intercultural programs, a role in which she will provide vision and leadership for initiatives to strengthen community among Cornell’s increasingly diverse student body.

Working closely with Alexander will be Andrew Thompson Miller, recently named associate vice provost for academic diversity initiatives. He will head the new Office of Academic Diversity Initiatives and will work to promote academic achievement, with a focus on students from underrepresented racial and ethnic groups, as well as low-income and first-generation college students.

The Graduate School plans to hire an associate dean for inclusion and professional development to recruit and support students from historically underrepresented groups.

Investing in diversity priorities universitywide wouldn’t be possible without philanthropy from people who share this vision. Alumni and friends have given \$13 million to date to create the Sesquicentennial Faculty Fellowships (see related story, page 22).



Women and underrepresented minority faculty in engineering, 1990-2015 (projected)



of contributing to human welfare, and I think the novelty is attractive, too,” Doerschuk surmises. “It is the youngest discipline in the college ... We have a much richer diversity situation.”

However, when it comes to women faculty, biomedical

engineering as a discipline is still a leaky pipeline. According to a 2010 study in *Annals of Biomedical Engineering* (Vol. 38 No. 5), although the percentage of women in biomedical engineering is higher than many other technical fields, and despite a relatively rich pool of Ph.D. candidates, it is far from being in proportion to the U.S. population.

To seek a balance, faculty members Cynthia Reinhart-King and Claudia Fishbach-Teschl, both assistant professors in biomedical engineering, have started a graduate student women’s group in the department. Reinhart-King remembers the first meeting; half of the women were excited, and the other half skeptical. Gender has nothing to do with the fact that we’re scientists, they said.

But as a full-time faculty member who is also balancing a family life, Reinhart-King believes in the importance of such groups.

“There are plenty of studies that show that just knowing you are not alone and that you have role models is valuable,” she says. “There are definitely concerns at the graduate level, when women are thinking about what kind of job they are going to take, and what will be the effects on their personal life.” (See sidebar, page 11.) Other departments, such as materials science and chemical engineering, also have active graduate women’s groups.



Betsy East, assistant dean for student services in the College of Engineering, speaks with prospective students during the college’s joint Prospective Candidates Weekend and Diversity Hosting Weekend.

Diversity as a policy goal

Aggressive recruitment and retention strategies are making their way into college policy. Allmendinger, who oversees the Diversity Programs in Engineering (DPE) office, also is responsible for monitoring all tenure and promotion cases across the college. Throughout the process of recruiting new faculty, he notes, diversity is a unifying and overarching goal – of particular importance as the college hires the next generation of faculty through the universitywide \$100 million Faculty Renewal Fund (see related story, page 22).

He is in a position to help junior faculty make the transition to success – for example, making sure they don't become overcommitted, as assistant professors so often do. "I can tell them the most important thing they can do for diversity is to get tenure," Allmendinger says.

He also chairs the college's Strategic Oversight Committee, created in 2007 to monitor the hiring process and keep search committees accountable to good recruiting practices that pay attention to diversity. According to Collins, just having an associate dean for diversity underscores the importance of the issue.

"It gives that person leverage – and that is required – to

oversee the searches going on across the whole college," Collins says.

Gone are the days of traditional faculty searches, where a bunch of journal ads sufficed, and "you waited to see who came in," Collins says. "That is a very unlikely way to yield a rich pool of diverse candidates."

Instead, Collins says, search committees are expected to consider the word "search" in its truest sense. "They should be using their networks to find candidates out there who are outstanding, maybe at their earliest stages of development, who are not even sure they want an academic career," Collins explains. "They are not the ones who are necessarily going to immediately submit their resumes, but they are qualified potential faculty. We want an active process."

'A broad panorama of populations'

The college's efforts to increase faculty diversity work in tandem with initiatives to recruit and then provide support to a more diverse student body.

"When you look at our programs, they span from pre-college to faculty," says Sara Xayarath Hernandez, director of DPE. "We are looking at a broad panorama of populations,



Assistant professor Cynthia Reinhart-King and associate professor Michael King (both biomedical engineering), with their son, Simon, at home in Ithaca.

A DELICATE BALANCE: WORK AND FAMILY

On the days she picks up her son, Simon, from school, Cynthia Reinhart-King never schedules a meeting to go past 4:45 p.m. so she can leave campus by 4:55 p.m. Meanwhile, her husband, Michael King, is either making or picking up dinner. The roles are switched half the time.

Assistant professor Reinhart-King, and associate professor King, both in the Department of Biomedical Engineering, eat dinner and play with Simon until he goes to bed; after that, they can catch up on work until midnight.

Balancing work and family is hardly a new concept in academia or, indeed, in the workplace generally, but as Cornell tries to diversify its faculty, it's something officials are thinking about more and more.

Recruiting faculty in any university's engineering college two decades ago went something like this: candidates came in, and it was a safe assumption they were all white males. Sometimes they had wives, who followed their husbands.

Those days are gone. At Cornell, work-life balance and dual-career couples are concepts that simply must be part of the strategy in recruiting a younger, more diverse generation of faculty, officials say.

Reinhart-King and her husband are good examples of this strategy paying off. In 2008, Reinhart-King was hired, followed six months later by her husband.

"There were schools where it was very clear they were hiring me because of him, or him because of me,"

Reinhart-King says. "We never felt like that was the case here at Cornell. We all work really hard in this job, and no one wants to feel like they were hired because of who they are married to. From our perspective, Cornell did a really nice job on that. The situation for us couldn't have worked out better."

Reinhart-King says her department supports her and her husband's need to balance their lives productively, and being faculty members affords them great flexibility.

"There's no rule that says we can't work at night to catch up on what we missed during the day," she says. When, for instance, Simon is sick and needs to stay home, she and King split the day in half.

"In certain jobs or certain universities, you might be expected to be sitting in your office from nine to five," she says. "That's not my feeling here at all. I feel I'm being judged on my productivity."

Being cognizant of these types of issues will help Cornell recruit and retain more women faculty in particular, says Paulette Clancy, professor of chemical and biomolecular engineering, who herself raised a family while she was pursuing tenure two decades ago.

"A key part is aggressively helping the dual-career couples," says Clancy, who has served on many search committees. That means finding ways to creatively offer a "lifetime solution" and to highlight the benefits of living in upstate New York, she adds.

– Anne Ju



From left, graduate student Don-Hyung Ha, assistant professor Richard Robinson, and postdoctoral associate Haitao Zhang.

and we are able to leverage opportunities that allow us to intersect programs that target more than one of these populations.”

Examples include DPE-run summer programs for high school students: CURIE for women and CATAYLST for minorities and first-generation college students. The programs succeed because of undergraduate and graduate students, who work as program assistants, and faculty members, who run field sessions and coordinate research projects.

There’s no magic formula, but departments like materials science and engineering show how emphasizing diversity in recruitment pays off. In the past seven years, the department has hired three women – Chekeshia Liddell Watson, Lara Estroff and Delphine Gourdon. Robinson, a minority, was hired in 2008.

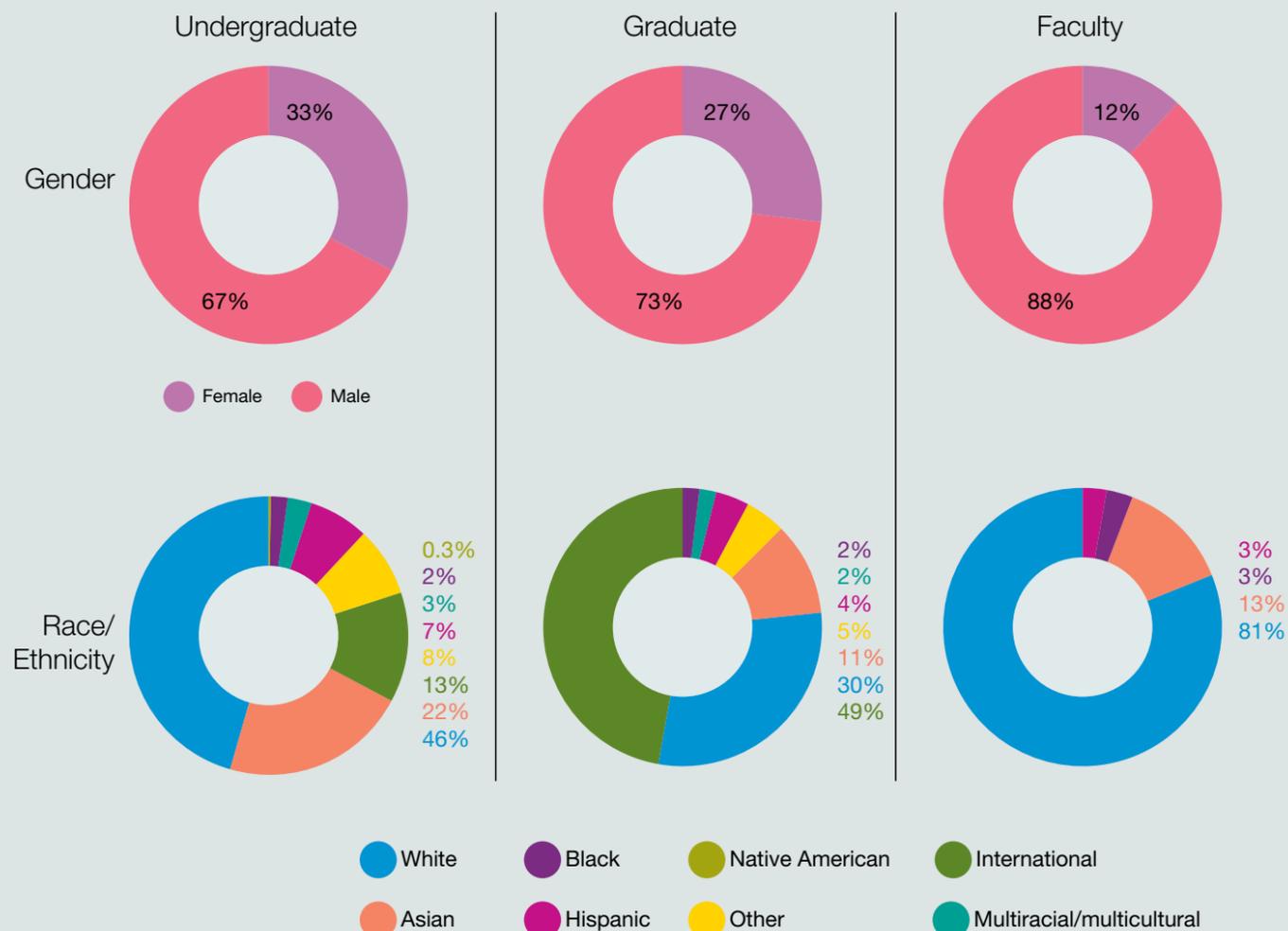
Department chair Emmanuel Giannelis credits the department, college and university all working together to provide resources and pay particular attention to creating a diverse pool.

Simple things, he observes, pay dividends. Giving every candidate serious consideration, for one. “If the candidate that you find is strong, but doesn’t necessarily fit the limited area you are looking in, are you willing to shift a little bit? ... How are you willing to be flexible and go with the opportunities that are presented to you?”

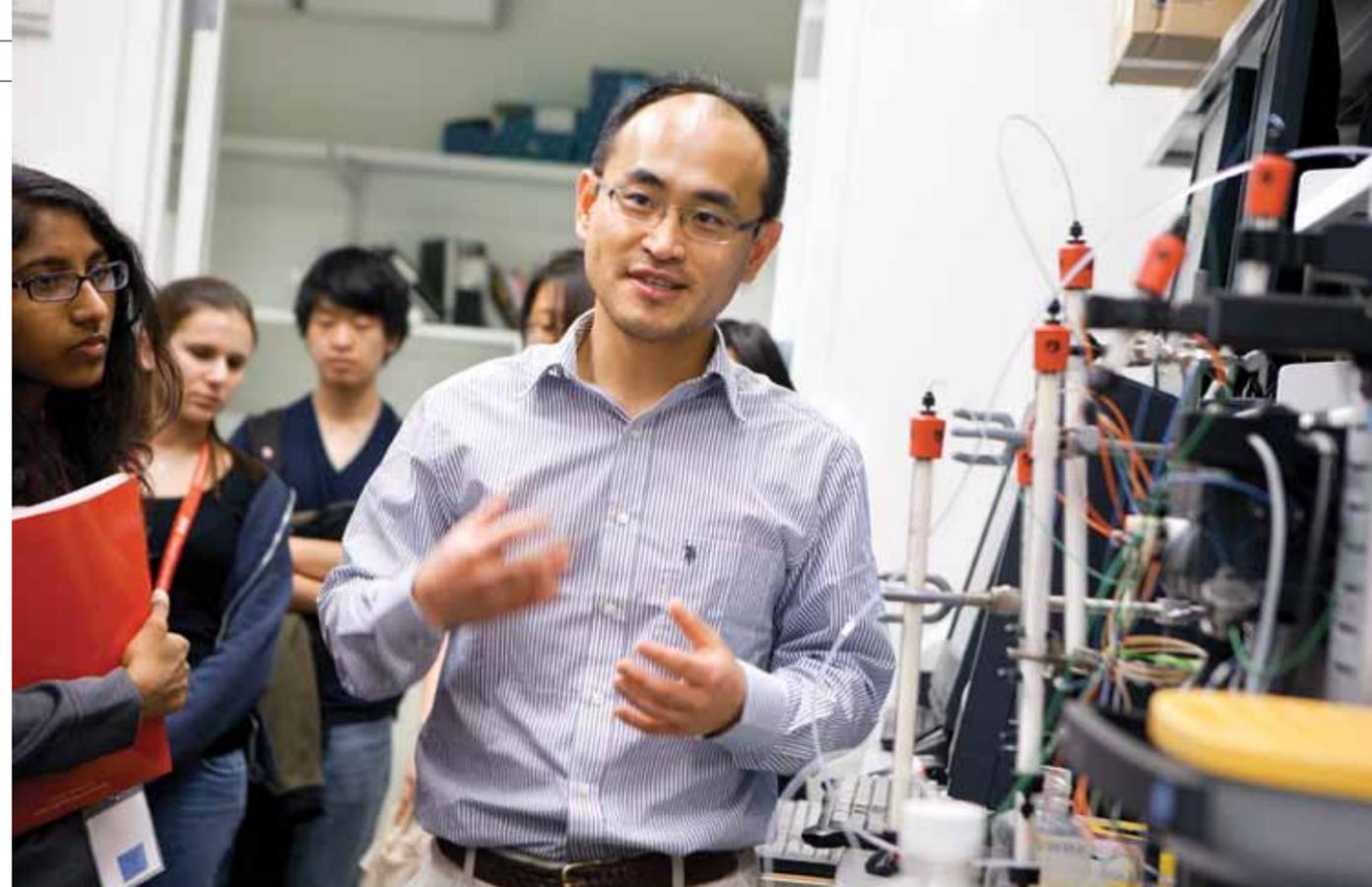
Departments like materials science are helped by their interdisciplinary nature, Giannelis adds. This widens the recruitment field to those who have studied chemistry, physics or mechanical engineering.

Other, more traditional engineering departments face more complex obstacles at all levels – recruiting faculty, all

College of Engineering student and faculty diversity and gender, 2010-11



Source: College of Engineering



Moonsoo Jin, assistant professor of biomedical engineering, leads a lab tour for prospective engineering students on manipulating molecules and nanotechnology for better detection of cancer.

the way down to the undergraduate level. Among women, the problem of leakage in the “pipeline” – the number of Ph.D. candidates with potential to enter academia – is more pervasive in some disciplines. Mechanical engineering and electrical engineering, the two largest Cornell engineering departments, traditionally have had more trouble attracting women students, says Sheila Hemami, professor of electrical and computer engineering.

Marketing a department’s social impact

Hemami also co-directs the CU-ADVANCE center, an NSF-funded initiative to recruit and retain more women faculty in science, technology, engineering and math – the so-called STEM fields – as well as social sciences. She points to the well-understood phenomenon that women, more than men, tend to be drawn to disciplines where they perceive a social impact of their work. This might explain why medical schools have much less difficulty attracting women than, say, graduate fields in mechanical engineering.

“Some engineering disciplines have obvious social impact, like civil and environmental, or chemical and biomolecular,” Hemami says. “Some of the others do have equal social impact, but it is not as obvious.” So beyond focusing on recruitment and retention strategies, Hemami thinks it’s also important for individual disciplines to

be better “marketers” – to show students that electrical engineering has as much potential to change the world as any other engineering field.

“If you go into a hospital, every single electrical device in there was designed by an electrical engineer,” Hemami notes.

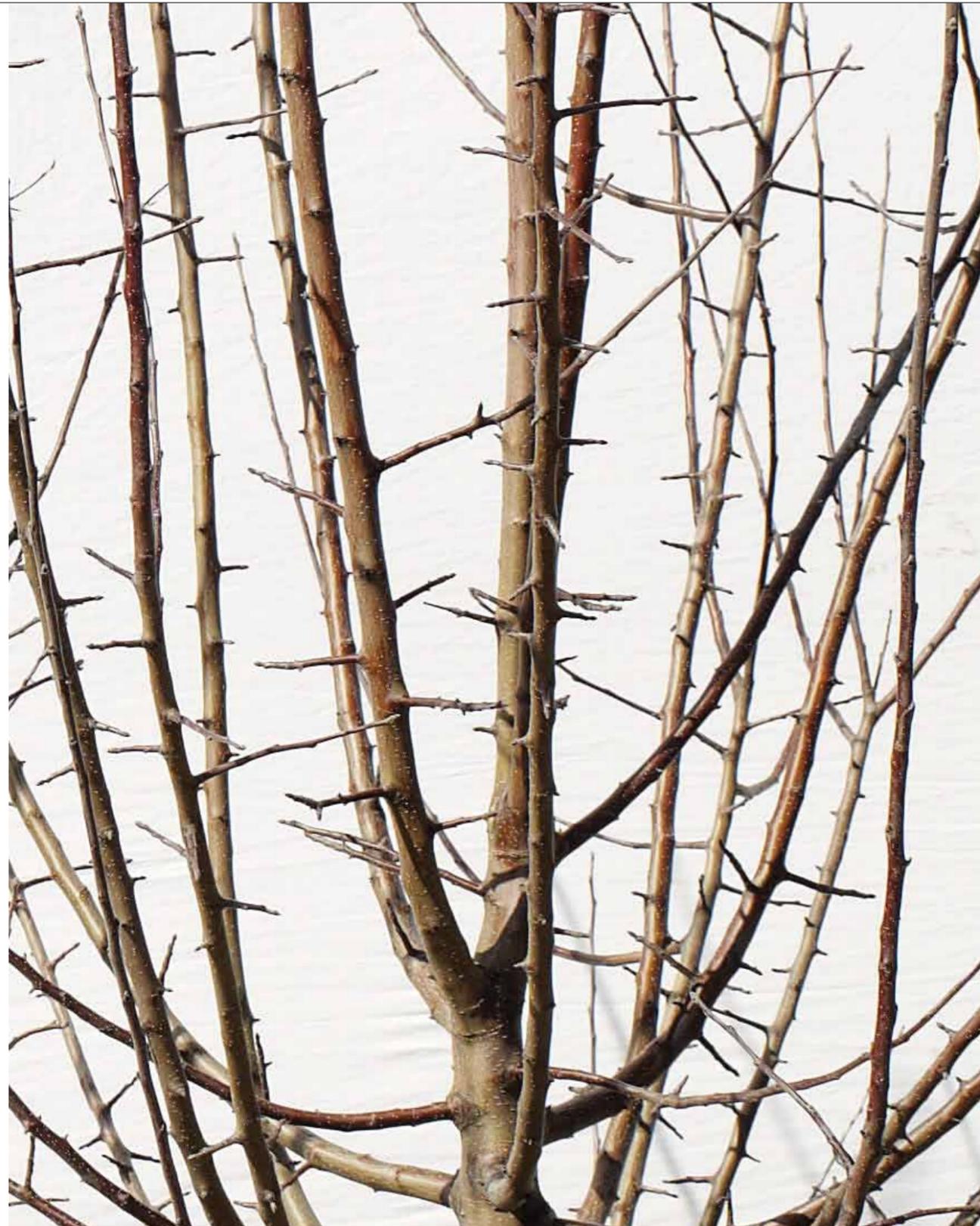
The past six years have seen gains in hiring women at Cornell, not only in engineering, but also in the traditionally male-dominated STEM fields, represented by 53 university departments. In 2004 17.7 percent tenured or tenure-track faculty in STEM fields were women; that had increased to 19.3 percent as of 2009-10, according to CU-ADVANCE data.

But sitting back and letting slow demographic shifts gradually increase diversity by attrition is not acceptable, and not enough, warns Paulette Clancy, professor of chemical and biomolecular engineering, who also served as her department’s first woman chair, from 2002 to 2010. Improving things like the social climate for women is something that happens the more representation there is, she observes.

And attrition is indeed a slow process. “We have to look at how many we are bringing in minus those leaving,” she says. “I think this has contributed to why we are not growing as fast. It’s not because we haven’t made great efforts. There are a number of reasons why people leave, but if there are any reasons we can fix, we should look into them and make a concerted effort.” ●

BY AMANDA GARRIS

Art meets horticulture as photographer finds beauty in apple trees



Plant breeders often say that what they do is both art and science, but rarely does an artist create an exhibit from a breeder's seedlings. A photography project by Los Angeles artist Jessica Rath based on trees in Cornell's apple breeding program on the Geneva, N.Y. campus aims to do just that.

Horticulture professor Susan Brown has been breeding and evaluating new apple varieties for more than 20 years. Although she focuses on improving apple fruit quality and disease resistance, her crosses also have spawned trees with new forms, from the traditional semi-spreading form to those that weep, arch or head skyward in a narrow column. Some offspring are architecturally indecisive, with weeping lower branches and columnar above.

It was this diversity of arboreal architecture – as well as the fact that diversity was unleashed by traditional breeding – that caught Rath's eye when she visited The New York State Agricultural Experiment Station for an earlier project.

"I have never felt or understood the power of diversity so deeply as when I viewed row upon row of hundreds of trees that were so visually different, odd and strikingly beautiful," explains Rath. "The trees are truly what nature can do, not what we have built. The breeding process is true to the nature of the apple itself. There is no way to stop the diversity."

Rath, whose work includes large-scale sculptures and immersive sound installations, received funding from the Center for Cultural Innovation to produce a series of portraits of leafless tree silhouettes in Brown's orchards. In March 2011, she and her team of photographers, Ken Marchionno and Mary Wingfield, and three photography students from the Rochester Institute of Technology, spent an arduous weekend shooting in muddy orchards and battling unpredictable weather.

Capturing the form of individual tree silhouettes in the crowded orchard required a 20-foot-high white muslin

backdrop, which was hoisted and secured against the wind gusts with framing and ropes by the crew and one very dedicated apple breeder. Although the trees' nicknames came quickly as Rath and Brown walked the rows – "Dr. Seuss" and "Centurion," among others – photographing a single tree sometimes took hours.

The tree portraits will be approximately 30 by 40 inches with sufficient precision to communicate the architectural form, while maintaining texture and color. For Rath, the tree portraits are works of art, documents of science and a means for education by interweaving diversity at the molecular and aesthetic levels. She sees the project as a visual contrast to the cloning that happens not just through nature's engineering but also through human acculturation.

"My breeding projects on tree architecture are good for my spirit because of the extensive variation and many unanswered genetic questions," Brown says. "I've always found great beauty in them, but to have someone else who has an eye for art see it as well was really gratifying – a true marriage of genetics and art."

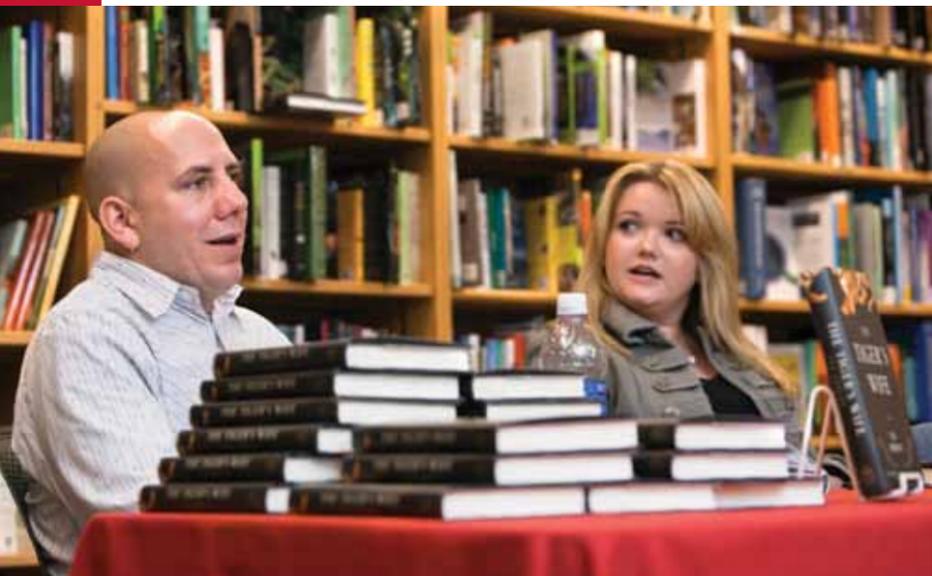
The collection, "Apple Shadow," will be shown at the Pasadena Museum of California Art in November 2012 for the artist's solo exhibit "Take Me to the Apple Breeder" before traveling to other U.S. museums.

Amanda Garris is a freelance science writer living in Geneva, N.Y.



At left, from top to bottom: Photographer Ken Marchionno advises the crew in the positioning of a muslin backdrop; a portrait of sister trees on the screen, ready for Jessica Rath's evaluation; the crew prepares to hoist the 20-foot muslin backdrop; RIT photography student Cole Slutsky breaks down scaffolding for the next shot. Above: a close up of Rath's finished work "Apple Shadow (sisters columnar with difference)" (2011, 48 x 36 inches, inkjet on exhibition fiber). Opposite: Apple breeder and horticulture professor Susan Brown, left, with artist Rath.

Cornell novelists experience whirlwind debut book tours



Alexi Zentner '08, left, and Téa Obreht '08 talk about their debut novels at a Cornell Store event in April.

Téa Obreht '08 and Alexi Zentner '08, alumni of Cornell's Creative Writing Program, both settled in Ithaca to write after earning their MFAs. They are now enjoying the reception for their debut novels on their first book tours.

Norton published Zentner's book "Touch" April 4, and Random House released Obreht's "The Tiger's Wife" March 8. The two also are friends, and Obreht often babysits for Zentner's children. Both are also working on new books.

"A book tour is a very disorienting process," Zentner said in an interview from Vancouver, B.C. "It's crazy, but it's a good thing – it's exciting to walk into a bookstore and have your book there."

Zentner began "Touch" as a short story in 2005, but started developing it into a novel in 2008: "I always wanted to write it as a novel, but didn't think I could do it justice, so I waited until I was a better writer. There are some stories that you need more space to tell. I had a broader world in mind when I first started writing that story."

Obreht said that the local landscape helped her to focus on writing.

"Living in Ithaca and being someone who was used to living in a larger city, I was forced to adapt the kinds of things I would do to ensure that I keep writing," she said from an upstate New York highway rest stop in mid-April. "One of these things was driving. I would assemble soundtracks to what I was working on and drive these distances – lake to lake, town to town, between different geographic markers – and think about the parts of the story that I would work on when I got back to the computer."

They both credit the MFA program with giving them a space to create.

"It can't be overstated how important it is for writing to be a serious pursuit – a place where all day, that's what you do," Zentner said. "Now I can say I'm a writer; I can pull out my book. When you first start out, it's really important to be in a place where you can take it seriously."

The *New Yorker* named Obreht among 20 notable young writers in 2010. She describes her MFA experience as "wonderful," mentioning classes and workshops with Ernesto Quiñonez, J. Robert Lennon, Stephanie Vaughn and Alison Lurie.

"A lot of the people I know left [Ithaca] after their time in the MFA program," Obreht said. "I stayed, and Alexi stayed, and those of us who stayed are still very much welcome as part of the Cornell community of writers. ... It helps you feel you are grounded in that part of your life."

Obreht has spent little time in Ithaca so far this year. She has been on a "frantic book tour" since early March, with short visits home in April including a joint reading at the Cornell Store with Zentner.

"I go back on the road after this through June 14 as part of the international tour, to Auckland (New Zealand) and to the U.K.," she said.

WEILL CORNELL'S DR. MARK LACHS INVESTIGATES MEDICAL AGEISM

The growing phenomenon of medical ageism is the subject of a new book by gerontologist Mark Lachs, M.D. In "Treat Me, Not My Age" (Viking, 2010), Lachs, the Irene F. and I. Roy Psaty Distinguished Professor of Clinical Medicine at Weill Cornell Medical College and co-chief of the Division of Geriatrics and Gerontology, explains how the symptoms of older patients are sometimes dismissed as the inevitable results of aging. Such discrimination, he writes, extends throughout the health care system – from hospitals to nursing homes to insurance companies – affecting quality of life for the elderly. In the book, written for a general audience, Lachs offers a comprehensive guide to avoiding such pitfalls and receiving the highest-quality care. "Sure, the book is about health," Lachs writes in the introduction, "but it's even more about how systems and environments collide with our aging bodies to influence health."

In an April interview on NPR's "Morning Edition," Lachs covered the keys to longevity and spoke about his oldest patient – Helen "Happy" Reichert '25, who at age 109 is Cornell's oldest living alumna.

How do bicycles balance themselves? New research picks up momentum

The 1949 movie "Jour de Fete" shows a postman frantically chasing his bicycle, which rides away on its own. It could happen. Many bicycles, even without a rider, naturally resist tipping over if they are going fast enough.

Scientists and engineers have been trying to explain bicycle self-stability since the 19th century. Now, a new analysis says the commonly accepted

ground on the front wheel a lever arm to cause steering in a way that can help restore balance.

While gyro and trail effects may contribute to self-stability, they are not the only causes, report Andy Ruina, professor of mechanics at Cornell, and colleagues in the Netherlands and at the University of Wisconsin. To prove it, they built a bicycle without any gyro or trail effects that can still balance

itself. Their results were published in the April 15 issue of the journal *Science*.

Using a mathematical analysis that shows how various values for the masses and their position produce stability or instability, the researchers determined that neither gyro nor trail effects are needed for self-stability.

They built a bicycle with two small wheels, each matched with a

counter-rotating disk to eliminate the gyro effects, and with the steering axis located behind the front wheel's point of contact, giving the machine a slightly negative trail.

When given a good push, the experimental bike still coasts and balances successfully if it is going fast enough

explanations are at least partly wrong.

The accepted view: Bicycles are stable because of the gyroscopic effect of the spinning front wheel or because the front wheel "trails" behind the steering axis, or both.

If you try to tilt the axis of a gyroscope in one direction, it will turn in a different direction. When a bike leans, the gyroscopic effect tends to steer the handlebars in the direction of the lean, bringing the wheels back under the bicycle and helping to keep it upright.

Meanwhile, if the front wheel touches the ground behind the steering axis, it will be pulled into alignment with the direction of travel, just as a wheel on a shopping cart turns to follow whichever way you push the cart. This "trail" gives the force of the



An experimental bicycle designed to eliminate the gyroscopic effect of spinning wheels and the "trail" of the front wheel is still stable on its own, disproving conventional theory.

At left: Almost any bicycle will keep itself upright as long as it's rolling. Mathematical analysis shows that long-accepted explanations are incomplete.

(more than about 5 mph). If you knock it to one side while it's moving, it straightens itself back upright. Like a human rider, the riderless bike turns the handlebars in the direction of a fall, even when gyroscopic and trail effects are eliminated.

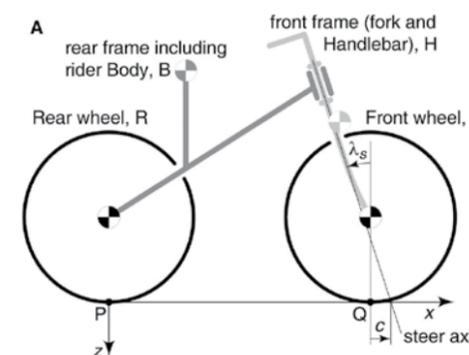
The cause is that the center of mass of the front steering assembly of the test bike is lower than that of the rear frame and forward of the steering axis, the researchers explained. In a fall the front tends to fall faster, and this causes it to turn in the direction of the fall.

"There are other ways to distribute the mass and get self-stability without gyro or trail," Ruina notes.

"We have found that almost any self-stable bicycle can be made unstable by mis-adjusting only the trail, only the front-wheel gyro or only the front-assembly center-of-mass position," the researchers said in their paper. "Conversely, many unstable bicycles can be made stable by appropriately adjusting any one of these three design variables."

While their work was intended to gain insight into the nature of bicycle balance, the researchers said, their analysis could lead to further improvements in bicycle design. "The evolutionary process that has led to common present bicycle designs might not yet have explored potentially useful regions in design space," they concluded.

PHOTOS PROVIDED BY RUINA LAB



Gillian Opatrny: A pastry chef who doesn't touch the stuff



Gillian Opatrny '08 is an anomaly in the world of baking: a pastry chef who can't eat her own creations.

At 16, Opatrny was diagnosed with celiac disease, an auto-immune disorder characterized by intolerance for gluten, a protein found in wheat, rye and barley. Eating anything with gluten in it makes Opatrny sick. So how did this celiac find herself in the baking business?

Cakes were certainly not on the agenda when Opatrny studied at Cornell. Although her family (her father, Donald Opatrny '74, is a Cornell trustee) had always loved cooking together, she didn't take a single culinary course. But she took just about everything else.

"I am probably the world's most indecisive person, and I kind of cycled through all of the majors including economics, art history, psychology, all sorts of stuff," says Opatrny with a laugh. A chance course in sociology "switched on the light bulb" and she graduated as a sociology major, with a focus on inequality studies.

After leaving Cornell, Opatrny worked in marketing at Johnson & Johnson. "I was really fortunate to have that experience, to do a little sociology and a little bit of creative work," she says. But something was missing, and she found work in a cubicle boring.

So Opatrny quit her job and moved to Los Angeles, the hometown of her fiancé, Darian Singer '08, to follow a different dream. She enrolled in Le Cordon Bleu College of Culinary Arts with the intention of learning the necessary skills to start her own gluten-free bakery. "I always wanted to help people out," she says. "That was the initial motivation for me. It was really a labor of love."

When Opatrny told the chefs at Le Cordon Bleu that she didn't eat any gluten, their invariable response was, "Then why the hell are you

here?" But Opatrny persevered, relying on notes and texture to judge her cooking. "I think I was the only person in culinary school to lose weight," she says.

At home, Opatrny translated what she'd learned into gluten-free versions. Despite some "epic failures," she had some triumphs, like re-creating the Mallomar cookie she missed. Making the gluten-free graham cracker for it was particularly tricky, she says, and it required special expertise to temper the chocolate so it cracked nicely when she bit into it.

But midway through her courses, her culinary journey took a sudden detour. Opatrny fell in love with cake decorating.

Opatrny has always been creative. She did lots of studio art in high school and spent all her free time at Cornell singing with Hearsay, an all-female a cappella group on campus, though the reason she didn't take any studio art classes at Cornell, she explains with a laugh, is because they included early morning labs.

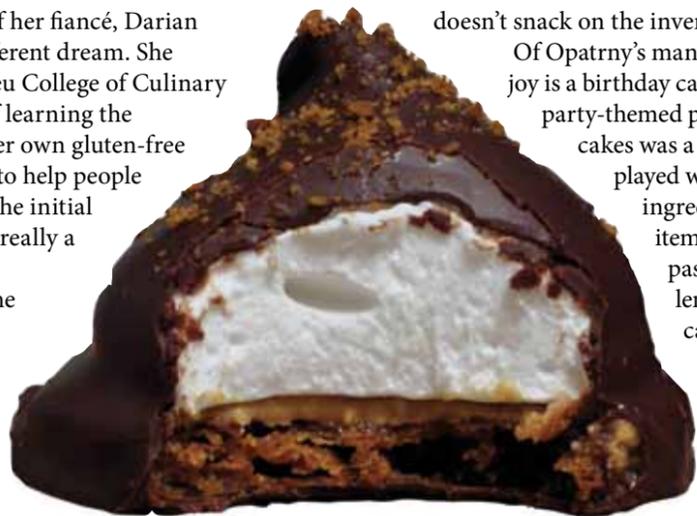
Not long after graduating from Le Cordon Bleu, Opatrny landed the prestigious position of custom cake decorator for the new Santa Monica location of Sweet Lady Jane, a famous West Hollywood bakery.

Opatrny acknowledges the irony of her position. "I'm surrounded by cakes and some days I'm elbow deep in cake if I'm sculpting it. But as long as I don't eat it it's not a problem, and I don't." No doubt her employer appreciates that Opatrny doesn't snack on the inventory.

Of Opatrny's many creations, she says her pride and joy is a birthday cake for an Alice in Wonderland tea party-themed party. Another of her more creative cakes was a roulette wheel that the client actually played when he got it home. The cake ingredients include such mouth-watering items as Belgian chocolate ganache, passion fruit pastry cream and English lemon curd; elaborate constructions can cost more than \$1,000.

Opatrny's work station is right in the storefront window so passersby can watch her work. No matter how trivial a task

Opatrny's gluten-free Mallomar.



Gillian Opatrny '08 fell in love with cake decorating at Le Cordon Bleu and is now a custom cake decorator at Sweet Lady Jane in Santa Monica, Calif.

she's doing, she always has an audience. "It's like being in the zoo, but I've gotten used to it," she says. "It's really great for business." The time management skills Opatrny gained at Cornell are a key to her success, she says. "I'm constantly checking orders coming up and seeing what I can do ahead of time so that I'm not at work for 18 hours. It's the kind of industry where you just have to get it done. I don't think a lot of people can handle that."

Opatrny won't be starting a gluten-free company any time soon. "Right now I'm completely committed to my job, and I love every second of it," she says. "I get to come to work and sculpt a dinosaur out of a cake. Who does that? It's so much fun."

Below: Some of Opatrny's creations, from left: Frank Lloyd Wright's "Fallingwater" as a gingerbread house; a cake for a baby shower; a "Wizard of Oz" themed birthday cake.





STORY AND PHOTOS BY FRANKLIN CRAWFORD

Hotel students keep their cool in heat of Statler's celebrity-chef kitchen



From “Iron Chef” to “Barefoot Contessa,” cooking shows have become all the rage among sophisticated “foodies” – folks who like to cook and entertain.

For students training in the hospitality industry, working alongside a high-profile chef from a famous upscale restaurant like, say, New York City's The Four Seasons, is more than entertainment: It's an invaluable education.

And that's exactly what Cornell's School of Hotel Administration has been offering to its students, mostly seniors, through its annual Guest Chefs series. For the past two decades, this course has been in a class by itself, bringing the likes of Wolfgang Puck and Emeril Lagasse to the Statler.

“Each year in the spring, we have three professionals from the industry teach alongside our students in a real dining situation,” says Giuseppe Pezzotti, a lead instructor of the Specialty Food and Beverage Operations course. “The students handle everything from marketing and promoting a special dinner, to planning the menu and buying all the food and serving it.”

The course provides students the hands-on experience of throwing a top-notch banquet that is polished and presented under the scrutiny of a veteran chef.

On March 11 and 12, Larry Finn, chef d’cuisine at The Four Seasons, brought his equipoise to a dinner event held in the Statler's Park Atrium. For one special night the lobby was transformed into a smartly outfitted banquet area, complete with special lighting effects.

For each Guest Chefs event, students work on one of three teams: marketing, production and service. Budgets are set, and hitting the numbers is vital: Marketers must attract as many dinner guests as possible (at \$125 a plate, that can be a

challenge); kitchen staff must order, prep and cook the food; and service staff must present a four-star meal with a full complement of wines they choose themselves.

It's a high-pressure course – but no one gets fired. That's another show – it's also one of the benefits of being a student.

Throughout his two-day visit, Finn was the antithesis of the hot-headed chef.

“I work with the students the way I would if we were training any new member of our kitchen in New York,” says Finn, casually prepping this and tasting that. “They've got a good set-up here, and my job is to just help them do what they already know how to do.” And to step in when trouble arises – or, in the case of a flan that flopped, remind them: Hey, it happens. The show must go on.

Finn's unpretentious style set the tone for students and staff from the back of the house (kitchen) to the front (dining room and serving areas). While high-energy music thrummed and students and TA chefs-in-training pounded pork loins into submission or prepped appetizers, there was an undercurrent of ease in the kitchen.

The usual hugger-mugger was evident, but that comes with the territory. Hotel School instructor-chefs Bob White and Tony Vesco also kept a steady watch on the galley. By Saturday, reservations peaked at more than 80 guests – a good showing for the course. Back at The Four Seasons, Finn says, a Saturday night crowd might max out at 400-plus. Mind you, each of those meals must be prepared to order. Maybe that's why he hardly broke a sweat even over a steamy cauldron of parboiling white asparagus. Or maybe he's just a cool cucumber. It helped to some extent that main courses were largely prepped in advance; crunch time came the minute guests were seated.

“Our dinner was really about bringing The Four Seasons to Ithaca,” says Karli Miller-Hornick '11, marketing manager. “... we were successful in doing that with our design, service and the exceptional food that Chef Finn helped us to prepare.”

As serious a business as it was, there were lighthearted moments in the dining room. A surprise intermezzo course of pink cotton candy was served up by a line of 30 wait staff.

Who ever said haute cuisine couldn't be fun? Look at the TV ratings.

Joint program with CIA

Since 2006, Cornell has offered a cooperative degree program with Culinary Institute of America (CIA), the most prestigious cooking school in the United States, for students who want both an education in hospitality management (a Bachelor of Science degree) and in the culinary arts (an Associate degree in Occupational Studies). The five-year program has so far involved 70 students and has conferred dual degrees upon 35, including Harris Mayer-Selinger, SHA '06, CIA '07, noted head chef at Bar Paya, a Peruvian restaurant in the East Village.



Clockwise from opposite top left: Guest chef Larry Finn's “Four Seasons” chef coats; Finn gives a pre-banquet pep talk; Arielle Chernin '11 in the kitchen; top view of banquet preparation; Finn in the kitchen with Sybil Yang, a Ph.D. student, and hotel school instructor Bob White; Katherine Kies '11 carries soufflés; overhead view of the dining area; course instructor Giuseppe Pezzotti shows off a napkin and banquet menu; Finn garnishes an entrée.

Countdown to Cornell's 150th year and a goal of 100 new faculty fellowships



Last year, President David Skorton announced a \$100 million Cornell Faculty Renewal Fund to enable the university to hire 100 new faculty members by 2015, with half the funding coming from philanthropy and the balance from Cornell dollars. Already, alumni and friends have donated \$13 million toward the \$50 million goal. The fellowships are now called the Sesquicentennial Faculty Fellowships. Each of Cornell's colleges and schools has specific goals for each fellowship, and the deans have established plans to shape the colleges' futures with the injection of new faculty talent. Here is a look at how this future is unfolding.

AGRICULTURE AND LIFE SCIENCES

Goal: \$5 million to support 10 faculty fellowships

Focus: Dean Kathryn Boor describes important opportunities for faculty hiring in environment, life sciences, food and energy systems, and community and economic development. Great potential exists at the interdisciplinary intersections of these areas, she said, in discovery and application to society's needs. Examples of specific areas for new faculty hires include sustainable food systems, biomaterials engineering, extreme weather and climate change, and population genomics.

Progress: The college has received a commitment of \$500,000 for one faculty fellowship.

ARCHITECTURE, ART AND PLANNING

Goal: \$2 million to support four fellowships

Focus: Dean Kent Kleinman has identified the emerging issues to address with the new hiring as "global urbanization, the consequences of the technology revolution on the shape and use of the built environment, and the urgent issue of climate change."

Progress: Gift discussions are under way; no gift has yet been announced.

ARTS AND SCIENCES

Goal: \$10 million to support 20 faculty fellowships

Focus: According to Dean Peter Lepage: "The challenge is to maintain traditional strengths in every department – and they are considerable – while we make the most of opportunities to expand or refine particular areas of research. For example, this year's hires will allow us to add new areas of research on the pre-modern in Europe and the Mediterranean, as well as renew our prominence in 19th- and 20th-century literature and culture."

Progress: The college has received commitments of \$4 million for eight fellowships.

COMPUTING AND INFORMATION SCIENCE

Goal: \$2 million for four faculty fellowships

Focus: Dean Daniel Huttenlocher noted: "Hiring the best faculty in these rapidly growing areas of scientific inquiry is fiercely competitive, as most top schools are aggressively seeking to expand their programs." Faculty renewal funds will enable CIS to attract outstanding faculty in critical areas such as social media, cloud computing, data mining and statistical modeling. These hires require not only funding for positions but also substantial resources to support start-up funding for the research careers of new faculty.

Progress: Gift discussions are under way; no gift announced yet.

ENGINEERING

Goal: \$7.5 million to support 15 faculty fellowships

Focus: According to Dean Lance Collins, "Faculty renewal in the College of Engineering will be used to renew core competencies in critical areas most affected by retirements, as well as to advance the college in the following strategic research areas: advanced materials; nanotechnology; information, computation, communication and networks; bioengineering; and energy and sustainability."

Progress: An anonymous alumnus has endowed the Dale R. Corson Sesquicentennial Faculty Fellowship in Engineering to honor President Emeritus Corson's leadership during the campus tumult of the late 1960s and early 1970s. "The man's humanity, wisdom, vision, [and] leadership ... very quickly calmed things down, brought people together, or at least towards reconciliation," said the alumnus.

HOTEL ADMINISTRATION

Goal: \$2.5 million to support five faculty fellowships

Focus: Dean Michael Johnson sees the continuation of the school's recruitment in all areas of the hospitality field, with an emphasis in areas most affected by faculty retirements – hotel operations, food and beverage, and real estate and finance.

Progress: "We have several active conversations taking place," according to the dean.

HUMAN ECOLOGY

Goal: \$2.5 million to support five faculty fellowships

Focus: Major cross-college collaborations – for example, faculty members who work at the interface of human development and neuroscience. The college is also hiring faculty to support the Cornell Population Program for its work on families and children, health disparities and health behaviors, said Dean Alan Mathios.

Progress: The college hopes to reach its goal within the year.

INDUSTRIAL AND LABOR RELATIONS

Goal: \$2.5 million for five faculty fellowships

Focus: To recruit scholars in core disciplines of labor economics, human resource studies, statistics, sociology, collective bargaining and labor history.

Progress: "We were thrilled when Advisory Council member Ken DiPietro committed to establish ILR's first Sesquicentennial Fellowship in October 2010," said Dean Harry Katz.

JOHNSON SCHOOL

Goal: \$2.5 million to support five faculty fellowships

Focus: The school will hire and support new faculty members through its two new institutes: the Emerging Markets Institute and Institute for Entrepreneurship and Innovation.

Progress: "We are committed" to raising funds to support at least one fellow a year in each of the next five years, according to Dean Joe Thomas. "We were able to raise [funds for] two this academic year, so we are ahead of schedule."

LAW SCHOOL

Goal: \$1 million to support two faculty fellowships

Focus: As of July 1, the school will have a faculty of 41 tenured or tenure-track members, four fewer than its current goal of 45. "This would still make us a small faculty compared to most of our peer law schools," said Dean Stewart Schwab, "but would give us a significantly broader range of curricular areas and research methodologies than was the case even a few years ago, when the faculty numbered in the mid-30s."

Focus: Build up business law, constitutional and other public law, and maintain strength in contract law and civil procedure.

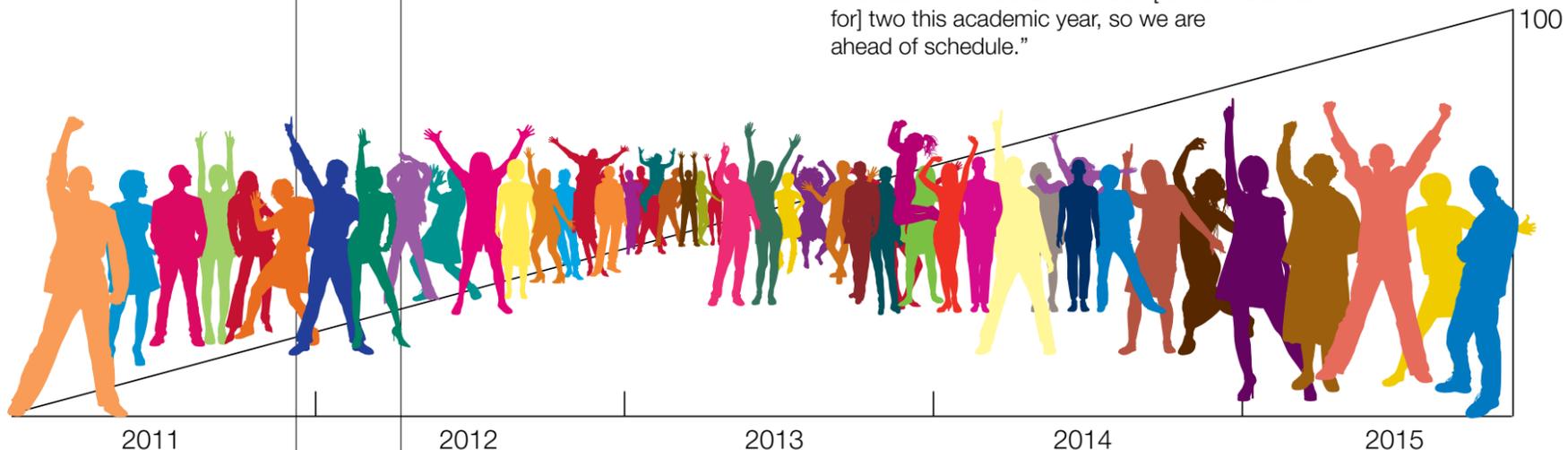
Progress: At press time, a decision was pending on the first Sesquicentennial Faculty Fellowship at Cornell Law School.

VETERINARY MEDICINE

Goal: \$2.5 million to support five faculty fellowships

Focus: The college's four mission areas are education, clinical service, research and diagnostics. "Within four years, we will have recruited new chairs in six out of eight college departments," said Dean Michael Kotlikoff. He added that "these individuals will shape their units by recruiting for the future, not just replacing the past."

Progress: No commitment has yet been made, but according to the dean the college is "reaching out to new donors and relying to a very significant degree on individuals beyond our alumni."



Down to the wire, 39 individuals make Cornell's 'Information Age' facility possible

Faced with the unusual challenge of raising \$15 million by the end of 2010 for a new 100,000-square-foot academic facility, Daniel Huttenlocher, dean of the Faculty of Computing and Information Science (CIS), began a whirlwind development effort to make it a reality.

Funded in part by a \$25 million grant from the Bill & Melinda Gates Foundation in 2006, the facility would house 50 computer science and information science professors, the work of 500 students, and their combined research and study of such topics as networks, computing and machine learning, and the way these intersect with about 25 other

academic departments. It would bring together, for the first time, departments now scattered among three buildings and provide a home for CIS, which celebrated its 10th anniversary as a unique, college-level unit last year.

CIS and, indeed, the new building it needed to fund, represent what Huttenlocher calls "Cornell's academic leadership in developing an understanding of this new information-rich world, which is causing a fundamental change in the way people live every day." He explains that "it's all so new and changing so quickly that we don't even know what to call many of these profound changes in our lives, but when revolutionary changes like this occur, practice



Hoy north parking lot at Hoy and Campus roads is the site for the future William H. Gates Hall, which is expected to be completed in April 2014. In this view, facing west, Hoy Field is visible at left and Rhodes and Upson halls are in the background.

can get ahead of understanding."

Unaccustomed to raising money – he had been a dean for less than a year – Huttenlocher realized that he would feel more comfortable asking others for support if he were a donor himself, and so he pledged \$100,000 to the cause (including matching funds from the MacArthur Foundation, of which he is a trustee).

In June, Cornell trustee emeritus Ann Bowers '59, who had on numerous occasions helped the university launch new initiatives, offered \$1 million in matching funds for Gates Hall gifts of \$100,000 to \$250,000, to spur new giving.

With only six months in which to raise \$15 million, the university created an initial list of likely donors, including 45 individuals, one public agency, four foundations and seven corporations. Between May 27 and Nov. 30 last year, Huttenlocher and his newly hired director of development Jessica Traynor spent most of their time on the road.

"We just told the story. No proposals, no floor plans," Traynor says. "We talked about what was going to be happening inside the building."

What would be happening would be at the vanguard of the Information Age itself – brand-new collaborations between social scientists and computer scientists, valuable decoding of new behaviors, new systems, and new institutions and industries born of technological advances.

The approach worked surprisingly well. Meeting after meeting resulted in generous donations from people who were excited by CIS's major research accomplishments and its growing importance to undergraduate education for students in all the colleges.

Two months before the deadline, and with fundraising still \$6 million short, Provost Kent Fuchs knew the goal would not be met at the current pace, and so he placed a call

to presidential councillor David Duffield '62, founder of PeopleSoft and co-founder of Workday. Duffield generously offered \$5 million, at last putting the university within reach of its goal.

Now a total of \$14.1 million had been raised from 37 donors, including alumni of all ages, current students, parents and even people who hadn't been asked. Fifteen non-executive Microsoft employees came together to give more than \$100,000. Daniela Retelny '11, a CIS student who will be pursuing a Ph.D. at Stanford next fall, helped convince her parents, Gary and Angela, to make a gift naming a conference room in the new

building. Incredibly, most of the people solicited, even those who had never before made a major gift (or any gift at all) to Cornell, said yes, with their gifts ranging from \$100 to Duffield's \$5 million.

On Nov. 19 presidential councillor John Alexander '74 and his wife, Elaine '77, contacted the university. "Cornell provided me with a great head start as I began my company (CBORD) while a student in Ithaca," John wrote in an e-mail. "Over the years, we hired literally hundreds of Cornell grads, not to mention scores of interns, many of whom were studying in earlier incarnations of the current program in Computing and Information Science. So it makes sense, as Cornell approaches this landmark project, to help get this facility built."

The Alexanders offered \$1 million, asking, "Does that get you to your goal?" It did.

William H. Gates Hall, which will be erected at the corner of Hoy and Campus roads, is scheduled for completion in April 2014.

TWO MONTHS BEFORE THE DEADLINE, AND WITH FUNDRAISING STILL \$6 MILLION SHORT, PROVOST KENT FUCHS KNEW THE GOAL WOULD NOT BE MET AT THE CURRENT PACE.



Daniel Huttenlocher, dean of Cornell's Faculty of Computing and Information Science, speaks at "Inside Etsy," an event about the company and the New York City tech scene, held at Etsy's Brooklyn headquarters in April. It was hosted by CIS and the Cornell Entrepreneur Network.

BY JULIE GRECO

Winningest Cornell coach knows how to horse around

What coach has the most wins in Cornell athletics history?

Could it be men's lacrosse coach Richie Moran or baseball's Ted Thoren, who each led their respective teams for 29 successful years?

Maybe it's Andrea Dutcher, who served 14 years as volleyball coach and had the Ivy League trophy named for her.

Perhaps it's current head coach Mike Schafer (men's ice hockey) or Dick Blood (softball), leading the Big Red for 16 and 15 years, respectively, and having great success along the way.

Wrong.

The answer is David Eldredge '81, who coaches men's and women's polo, a sport that is little known outside of the Cornell Department of Athletics.

But Eldredge and his Big Red polo teams continue to chalk up tremendous successes.

The Cornell women's polo team cruised through the season (which runs from October through April), going undefeated en route to its third straight (19th overall) Northeast Regional title.

The top-seeded Big Red advanced to the USPA National Intercollegiate Championships where it first defeated Texas A&M before downing Virginia to win the program's 13th national championship.

The men were also successful, finishing the season with a 15-5 record overall. The squad captured its ninth consecutive Northeast Regional crown, its 18th title overall, and advanced to the USPA National Intercollegiate

Championships where it fell to the Cavaliers in the championship game.

Eldredge – officially, the Peter B. Orthwein '69 Head Coach of Polo - is nearing the 800-win plateau with a record of 785-267-25 (.740). He has 243 more wins than second-place Blood (542). Thoren (541 wins) comes in third, ahead of Dutcher (346), Schafer (313) and Moran (257).

An agricultural engineering major as a Cornell student, Eldredge captained the polo squad for three years, leading the Big Red into the national championships four times and thrice finishing as national runner-up. He has since become



Left to right: Ali Hoffman '12 washes down a horse after a match; Alexander Thomson '14 cleans a saddle; detail of a polo team's locker room.



a legendary collegiate coach, guiding his teams to a combined 12 national titles and 32 national championship appearances.

For Eldredge, polo is a family affair. His father, Halsey Eldredge '44, learned to play as part of the Cornell ROTC program and brought the game back to the family farm in Sharon Springs, N.Y. Eldredge and his brother Charles '77 learned the game as children, and Charles preceded David as captain of the Cornell team, 1973-77.

Wife Karen '90 also played polo and now serves as an assistant coach, so it seems only natural that the couple's daughter Kailey '14 is on the 2010-11 squad, and 15-year-old daughter Emma hopes to attend, and play for, Cornell.

Polo is a sport that Eldredge describes as "a little like hockey on horseback" and claims that because of the fast action, it is addicting for players and fans.

Each team, playing on what is essentially an enclosed football field, consists of three players on horseback carrying long-handled mallets. The players attempt to drive a ball into the opposing goal. There is no goalie – and, yes, occasionally a goal does get credited to a horse.

In away games, the host squad provides the horses with riders being assigned by a coin flip prior to the match.

Eldredge is quick to point out that the rules of the game are designed to safeguard the horses. A match

consists of four chukkers – a seven-and-a-half-minute period – with two four-minute breaks, additional timeouts specifically for the horses and a 15-minute halftime. Each horse participates in just one chukker for each team, playing a maximum of 15 minutes and getting minimum rest of about 26 minutes per game.

"If you take care of the horses, you're going to take care of the players," Eldredge explains.

"One of the philosophies I got from my father is that this is just a game ... Any good coach wants to win, but at the same time, I've kept it in mind that I want the athletes to have a good time."

'IF YOU TAKE CARE OF THE HORSES, YOU'RE GOING TO TAKE CARE OF THE PLAYERS.'

– DAVID ELDREDGE '81



Top photo: Lizzie Wisner '11, women's polo team captain, during postseason play at Cornell's Oxley Equestrian Center. Left: Wisner leads horses out of the barn before a match. Right: Max Constant '11, men's polo team captain, grooms a horse before a match.

From left: Coach David Eldredge '81; Connor Pardell '13 during intermission of a match; Max Constant checks a horse's foreleg.

The latest talent on campus



Christopher Batten

Assistant professor, electrical and computer engineering

College: Engineering

Academic focus: Energy-efficient parallel computer architecture for both high-performance and embedded applications; also, parallel programming models, interconnection networks, vector processing, VLSI chip design methodologies and the intersection between computer architecture and such emerging technologies as 3-D integration, silicon nanophotonics and synthetic biology.

Academic background: B.S., electrical engineering, University of Virginia, 1999; M.Phil., engineering, University of Cambridge, 2000; Ph.D., electrical engineering and computer science, Massachusetts Institute of Technology, 2009.

Last book read: "NurtureShock: New Thinking About Children" by Po Bronson and Ashley Merryman.

In his own time: "Spending time with my wife, Laura Batten '99, and our daughter, Fiona, who was born in January."



Samuel Kleiner

Assistant professor, policy analysis and management

College: Human Ecology

Academic focus: Health economics and health policy, with a focus on the study of hospitals and health care providers; measurement of firm performance in the health care sector; impact of human resource policy on firm performance; applied microeconomics.

Academic background: B.A., mathematical methods in the social sciences and economics, Northwestern University, 2001; M.A., economics, Brown University, 2004; M.Phil., public policy and management, Carnegie Mellon University, 2009; Ph.D., applied economics, and policy analysis, Carnegie Mellon University, 2010.

Last book read: "A Short History of Nearly Everything" by Bill Bryson.

In his own time: Playing music, spending time with family.

Introducing four new members of the university's faculty



Joanie Mackowski

Assistant professor, English

College: Arts and Sciences

Academic focus: Creative writing; 19th- and 20th-century American poetry; and poetic theory.

Previous positions: Assistant professor, University of Cincinnati, 2004-10; Wallace Stegner fellow, Stanford University, 1998-2000.

Academic background: B.A., English, Wesleyan University, 1985; MFA, poetry, University of Washington, 1991; M.A., English, University of Washington, 1993; Ph.D., English (creative writing), University of Missouri-Columbia, 2004.

Last book read: "The Ticking Is the Bomb" by Nick Flynn.

In her own time: "When not working, I'm generally walking, riding a bike or reading books about gardening."



Verity Platt

Assistant professor, classics and history of art

College: Arts and Sciences

Academic focus: Greek and Roman art, concepts of the sacred image in antiquity, ancient theories of representation, the relationship between image and text, ancient glyptics, Roman wall-painting and funerary art.

Previous positions: Assistant professor, University of Chicago, 2006-10; fellow, ancient visual and material culture, University of Exeter, 2005-06; junior research fellow in classics, University College, Oxford, 2003-05.

Academic background: B.A., classics, Christ Church, Oxford, 1999; M.A., classical and Byzantine art history, Courtauld Institute, London, 2000; Ph.D., classics, University of Oxford, 2004.

Last book read: "The Infinity of Lists" by Umberto Eco.

In her own time: "I run (so that I can cook ...)."

BY LANCE COLLINS

A landmark appointment that advanced pace of inclusion on campus

I still recall the question that an engineering college staff writer asked during an interview for an article in our college's magazine: "Are you the first African-American dean of engineering?"

I had no idea. The magnitude of being selected dean had completely eclipsed this question, so to my dismay my somewhat embarrassed response was simply that I did not know. The answer was even more profound: I was the first black dean at Cornell, ever.

How is it that we had to wait for this landmark until the second decade of the new millennium? And yet, if I consider how the world looked to me as a child, this is remarkably fast, not slow, progress.

I grew up in a middle-class Long Island suburb. Neither of my parents was college educated; my father was a furniture maker and my mother was a homemaker and occasional crossing guard for the local elementary school.

At the beginning of each fall, my mother would ask me to list the students in my class. Invariably they were different from the year before, which elicited a response I remember to this day, "Vin, get the car, we're going to speak to the principal."

In those days it was called "tracking," an insidious practice of putting students of like abilities together for the sake of allowing the gifted to reach their potential unencumbered by slower students.

By and large, whites were placed in the "A" track and blacks in the "B". These tracks were not publicly announced, so my mother's question was designed to prevent what she considered the inevitability of my switch from the A to the B track. She successfully fought this each year, telling the teachers and principal that my parents would manage any "frustration" I would supposedly experience in keeping up with the faster-paced class. How daunting it must have been to be non-college-educated parents standing up to the school system that made, on the surface, rational decisions based on its best judgment of

aptitude and talent.

Diversity back then was called "affirmative action," a term long since abandoned for its implications of reverse discrimination. Indeed, the original intent of affirmative action was to rebalance an unbalanced world that, at the time, had difficulty disentangling merit from race. Today the word "diversity" is all about inclusion – and at Cornell that means creating a microcosm of the complex world in which we live. It's about the benefits to our community and society that result from having multiple viewpoints, experiences and approaches represented, rather than reparations for the past. It is forward looking and exciting.

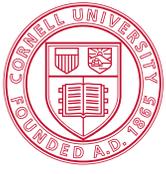
Recently I hosted undergraduate campus leaders at a barbecue in my backyard. Mother Nature decided to drench our affair, but fortunately a sturdy tent provided ample cover. The students, undeterred by the soaking rain, showed up in force – every ethnicity, race, creed, color and gender were well represented. The conversations were lighthearted and fun, and the students clearly enjoyed each other's company.

They weren't there as representatives of their ethnic background, religion or gender, which is fine with me. They were just students, reflecting on the challenging year that had passed, their nerves about upcoming finals, plans for the summer or their future careers. They were Cornellians taking a break from their studies.

No, the College of Engineering has not yet met its goals in creating a truly diverse society. But as dean of engineering, I can say that the benefits of the progress we have made thus far are self-evident. Onward!

Lance Collins became dean of engineering in 2010. He earned a B.S.E. in chemical engineering at Princeton University in 1981, and an M.S. (1983) and Ph.D. (1987) at the University of Pennsylvania. He taught for 11 years at Pennsylvania State University, coming to Cornell in 2002, where he served as director of graduate studies for aerospace engineering from 2003-05. He was director of the college's Sibley School of Mechanical and Aerospace Engineering from 2005-10.





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