

EZRA

MAKING A WORLD OF DIFFERENCE

ATKINSON CENTER
PLANS FOR
A SUSTAINABLE
FUTURE



EZRA

2 THE ESSENTIALS

Meinigs to co-chair sesquicentennial, Nanooze Lab at Disneyland, Cornell's new Honeycomb, Ithaca's mayor-elect Svante Myrick '09 and more

4 CORNELL NOW

'Cornell Now' campaign expands to fuel access, opportunity and solutions by 2015

BY DIANE LEBO WALLACE

6 COVER STORY

Making a world of difference

BY EMILY SANDERS HOPKINS, LAUREN CHAMBLISS AND KRISHNA RAMANUJAN

Cornell, through 270 professors dedicated to sustainability research and the Atkinson Center for a Sustainable Future, seeks solutions for the planet

6 The Atkinson Center solutions factory: Up and running

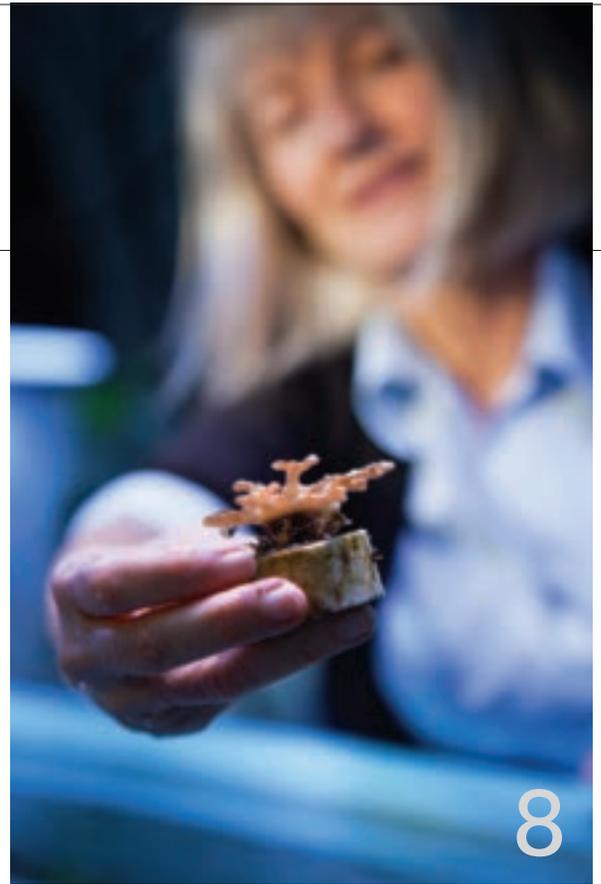
8 Q&A: Reports from the front line of ideas for a sustainable planet

13 Creating a sustainable campus

14 ARTS & HUMANITIES

'Magnificent' new humanities building to be gateway to the Arts Quad

BY LINDA B. GLASER



8



18

16 NEW YORK CITY

Tiny microscopes will save lives: Weill Cornell doctors have high hopes for multiphoton endoscopy

BY ANNE JU

17 RESEARCH SPOTLIGHT

There's a 'personal robot' in your future

BY BILL STEELE



14

EZRA: Cornell's quarterly magazine
Vol. IV, Issue 2, Winter 2012

Publisher: Thomas W. Bruce

Managing Editor: Joe Wilensky

Senior Editors: David Brand, Susan S. Lang

Copy Editor: Karen Walters

Contributing Editor: Emily Sanders Hopkins

Designers: Laurie Ray

Contributors: José Perez Beduya, Lauren Chambliss, Corey Ryan Earle, Gary E. Frank, Linda B. Glaser, Emily Sanders Hopkins, Anne Ju, George Lowery, Krishna Ramanujan, Bill Steele, Andrew Tisch, Diane Lebo Wallace, Joe Wilensky

Circulation Manager: Alicia Wilcox

Produced by the Cornell Chronicle

All photography by Cornell University Photography unless otherwise indicated.

Cornell University is an equal opportunity, affirmative action educator and employer.

Subscription information: ezramagazine@cornell.edu or call 607-255-3630.

<http://ezramagazine.cornell.edu>

12/11 40.0M CP 120121



ON THE COVER

Cover photo: Professor Frank DiSalvo, director of Cornell's Atkinson Center for a Sustainable Future. Photo by Jason Koski/University Photography; digital postproduction by Matthew Fondeur/University Photography.



18 CORNELL HISTORY
From elms to brains: Cornellians who gave back in unique ways

BY COREY RYAN EARLE

20 ENGAGEMENT
New center will deepen public engagement, service learning, educational mission

BY JOE WILENSKY

22 WORTH SUPPORTING
Marriott Foundation supports student learning center for the 21st century

BY JOSE PEREZ BEDUYA

23 YOUR IMPACT
Engineers are getting down to business

BY GARY E. FRANK

24 GLOBAL
Charting the future: After a half century, the Einaudi Center looks ahead

BY GEORGE LOWERY

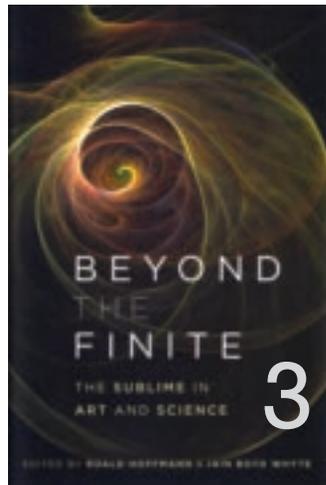
26 LET'S GO BIG RED
Tough start, bright future: Dreams of becoming an engineer propelled this freshman to Cornell and the Big Red

BY GARY E. FRANK

28 NEW FACULTY
The latest talent on campus

29 END NOTE
Cornell at a crossroads

BY ANDREW TISCH



From the publisher

In his State of the University Address on Oct. 21, President David Skorton announced a new goal for Cornell's expanded fundraising campaign of \$4.75 billion, to be raised by our 150th birthday in 2015. By reaching these twin milestones, we hope that one of the defining characteristics of Cornell in 2015 and beyond will be that of a university able and willing to leverage the breadth and depth of its expertise to effect substantive solutions to the world's most pressing challenges. Cornell is already hard at work addressing one of the most vital concerns – the health of the planet.

That challenge rests crucially on the issue of sustainability – limiting fossil fuel emissions through “clean” energy research, reducing levels of carbon dioxide in the atmosphere, conserving endangered species, and alleviating poverty and providing adequate nutrition to huge numbers of people threatened by ecosystem destruction. These challenges are as great as any university researchers have ever faced.

That's why much of this issue's cover story on sustainability is devoted to our researchers detailing, in their own words, what they believe are the future threats, what they are doing about them and how they are embracing the challenge of ensuring the planet's health through research and education. Much of their work is centered in Cornell's Atkinson Center for a Sustainable Future, founded by David Atkinson '60 and wife Patricia.

Our cover package also details how Cornell is putting its ideals into practice at home with a Climate Action Plan that calls for no carbon footprint on the Ithaca campus by 2050.

All this, of course, is only one aspect of our ambitious campaign goals. In future Ezra issues we will be exploring others that show how the breadth of our canvas is quickly expanding. As trustee Andrew Tisch '71, our campaign co-chair, points out in his essay at the end of this issue, “Cornell is blessed with an excess of opportunities from which to choose how it will move forward.”

Thomas W. Bruce

Vice President, University Communications



CORNELL AT 150

Meinigs to co-chair Cornell sesquicentennial

Cornell Board of Trustees Chairman Peter Meinig '61 and his wife, Nancy '62, will lead the university's celebration of its 150th anniversary in 2015, Cornell President David Skorton announced in October.



"Nancy and Pete bring a deep knowledge of Cornell gained through their lifetime of service to the university. We are honored that they will share their perspectives at this historic moment," Skorton said.

As co-chairs, the Meinigs will work with Vice President for University Relations Glenn Altschuler, whom

Skorton has appointed to chair a Sesquicentennial Committee that will plan major events leading up to 2015.

"We are thrilled to help celebrate the history, achievements and people of Cornell. Looking back at the university's heritage makes me proud to help pave the way for the next 150 years," said Nancy Meinig.

"This is an important milestone in the life of our alma mater, and we look forward to commemorating it with the exhilaration that it deserves," added Peter Meinig, who has chaired the board since 2002.

Altschuler's committee is planning a New York City gala in fall 2014 and a celebration in Ithaca April 24-27, 2015. On April 27, 1865, Gov. Reuben E. Fenton signed the bill that constitutes the charter of Cornell University.

SEEN & HEARD

Itsy-bitsy, teenie-weenie

To help visitors understand the vast world of the wee, the new Nanooze Lab at Disneyland, in California, allows them to "touch a molecule" and zoom into the nanometer-scale world of atoms and molecules.

Using microscopes, they can see everyday objects magnified more than 100 times and share them on a large video display or explore butterfly wings and other objects from nature. Sponsored by Cornell and the National Science Foundation, the Nanooze Lab opened in September for one year. "Everything starts off with some common object, and we give guests a chance to explore and play, going down to the nanoscale," said Carl Batt, the Liberty Hyde Bailey Professor of Food Science and founder of Nanooze (www.nanooze.org).

A similar long-term exhibit called Take a Nanooze Break opened in 2010 at the Innoventions pavilion at Walt Disney World's Epcot theme park in Florida.



COLLECTIONS



Play ball

A piece of Cornell's baseball history recently returned home, thanks to the daughter of a first baseman who captained the varsity team nearly a century ago.

The uniform that once belonged to Leslie Clute, Class of 1913, now resides in the library's Division of Rare and Manuscript Collections. Martha Clute, Leslie's daughter, donated a complete outfit: scratchy wool shirt and pants, cleats, mitt, belt and cap.

Clute captained the varsity team during his junior and senior years, played on the team as a sophomore and captained the freshman baseball team. Yearbooks reveal that he was nicknamed "Spider" and describe him as an "able leader" and a "true Cornellian."

Following his senior year, Clute was offered a contract by the New York Yankees but turned it down. After graduation, he coached baseball at Cornell for two years. He went on to open a Ford dealership, the Clute Motor Co., in Elmira, N.Y., in 1916. He died in 1978, and he holds a place in the Cornell Athletic Hall of Fame.

New books on E.B. White, the sublime and NY Times

"In the Words of E.B. White: Quotations From America's Most Companionable of Writers" (Cornell University Press) offers quotations by the Class of 1921 Cornellian, author of "Charlotte's Web," co-author of "The Elements of Style" and essayist for The New Yorker for almost half a century.

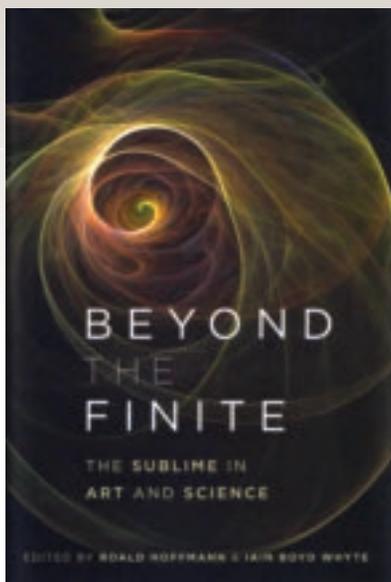
The quotations showcase White's wit, style and humanity on topics from automobiles and babies to weather, work and worry. Examples: "The time

not to become a father is 18 years before a world war" and "The English language is always sticking a foot out to trip a man."

"Beyond the Finite: The Sublime in Art and Science" (Oxford University Press), co-edited by Roald Hoffmann, Nobel laureate and professor emeritus of chemistry, examines how the sublime has created a necessary link between aesthetic and moral judgment.

Through contributions from nine scholars, the book looks at how science, like art, is continually faced with describing that which is new, extreme and difficult to represent. The authors explore images taken by the Hubble Telescope, quantum romanticism, neuroscience, physics, film, painting and music.

"Endtimes? Crises and Turmoil at The New York Times, 1999-2009" (SUNY Press) by Daniel Schwarz, the Frederic J. Whiton Professor of English Literature and a Stephen H. Weiss Presidential Fellow, studies 10 difficult years in the life of America's iconic newspaper.



Schwarz describes a decade-long transformation of the newspaper as it confronted scandals while also grappling with the rise of the Internet and its effect on news, news-gathering, circulation and advertising. He draws on more than 40 interviews with past

and present Times editors, senior figures on the business and financial side, and publisher Arthur Sulzberger Jr.

Svante Myrick '09 elected Ithaca's youngest mayor

Svante Myrick '09 was elected Ithaca's next mayor on Nov. 8, winning a four-way race with 54 percent of the vote.

At 24, he will be the city's youngest mayor ever; he also will be its first African-American mayor. Myrick, who is an alderman for Ithaca's Fourth Ward and won the Democratic primary in September, was the first African-American mayoral candidate to win a major party's nomination in the city.



"Cornell University congratulates Mayor-elect Svante Myrick and wishes him a successful term of accomplishment and effective service to the people of Ithaca," said President David Skorton. "Our success at Cornell is intimately intertwined with that of the city of Ithaca. Recruitment and retention of our talented students, staff and faculty depends on the vibrant cultural and civic environment of Ithaca. I look forward to working directly with Mayor-elect Myrick toward a shared bright future."

The native of Earlville, N.Y., was a communication major in the College of Agriculture and Life Sciences. During his four-year term on Ithaca's Common Council, he chaired the committee that created the city's Youth Council and

served as chair of the Collegetown Vision Implementation Committee.

Since graduating, Myrick worked as an apprenticeship coordinator with The Learning Web in Ithaca and as assistant director of student and young alumni programs for Cornell's Office of Alumni Affairs before resigning that position to run for mayor.

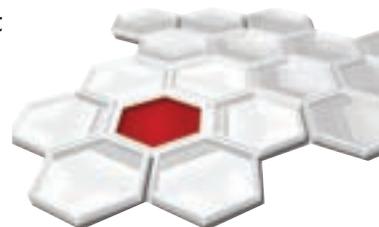
CONNECTIONS

Got Honeycomb?

In October, Cornell unveiled a novel new Web tool called the Honeycomb. Each Honeycomb "cell" covers a distinct topic - for instance, each college has its own cell, and there are also cells on many cross-college topics like international programs and undergraduate student life.

What makes the Honeycomb cells especially handy is how they are populated with fresh data weekly, even daily, via multiple source feeds. The Honeycomb tool is open to public view but was designed to enable university administrators, fundraisers and other spokespeople to share up-to-the-minute news and policy information with interested parties like donors and volunteers.

Take the Honeycomb for a test drive at now.cornell.edu.



Cornell NOW! 2015

Cornell aims to fuel access, opportunity and solutions by 2015

During the second on-campus meeting of the year of the Cornell Board of Trustees Oct. 21 (a joint meeting held each fall with the Cornell University Council), President David Skorton announced an expansion of the fundraising campaign launched in 2006, citing Cornell's capacity to develop solutions to the world's most pressing challenges as well as a redoubled commitment among Cornellians to the university's founding principles in advance of the 2015 sesquicentennial.

"To realize our aspirations," Skorton said to hundreds of assembled trustees, council members, faculty and friends in Statler Auditorium, "we need the engagement, guidance, help and support of every person in this room and tens of thousands of loyal Cornellians around the country and the world."

The campaign, called "Cornell Now," seeks to raise a total of \$4.75 billion in private support of the Ithaca campus and the Weill Cornell Medical College – \$1.4 billion in additional gifts by December 2015.

Fully endorsed by the board of trustees, the campaign goals align with the university's strategic plan, which was developed by Provost Kent Fuchs and deans across the university. Cornell will seek the resources needed to implement key priorities. Hiring new faculty, increasing faculty diversity and nurturing current professors are top priorities, especially as senior

members of the faculty near retirement. Creating graduate fellowships and scholarships for professional school students and increasing funds available for undergraduate scholarships are also among the campaign's priorities. All of Cornell's colleges, schools and units, including Weill Cornell, have set target goals in this second phase of the campaign. In addition, funds raised will be used to bolster public engagement.

"Despite the recent recession and a difficult economy, Cornell's alumni, parents and friends have given a record-breaking \$3.3 billion since the campaign launched in 2006," said Charlie Phlegar, vice president for alumni affairs and development. "Cornell Now' will build on our success and make a significant impact on the university at a critical juncture. The generosity and commitment among Cornellians is tremendous, and we have every reason to move forward with renewed confidence."

"The pride that so many of us feel about being Cornellians," Skorton said after laying out the campaign's goals, "no matter what our major or college or the path we've followed since earning our degrees; the sense that we are part of a great and noble enterprise, where ideas matter and where human society can be improved and individual lives transformed – that's Cornell's magic, and it continues to ground us, inspire us and motivate us to become the university we aspire to be, we can be, we must be and we will be."

Later that day, more than 700 guests gathered for dinner and a celebration program in Barton Hall. Guests included 50 members of the Class of 2015, the sesquicentennial class. At the end of the evening, Skorton led a call and response chant of “Cornell Now!” as confetti fired from hand-held air launchers fluttered thickly in the air.

“When will Cornell put forth innovative solutions to global challenges?” Skorton asked.

“Now!” replied the crowd.



Leading priorities

Faculty – \$70 million for faculty renewal and diversity;

Access – \$157 million for undergraduate scholarships; \$100 million for graduate fellowships and professional school scholarships; \$25 million for international undergraduate students;

Academic leadership – \$100 million for humanities and the fine arts; \$76 million for business and management sciences; \$40 million for sustainable development, energy and the environment; \$35 million for economics; \$30 million for life sciences; \$10 million for social sciences;

Cross-college connections – \$5 million for Ithaca-Weill joint programs; additional goals established within Ithaca’s colleges, schools and units;

Excellence in education – \$56 million for excellence in education funds;

People, programs and facilities – \$30 million yearly in unrestricted gifts to the Cornell Annual Fund;

Global – \$10 million for international programs; and

Service – \$20 million for service-learning programs and public engagement.

now.cornell.edu



Top image: A gala event during Trustee-Council Weekend in October celebrated the expansion of the campaign and featured Cornell’s sesquicentennial Class of 2015. Above: President David Skorton prepares to lead a Barton Hall crowd in chanting “Cornell Now!” at the gala.

The Atkinson Center solutions factory: Up and running



Frank DiSalvo, the John A. Newman Professor of Physical Science and director of the Atkinson Center, in his lab with Chinmayee Subban, a graduate student in chemistry and chemical biology.

In 2008, 15 professors from five Cornell departments spanning several colleges gathered over sandwiches and potato chips to brainstorm research approaches to the problem of mycotoxin-infected corn. Four years later, thanks in part to that lunch and an initial seed grant, one Cornell doctoral student gathered a mountain of data in Kenya, two Cornell professors are major players in a multinational study funded by the Australian government, and tens of thousands of Africans will be better protected from a toxin that stunts children's growth and can even be fatally poisonous.

The David R. Atkinson Center for a Sustainable Future has sponsored 60 such topical lunches, funded 50 research projects, and launched "mini fellowship" programs in agrarian transformation and sustainable biodiversity. Most impressive, perhaps, are the many interdepartmental working relationships the center has fostered and the research advances those teams have achieved in the center's four years.

"We're matchmaking all the time. We're yentas," explains

Professor Frank DiSalvo, the center's director. Two hundred seventy members of the Cornell faculty (representing 65 departments) are Atkinson Center fellows.

In 2007, the College of Agriculture and Life Sciences

'OUR MAIN GOAL IS TO HELP FORM TEAMS THAT SOLVE REAL PROBLEMS.'

— PROFESSOR FRANK DISALVO

advisory council co-chaired by David Atkinson '60 recommended that Cornell create a sustainability center. Atkinson and his wife, Patricia, provided initial seed funding. Three years later, in 2010, an external panel reviewed the center's progress, concluding that it was "nothing short of remarkable."

Based partly on that glowing report and partly because Cornell is the highest ranking American university with an

agriculture college and also excels in the very fields key to sustainability research, the Atkinsons committed \$80 million to provide ongoing funding for the center. It was the largest single gift ever to Cornell's Ithaca campus from individuals.

"It's a hugely important gift, a transformative gift," says DiSalvo. "It makes us permanent. Nobody wants to partner with an organization that might not be around next year."

There has been no shortage of partners. In four years, the return on investment is 10 to 1: \$9 million spent and \$90 million won in external funding for faculty projects that resulted in new inventions, the novel application of math and engineering to conservation, and new understanding about poverty and its causes, to name but a fraction of the advances made by Atkinson Center-supported research.

This fall, the center launched the Impact through Innovation Fund (IIF), which will award grants, beginning in 2012, to faculty research groups that have already secured external partnerships to conduct mutually beneficial work that applies or informs Cornell research.

IIF grants will not fund projects that are already ongoing. "It has to be problem oriented, not discipline oriented," explains DiSalvo. "Our main goal is to help form teams that solve real problems."

The real problems are legion. This fall, the world population surpassed 7 billion. Approximately 3 billion people live in poverty. Every month, more than a million children die of hunger. Forests are disappearing. Species are dying out. The cost of fossil fuels poses environmental, strategic and economic challenges.

These are the sum of millions of smaller problems, most of which fall under the umbrella of sustainability. "We look at sustainability as a giant interconnected system you can't pull apart, or if you do, you're likely to get it wrong," explains DiSalvo. "Most major universities have an energy center. Many have some kind of environmental center, and then some have development or poverty centers. Cornell is almost unique in putting all the pieces together."



Wendy Wolford, right, the Polson Professor of Development Sociology, leads an Atkinson Center Topical Lunch discussion on "Access to Land and Global Development" in 2010. From left are professors Karim-Aly Kassam, James Lassoie, Ken Roberts and David Kay.

Atkinson Center standouts

Energy

Plants as fuel: Bolstered by a \$9 million award from the Department of Energy, biological and environmental engineering professor Beth Ahner, chemical engineering professor Ruth Richardson and molecular biology professor Maureen Hanson are part of a national research consortium improving production of biofuels using aquatic microalgae.

Waste as fuel: Supported by a \$5 million gift from entrepreneur Yossie Hollander, crop and soil sciences professor Johannes Lehmann and his team investigate pyrolysis, which produces biofuels and biochar from waste like corn husks and chicken manure. "Cornell is a leader in many of the disciplines required to solve the oil scarcity problem in Africa," says Hollander, "and the ACSF was key to putting them together into a coherent and effective research program."

Environment

Good vibrations: Cited in The New York Times' 2010 "Year in Ideas" section, which highlighted the best advances and inventions of the year, the vibro-wind technology project led by six Cornell professors is investigating the harvesting of energy from wind that flows around buildings.

Temperatures rising: Climate warming drives outbreaks of infectious disease, posing a threat to human health, biodiversity, and the environment. Researchers C. Drew Harvell, Laura Harrington, Kelly Zamudio and Diego Ruiz-Moreno established a Disease and Climate Network with new tools to forecast mosquito-borne infections and climate-driven disease. The ultimate goal is to estimate the economic impact of outbreaks driven by climate change.

Development

Local foods best practices: Professors Miguel Gomez (from the Dyson School in CALS), Huaizhu Gao (a chemical engineer), Dennis Miller (chair of the Department of Food Science), Ardyth Gillespie (nutritional sciences), and Jonathan Russell-Anelli (a lecturer in crop and soil sciences) are developing a method for assessing the comparable sustainability of different food systems, with the hope of shedding light on U.S. food supply policy.

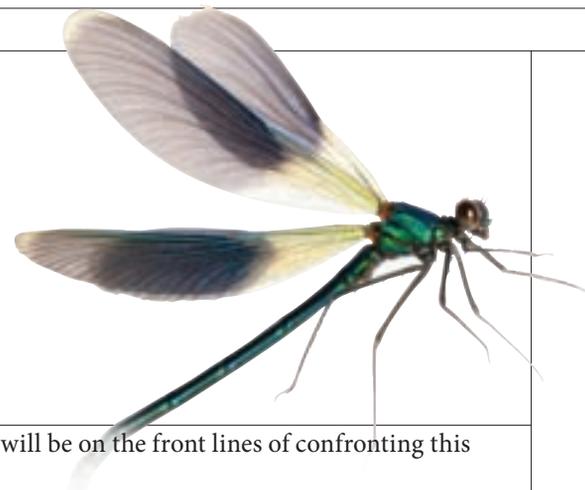


BY LAUREN CHAMBLISS



Above: Drew Harvell, coral reef expert; right: David Wolfe, who studies bloom and leaf trends; and Natalie Mahowald, investigator of climate dynamics and humans' impact on the environment.

Q&A: Reports from the front line of ideas for a sustainable planet



Cornell's faculty works at the epicenter of a global effort to understand and ultimately provide workable solutions to urgent environmental, ecological and energy challenges to the planet. Ezra posed some provocative questions to a few of the more than 300 professors working on sustainability projects in the Colleges of Engineering; Agriculture and Life Sciences; Arts and Sciences; and Architecture, Art and Planning; and at the Atkinson Center for a Sustainable Future (see related story, page 6), founded by David Atkinson '60 and his wife, Patricia.

Is climate change really happening?

Yes, we can see the changes in climate in surface temperature trends, here in New York and across the globe, especially in the Arctic. Ship-borne observations of temperature show the oceans are warming. Satellites have detected the higher sea levels that are a result. Snow in the spring in New York and across the United States and Europe is gone earlier. Sea ice in the Arctic is reduced during the summer to the point where, for the first time, commercial ships can now navigate the Northwest Passage connecting the Atlantic and Pacific oceans. All this provides evidence that climate change is indeed happening.

– Natalie Mahowald, associate professor, earth and atmospheric sciences, and lead author, Intergovernmental Panel on Climate Change

It's not just the thermometers telling us the climate is changing; the living world is already responding. As the planet warms, the range of many species is shifting northward, and in the spring plants are blooming earlier. Apples, lilacs and grapes are blooming four to eight days earlier than in the 1960s. Migrating birds and insects are also arriving sooner than expected. Those who make their living



from the land will be on the front lines of confronting this challenge.

– David W. Wolfe, professor, horticulture, and chair, Atkinson Center Climate Change Focus Group

What's the single biggest obstacle between us and a sustainable energy future?

Eventually, we need to transition completely from relying on finite fossil fuels to using renewable resources. This transition requires that we develop and deploy renewable resources at an enormous scale, but also we need to be much more efficient in the ways we use energy. Cornell is unique in organizing efforts in a larger sustainability context, focusing on connectivity in three general areas – energy, environment and economic development – because we can't solve the energy challenge without looking at the big picture. We have enormous capacity within our 11 endowed and land-grant colleges and the strong commitment of our students, faculty and staff – from the newest freshman to our president. Combining this vision with the passion of Cornell's alumni, as evidenced by the enormous generosity of David Atkinson and David Croll, is what attracted me to come back home to Ithaca. Returning to Cornell to be part of this exciting opportunity has energized me beyond what I once thought possible.

– Jeff Tester '66, Croll Professor of Sustainable Energy Systems, and associate director for energy, Atkinson Center

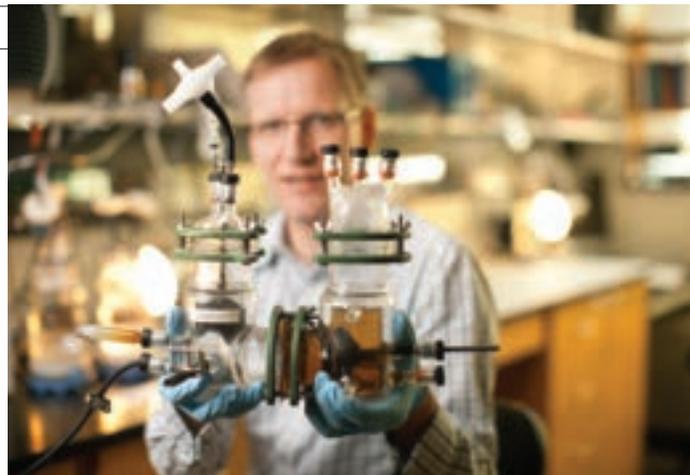




Rod Howe leads Cornell efforts to improve New York state's environmental health, education and access to sustainability science.

Cornell researchers are developing viable renewable energy sources. What looks most promising to you?

I am interested in converting organic waste materials into energy. This kills two birds with one stone, since we both need to treat wastes and generate renewable energy. In New York, we are especially poised to use organic wastes because we have two large sources – dairy manure and urban wood waste. My lab uses microbes to generate methane in anaerobic digesters and carboxylates and alcohols in fermenters. I believe strongly that our society should choose these alternative methods of generating energy before we further explore nonrenewable energy sources, such as natural gas. If we do explore natural gas, we should use the economic returns to develop a renewable energy sector in the state. In my lab, we have made breakthroughs studying the production of bio-based chemicals as a way to make conversion technologies more cost competitive with traditional energy sources.



Lars Angenent, inventor of a novel anaerobic bioreactor, is developing a way to produce fuel from cow manure.

– Lars Angenent, associate professor, biological and environmental engineering

Modern wind turbines are the largest of man-made moving objects, with spans greater than that of a Boeing 747. They also work under the most inhospitable conditions: rain, snow and ice, and above all, a highly intermittent wind field that gusts in a random way. One of the cutting-edge problems we are focusing on is the rare, high amplitude wind events that can sometimes cause a turbine's drive train to fail due to the resulting high stresses. Wind tunnel tests show that when there is wind shear and multi-scale turbulence, then rare gusts, like mini tornadoes, may occur with frequencies 1,000 times or more than would be expected using simple models. By understanding these wind events we can influence wind-turbine and wind-farm design to better withstand them.

– Zellman Warhaft, professor, mechanical and aerospace engineering.

Our work with algae is a good example. Cornell researchers from myriad departments are engaged in a range of activities: crop selection and breeding, bioprocesses, bioseparations, bioproducts and, most important, lifecycle analysis of the potential negative impacts of extensive scale-up in biofuel feedstock operations. Through an Atkinson Center grant, our research team has been exploring algal biotechnology in order to improve the viability of large-scale algal biofuels cultivation. We also have a Department of Energy-funded collaboration with Hawaii-based Cellana Inc. – one of the few existing pilot-scale production facilities for lipid-accumulating algae.

– Ruth Richardson, associate professor, civil and environmental engineering

Our recent research marks important and potentially transformative steps toward realizing the technological potential of nanomaterials in future solar cells. We have created novel nanocrystal quantum dot tandem solar cells that efficiently harvest solar energy in thin film devices processed from solution. This

achievement marks the convergence of two important solar cell concepts: low-cost processing and engineering to efficiently absorb and convert the broad spectrum of solar energy. Essentially, this is a way to harvest more of the sun's power for less cost.

– Tobias Hanrath, assistant professor, chemical and biomolecular engineering

What outside the box innovations are emerging from Cornell's sustainability research?

We are working with The Conservation Fund on ways to help the red-cockaded woodpecker in North Carolina using computational sustainability to model complex conservation issues. Ecologists have long studied migration patterns for this endangered species, and so we incorporated their descriptive models into a larger context to illuminate which tracts of forestland should be kept as reserves over an 80-year time horizon to improve the woodpecker's chance of survival. Our computational models are similar to the "planning under uncertainty" process that companies like Amazon.com use to manage inventory. The next step is to look at the feasibility of moving some birds to new, artificial nests and whether that will help in the long run.

– David Shmoys, professor, operations research and information engineering

The increasing carbon dioxide (CO₂) concentration in the atmosphere is a big concern, and we need engineering solutions to essentially put the CO₂ back in the box. Scientists everywhere are exploring ways to tie up the atmospheric CO₂ so that it won't contribute to greenhouse gas warming. One alternative is to pump the CO₂ deep underground and trap it in the pore spaces of rocks. We looked into the feasibility of storing CO₂ at greater than 3,000 feet below central New York, but we discovered that other regions of the U.S. have much better storage potential.

– Teresa Jordan, professor, earth and atmospheric sciences

Droughts routinely spark humanitarian crises in the dry lands of East Africa, as they have this year. Insurance to cover catastrophic livestock loss wasn't available until we figured out a way to use satellite-based measurement of rangeland vegetation to predict losses and underwrite novel index-based livestock insurance contracts in Kenya. To tailor the insurance to alleviate poverty and support development in fragile rangeland ecosystems, we first put global positioning system collars on the herds, enabling us to track any changes in herd patterns or ecological conditions.

– Chris Barrett, the Stephen B. & Janice G. Ashley Professor of Applied Economics and Management, Dyson School, and associate director for economic development, Atkinson Center

How does Cornell rate at fostering interdisciplinary collaborations?

When I arrived at Cornell, my goal was to develop a research and outreach program focused on the economics of food supply chains, emphasizing linkages to other disciplines such as nutrition, environmental sciences and engineering. We first organized a lunch at the Atkinson Center around the sustainability of food systems, then we generated an Atkinson grant proposal involving faculty from three colleges and nine departments. The first year of the grant, we met regularly to develop a common language and to identify key links among the primary multidimensional sustainability aspects associated to food systems. We also used the grant to build external partnerships with public and private organizations. As a result, today we have not one but two large multistate, multidisciplinary grants funded by the federal government.

– Miguel Gomez, associate professor, applied economics and management

I'm fortunate to be trained in geography, a field traditionally concerned with human-environment relations. Cornell's focus on sustainability has created many more opportunities for faculty and students interested in connecting across disciplinary boundaries to learn from one another. The scientists, social scientists and engineers who work together are unusually curious, life-long learners, and able to listen. This year we extended our interdisciplinary project to a course on energy transitions that has attracted students from engineering, natural resources, communication, as well as city and regional planning. One thing that seems to unite the faculty at Cornell working across fields is their commitment to Cornell's land-grant mission. Because we are focused outward – on the bigger goal of serving the community – we find ways to work together.

– Susan Christopherson, professor, city and regional planning

What impact is Cornell sustainability research having close to home, in upstate New York?

At Cornell Cooperative Extension, our educational



Jeff Tester '66, M.S. '67, thinks that geothermal energy has the potential become a major source of U.S. electrical power.



Susan Christopherson, an economic geographer, has conducted comprehensive impact studies of natural gas drilling.

approach to energy solutions takes into account the protection of environmental health, creating and maintaining vital communities, and promoting economic opportunities. For instance, we have responded to a wide variety of stakeholders who seek a scientific, economic, social and environmental understanding of the issues associated with Marcellus Shale natural gas exploration and drilling. This has been a tremendous example of a land-grant university at work. I now hear citizens and policymakers using such concepts as energy transitions, which is based on the need to move toward renewable energy sources and using a “systems approach,” which looks at all levels of impacts, including social, economic and environmental, thanks in part to CCE’s effort to raise what we call “energy literacy.” We want to empower people with knowledge to make their own choices about energy development.

– Rod Howe, assistant director of Cornell Cooperative Extension

What will our grandchildren’s lives look like?

As a scientist who studies oceans, you might expect me to say that we will leave a world to our grandchildren with



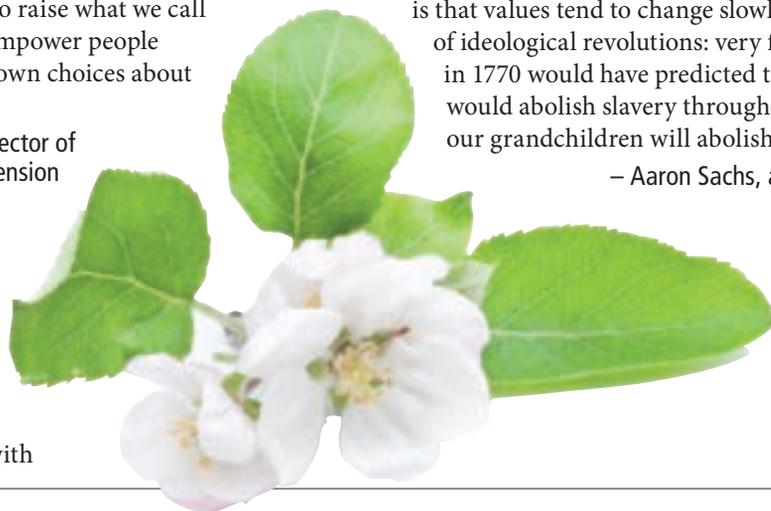
Chris Barrett has said: “I’m interested in improving the well-being of the poorest members of humankind and doing what we can in practical terms to help them help themselves.”

terribly reduced ecosystem services, no coral reefs, coastal areas inundated from sea level rise, and a massive exodus of coastal people as climate refugees. And that is certainly a possibility. However, despite the dire outlook today, I have hope that our society will undergo a global tipping point that will alter our future behavior and result in a world for our grandchildren with sustainable oceans. Call me overly optimistic since I don’t know where the solutions will come from, but I think there should be hope. First, young people are starting to stand up for their rights to inherit a sustainable world. Second, we are assembling a global effort to manage our oceans better than we ever have. And third, we are putting in place renewable energy research and plans for sustainable living that will change our lives.

– Drew Harvell, professor, ecology and evolutionary biology, and associate director for environment, Atkinson Center

Ask a historian about the future, and you’re bound to get an evasion. The great lesson of historical study is that nothing is inevitable, that every event or development could have gone in a thousand different directions. Change is not only constant but also contingent, uncertain, utterly unpredictable, influenced by innumerable causal forces, by the smallest decisions of ordinary people. But I happen to be an environmental historian, so I do try to stay aware, as it were, of which way the wind is blowing. I imagine, in a few decades, that the world is going to be hotter and stormier and that we might even have to abandon some places, maybe like Miami and New Orleans. One thing I know from history is that values tend to change slowly. But there are examples of ideological revolutions: very few Englishmen living in 1770 would have predicted that their grandchildren would abolish slavery throughout the Empire. Maybe our grandchildren will abolish pollution.

– Aaron Sachs, associate professor, history



CREATING A SUSTAINABLE CAMPUS

Two years ago Cornell became one of the first universities in the United States to lay out a road map for campus sustainability. The Climate Action Plan calls for net zero emissions – no carbon footprint – on the Ithaca campus by 2050. Already, the university has reduced emissions by 25 percent, largely due to a new combined heat and power plant and an end to coal use on campus.

Cornell's sustainability efforts include diverting 117,000 pounds of dining waste to compost every month (reducing Cornell's landfill by half); the building of Silver, Gold and Platinum LEED (Leadership in Energy and Environmental Design) certified facilities; and implementation of dozens of new policies and practices – many initiated by student advocates, others as a result of staff and faculty initiative – that shrink Cornell's ecological footprint and reduce costs associated with energy and other resources.

Campus student sustainability groups, such as Sustainability Hub, Big Red Bikes, KyotoNow, Sustainable Global Enterprise Club, Take Back the Tap and the Cornell Farm to School Program, have doubled in the last six years to more than 30.

In October, the university unveiled the Cornell Sustainability Plan, which brings together green groups and initiatives and coordinates initiatives on the Ithaca campus.

"The Sustainability Plan articulates our vision of how our academics, students and operations will work together to create a more sustainable campus and foster a living laboratory environment that will also aid teaching and research," says Bert Bland, senior director of Cornell's newly formed Sustainability Office.

The plan was developed by the President's Sustainable Campus Committee (PSCC), which provides broad oversight on administrative decisions that affect campus, local and regional sustainability, and supports a culture of sustainability through collaborations among staff, students, faculty and regional partners.

Close partnerships among operations, academics and administrative leadership make Cornell's approach to sustainability unique, according to Kyu Whang, vice president for facilities services and co-chair of PSCC. Whang, whose operations include 850 employees, considers sustainability central to every area under his leadership, from transportation to landscaping to facilities management, design and maintenance.

The PSCC tracks sustainability metrics and leads Cornell's participation in the Sustainability Tracking, Assessment and Rating System, a self-reporting framework for colleges and universities to measure their performance. Major to PSCC's activities are 10 focus teams, which, along with the Sustainability Office, implement, manage and coordinate green efforts on campus. They are:

People: helped form the Eco-Reps Program, which this fall recruited 24 students to be sustainability educators in their residence halls. An introduction to sustainability is being



built into new employee, freshman and transfer student orientations, and this spring a sustainability course will be offered for managers.

Water: works with students and staff to reduce the trucking of large plastic water-filled bottles for office water coolers. The team and campus groups like Take Back the Tap want to increase the consumption of tap water. The team also oversees maintenance of campus water filtration and storage systems; issues of storm-water planning and management; and watershed and ecosystem protection.

Food: helps build a regional, sustainable food system, in part by encouraging local food purchases, including through a partnership with the Cornell University Agricultural Experiment Station, which operates crop and vegetable research farms for the College of Agriculture and Life Sciences. It supports an annual dinner that features local and New York state farmers and merchants, and is key to composting and recycling education efforts in the dining halls.

Land: helps to implement the goals of the Cornell Master Plan, a guide for long-term green development on Cornell lands.

Energy: facilitates Cornell's efforts to reduce energy use by conserving, increasing efficiency, and switching to cleaner, renewable energy.

Purchasing: promotes Energy Star products, sweatshop-free apparel, recycled paper, and compostable and reduced-packaging products.

Transportation: is partnering with the Tompkins County Area Transit authority and such local and campus groups as Ithaca Carshare and Big Red Bikes.

Waste: supports the efforts of Cornell's recycling and solid waste department, which introduced single-stream recycling in fall 2011.

Climate: is committed to measuring and reducing greenhouse gas emissions on campus.

Buildings: works to improve the sustainability of campus buildings.

See www.sustainablecampus.cornell.edu and now.cornell.edu/sustainability/ for details.

BY LINDA B. GLASER

'Magnificent' new humanities building to be gateway to the Arts Quad

A magnificent new building for the humanities” will soon provide a gateway to the Arts Quad, President David Skorton announced in October, and will recognize the vitality and importance of the humanities at Cornell. It will create a space that transforms the experience of the Arts Quad, the emotional heart of the campus, by promoting student connections with the liberal arts and the humanities in particular.

The building also will help the College of Arts and Sciences meet the growing need for more faculty office and classroom space. Groundbreaking is targeted for summer 2013 with a projected opening in 2015.

The building will be “the first on our campus for the humanities since Goldwin Smith [Hall] opened in 1905,” said Skorton, who made the announcement in front of a packed Statler Auditorium at the Trustee Council Annual Meeting.

Located between Goldwin Smith Hall and East Avenue, the new building will provide some 33,250 square feet of new space, including a 330-350 seat auditorium, the largest on the Arts Quad, and many new offices and programmable areas. A 7,700-square-foot, expansive day-lit atrium will offer an iconic indoor space for faculty and students to gather. Its innovative and sustainable design will be a major architectural addition to the Cornell campus.

The building is expected to cost \$61 million and “we’re doing it completely by philanthropy,” Skorton said. At the Oct. 21 meeting, he told an applauding audience that fundraising for the project is “75 percent of the way there” and “we’re going to get all the way there by Jan. 1.”

“This spectacular building will symbolically and physically welcome the rest of the campus to participate in the humanities and arts at Cornell,” said Peter Lepage, the Harold Tanner Dean of the College of Arts and Sciences.

“We’ve been fortunate to have received a lead gift of \$25 million from a donor who wishes to remain anonymous, and it was that tremendous expression of support that allowed us to move forward with the project,” said Skorton. “I am extraordinarily grateful for this commitment to Cornell and to the humanities, which comes at a critical point in time.”

Among the project’s other lead donors is Tom Groos ’78 and his family, of Hastings, Mich. Groos, chairman of Minimax-Viking and a partner of City Light Capital, says that contributing

to the new humanities building was “an obvious choice.” “We’re very excited about our donation going to a place where we know it will be well spent on things that will have a positive impact on the future of the country and the world,” he said.

Skorton publicly thanked the anonymous donor and Groos and his family at the meeting; he also praised Lepage for his leadership in “bringing us to this milestone.”

In the 106 years since Goldwin Smith Hall opened, the humanities faculty in the College of Arts and Sciences has grown from 30 to well over 227 – an increase of more than 700 percent. The spectacular success of Cornell’s faculty renewal hiring initiative, especially involving humanists, has made the need for faculty offices and student classrooms even more critical, says Lepage.

The new building includes approximately 124 office-sized spaces that can be used for single faculty offices or could be combined to provide department offices, meeting rooms or conference rooms. “We are still exploring the best arrangement, but we do know that the building will include the Department of Romance Studies, in order to bring all the literature departments into one building,” says Lepage.

The building is planned to be LEED Platinum certified, with cutting-edge environmental technologies that include an extensive green roof system and variable air volume technology to provide energy-efficient ventilation.

In order to preserve Cornell’s iconic viewscape, the roofline of the new building will not be visible from the Arts Quad. An external promenade will run its entire length along East Avenue, providing tree-lined walking and gathering spaces.

A large café will occupy the lower level of Goldwin Smith’s rotunda, which will become part of the atrium. This new dining location will have extensive seating and feature a popular menu.

The architectural design firm is Boston-based Koetter, Kim and Associates, whose founders are both Cornell alumni. The firm also designed the recently completed Physical Sciences Building.

Linda B. Glaser is a staff writer for the College of Arts and Sciences.





The transparent glass facade will allow views into the new atrium space from Baker Lab, Rockefeller Hall, the East Slope Lawn across East Avenue, and the sidewalks along East Avenue. Inset: Currently, the rotunda and the rear of Goldwin Smith Hall are visible from East Avenue, but there is no entrance to the building.



At left and below: Additional renderings of the new Humanities Building. Goldwin Smith Hall's rotunda will be modified to open into the atrium of the new building.



Tiny microscopes will save lives

Weill Cornell doctors have high hopes for multiphoton endoscopy



Assistant professor Sushmita Mukherjee, director of the multiphoton microscopy facility at Weill Cornell.

From precancerous lesions in the bladder to polyps in the colon, pathologists are constantly examining tissue biopsies for diagnoses. Cornell researchers are pushing the limits of the well-established imaging technology called multiphoton microscopy by shrinking the microscopes so they can be inserted safely into a patient's body – minimizing the need for unnecessary biopsies.

The team collaborates with doctors at Weill Cornell Medical College, who will test the prototypes on human tissue samples. Eventually, with FDA approval, the doctors hope the multiphoton endoscope can be used in lieu of, or in tandem with, a traditional low-magnification optical endoscope in the operating room.

“Multiphoton endoscopy can act as an adjunct to our standard evaluation system and, hopefully, diminish the number of unnecessary biopsies we take,” says Douglas Scherr, urological surgeon and associate professor of urology at Weill Cornell.

For more than two decades, Watt W. Webb, the Samuel B. Eckert Professor in Engineering and professor of applied and engineering physics, has dreamed of making multiphoton microscopy, which he invented with colleagues in 1990, available in clinical settings to quickly image inside a person's liver, bladder, lung or any other organ. The same technology that uses two-photon excitation to harness cells' intrinsic fluorescence could be housed into the tiny end of a thin endoscope to directly image tissues or tumors.

“The motivation all along was to look at human cells,” Webb says.

Webb's lab, in collaboration with Chris Xu, associate professor of applied and engineering physics, is now developing several prototypes of multiphoton endoscopes. The latest – 4 cm in length and 3 mm in diameter – was described online in *Proceedings of the National Academy of Sciences*, Oct. 17.

Multiphoton microscopy acquires high-resolution

images deep below the surface of a tissue sample. This allows visualization of cellular details within unstained tissues that would be useful for pathologists to make diagnostic predictions.

Three Weill researchers – Fred Maxfield, professor and chair of biochemistry; Scherr; and Sushmita Mukherjee, director of multiphoton microscopy and assistant professor of biochemistry – are co-investigators on a National Institutes of Health-funded research grant, in collaboration with Webb's group, on multiphoton endoscopy. They have published several papers on how multiphoton produces fast, reliable and dye-free tissue imaging of human samples from at least seven organs.

Equipped with two benchtop multiphoton microscopes, the Weill researchers are testing multiphoton capabilities with tissue from patients (who signed releases) before the tissue is analyzed by traditional pathology methods.

“We not only have the corresponding histology, but also the clinical history of the person, so we know what is going on,” says Mukherjee, who runs the lab.

Developing an optical biopsy instrument has been called the “holy grail” for surgical endoscopy – the ability to get identical histologic information as one would obtain from a surgical biopsy without having to extract the tissue from the patient, Scherr says.

Bladder cancers, in which Scherr specializes, have high rates of recurrence because it is difficult to pinpoint and remove every area of malignancy, he explains.

Even so, 70 percent of all bladder biopsies are benign, Scherr says, because with the naked eye, a surgeon cannot distinguish between an inflammatory and a malignant lesion, so they have to biopsy it all to be safe.

The collaborations with Webb's group have proven a fruitful partnership that bridges the gap between applied physics laboratory research and clinical settings, Maxfield says. He recalls Webb's many meetings with doctors, starting in about 2005, when he was pitching the endoscope idea.

“It was actually fascinating to have this physicist come and make appointments with surgeons in various specialties,” Maxfield says.



Watt W. Webb, the Samuel B. Eckert Professor in Engineering and co-inventor of multiphoton microscopy, holds his lab's latest multiphoton endoscope prototype.

There's a 'personal robot' in your future

Someday you may have a personal robot to help around the house. It will clear the table and do the dishes, mop the floors, maybe even wait for the cable guy.

In Cornell's Personal Robotics Lab, Ashutosh Saxena, assistant professor of computer science, is developing the technology to make such devices possible. They might appear first as assistants for the disabled and elderly and could cost less than \$20,000 – perhaps even as little as a few thousand dollars.

It won't happen, Saxena explains, until we make robots more adaptable. Industrial robots are programmed to repeat an exact series of actions over and over. A household robot will have to adjust to constantly changing conditions: It will have to find the dishes on the table and find empty spaces in the dishwasher rack. It should be aware of where you are and what you're doing, so it can help if needed and not interrupt when you don't want it to.

"While the hardware is getting there, we need software that can make these robots truly smart," Saxena says.

The underlying technology is what

computer scientists call "machine learning," in which a computer program takes note of events and in effect reprograms itself in response. Machine learning often works on the principle of "What I tell you many times is true, but not exactly." Show a computer a lot of different cups and tell it that each one is a cup, and with the right programming, it will find the things that all the cups have in common and use that to identify cups in the future. Since sizes and shapes will never be exactly the same, the computer calculates the probability that a new object fits each of the models in its memory and chooses the one that scores highest. A similar process teaches the robot to find a cup's handle and grasp it correctly. This is not unlike what humans do in the first few months of life.

Placing objects is harder than picking them up, because there are many options. A cup should be right side up on a table but upside down in the dishwasher. A plate can lie flat on a table or slide vertically into a dish rack slot. So robots are programmed with different procedures for each type of object.

But first the robot has to find the dish rack.

Saxena and colleague Thorsten Joachims, associate professor of computer science, have developed a system that enables a robot to scan a room and identify the objects it sees. Several pictures from a camera mounted on a rolling robot are stitched together to form a 3-D image of an entire room. The robot's computer divides the image into segments, based on discontinuities and distances between objects. The goal is to label each segment.

The researchers trained a robot by giving it 24 office scenes and 28 home



Personal Robotics Lab/Provided

Above: A robotic arm hands Ashutosh Saxena a cup while his students watch in 2010. **Background from left:** M.Eng. student Stephen Moseson, graduate student Yun Jiang and TP Wong '10.

Below: To properly place dishes in a rack, a robot must identify empty spaces and place each plate in the correct upright position.

scenes in which they had labeled most objects. The computer was programmed to examine an array of features of each object, including color, texture and context – a keyboard, for example, is usually in front of a monitor – and decide what characteristics all objects with the same label have in common. In a new environment it compared each segment of its scan with the objects in memory and chose the one with the best fit. In early tests, robots successfully located objects, including a keyboard and a shoe, in an unfamiliar room.

Similarly, robots are learning to observe human activity by breaking 3-D video into a series of steps and learning the steps of common actions like brushing teeth or drinking coffee. In experiments with four different people in five environments, including a kitchen, living room and office, a computer correctly identified one of 12 specified activities 84 percent of the time when it was observing a person it had trained with, and 64 percent of the time when working with a new person. It also was successful ignoring random activities that didn't fit any of the known patterns.

But robots still have a long way to go to learn like humans. "I would be really happy if we could build a robot that would act like a six-month-old baby," Saxena says.



BY COREY RYAN EARLE



From elms to brains

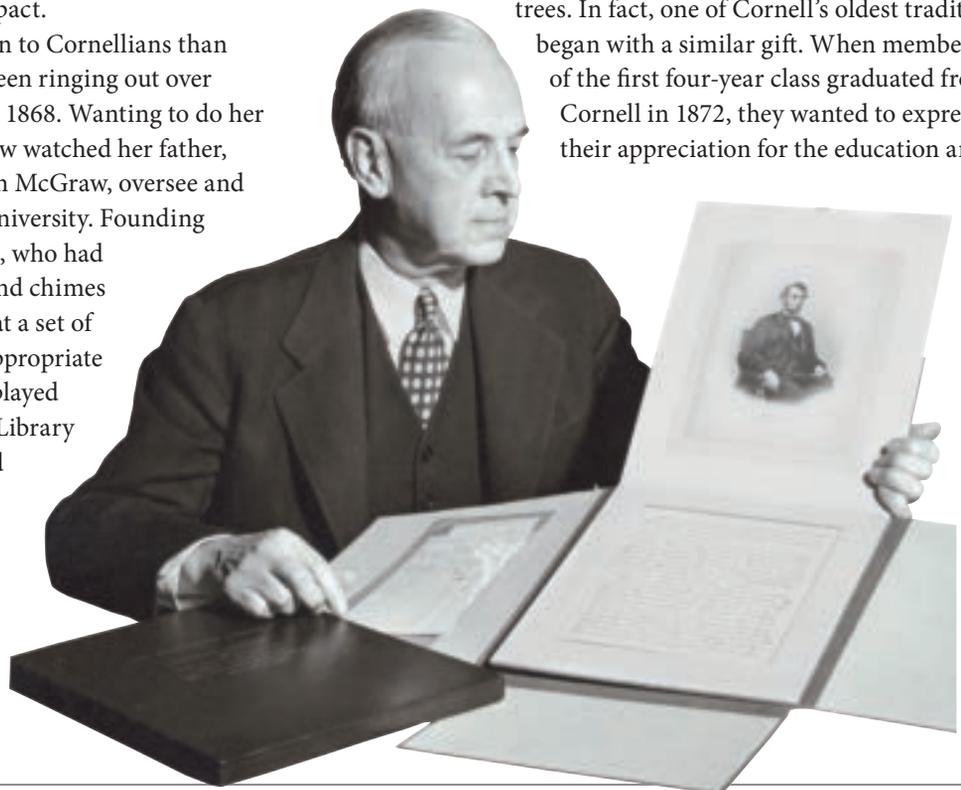
Cornellians who gave back in unique ways

When Ezra Cornell founded Cornell University with a gift of his land and \$500,000 (more than \$7 million in today's dollars), he established a legacy of philanthropy that would inspire generations to come. From state-of-the-art laboratory facilities to much-needed scholarship support, gifts of all sizes and types have shaped the university in myriad ways. Much like Ezra's farmland that became the main campus, nonmonetary gifts-in-kind often have a particularly visible or unique impact.

Perhaps no gift is better known to Cornellians than the Cornell chimes, which have been ringing out over campus since opening day, Oct. 7, 1868. Wanting to do her part to aid Cornell, Jennie McGraw watched her father, lumber merchant and trustee John McGraw, oversee and financially support the fledging university. Founding president Andrew Dickson White, who had grown enamored with carillons and chimes in Europe, suggested to Jennie that a set of bells might be a distinctive and appropriate gift. The original nine bells were played from a wooden stand where Uris Library stands, although they were moved to McGraw Hall in 1873 and finally to McGraw Tower in 1891. Subsequent gifts have enlarged the set of bells from nine to 21, allowing the musical repertoire to expand.

Like Jennie McGraw, local resident John Ostrander was inspired by Ezra's vision and the mission of his new university to educate "any person." A poor farmer, Ostrander offered the best elm trees from his farm. They were planted along East Avenue, providing shade for nearly a century before succumbing to Dutch elm disease. Today, they are remembered with a stone labeled "Ostrander Elms 1880" in front of Stimson Hall.

Ostrander was not the first to contribute elm trees. In fact, one of Cornell's oldest traditions began with a similar gift. When members of the first four-year class graduated from Cornell in 1872, they wanted to express their appreciation for the education and





From left: John Ostrander's elm trees (planted in 1877, pictured here in 1953) arched over East Avenue for nearly a century; the Cornell Chimes' bells began with a gift from Jennie McGraw; the "Prima inter pares '72" marker by Olin Library is a tribute to the Class of 1872's gift; in 2009, the Sigma Phi Society gave banners representing each college to hang in Willard Straight Hall; the Wilder Brain Collection was given by zoology professor Burt Green Wilder, who also bequeathed his own brain. Below left: A copy of the Gettysburg Address in Abraham Lincoln's own handwriting, held here by Cornell President Edmund Ezra Day, was given to Cornell by Marguerite Lilly Noyes in 1949.

opportunities they received. Their class gift was a double row of 72 elm trees, planted east-west on "President's Avenue" (from East Avenue to the west side of the Arts Quad – the path that President White walked from his home to a stone bench overlooking the slope). Although these elm trees are also long gone, a stone marker remains near the entrance of Olin Library that reads "Prima inter pares '72," which fittingly translates to "first among equals." Continuing the legacy of the Class of 1872, each senior class gives a gift as part of the Senior Class Campaign.

A gift of the heart is one thing, but what about gifts of the mind? The Wilder Brain Collection contains some of the most personal gifts received by Cornell. Burt Green Wilder was Cornell's first zoology professor, a former Civil War surgeon who also served as president of the American Neurological Association. Fascinated by the shape and size of brains, he began collecting the brains of particularly educated or notable individuals. In fact, many early faculty members bequeathed their brains to the collection, including psychologist Edward B. Titchener and biologist Simon Henry Gage, as well as Wilder himself. Wilder also acquired the brain of local criminal Edward Ruloff after the murderer became the last person publicly hanged in New York state. Professor Goldwin Smith was less successful in contributing his brain; it was detained at the Canadian border. Women's rights activist Elizabeth Cady Stanton also willed her brain to the collection, but her family objected and prevented the bequest.

A stone marker remains near the entrance of Olin Library that reads 'Prima inter pares '72,' which fittingly translates to 'first among equals.' Continuing the legacy of the Class of 1872, each senior class gives a class gift as part of the Senior Class Campaign tradition.

Many of Cornell's collections, especially those in campus libraries, were given to the university by alumni and friends. Perhaps the most valuable item held in the Rare and Manuscript Collections of Kroch Library is the Gettysburg Address, one of only five known copies in Abraham Lincoln's

handwriting. The Cornell copy was originally written for historian George Bancroft and passed through his family to grandson Wilder D. Bancroft, a chemistry professor at Cornell, who sold it in 1929. Marguerite Lilly Noyes purchased and returned the document to Cornell as part of an American history collection in 1949 in honor of her husband, trustee Nicholas H. Noyes '06.

Unique gifts continue to enrich the student

experience, expand research collections and beautify campus today. In 2006, Reed McJunkin '32 contributed a 22-foot-long python skeleton, one of the largest specimens in the world, to Cornell's Museum of Vertebrates, housed at the Lab of Ornithology. In 2009, the Sigma Phi Society provided 13 banners representing each college that hang in Willard Straight Hall's Memorial Room, replacing banners the fraternity contributed in 1990. These gifts, like the chimes and elm trees, remind us that anyone can have an impact on the Cornell experience.

Corey Ryan Earle '07, the 13th Cornellian in his family and a Cornell history buff, is associate director of student programs in the Office of Alumni Affairs.

BY JOE WILENSKY

New center will deepen public engagement, service learning, educational mission



To further foster the intertwining of educational excellence and social responsibility, Cornell has announced the new Center for Community Engaged Learning and Research. The center, which will be funded for its first three years through a gift from the Einhorn Family Charitable Trust (David Einhorn '91 and Cheryl Strauss-Einhorn '91) and with support from the Office of the Provost and the Division of Student and Academic Services, will be the core academic unit that connects public engagement to Cornell's educational mission.

"More than at any other time in recent history, Cornell is poised to renew and expand its mission of public engagement and public service," said President David Skorton, who pointed out that Cornell's Strategic Plan includes "excellence in public engagement" as one of five objectives. "We have embraced this mandate to make community-based learning a core academic goal and a top educational priority," he added. "By establishing the new center, the Einhorns' gift will allow us not only to enhance the work we currently do but also to launch an integrated public service initiative that will place Cornell as a leader for engaged teaching, learning and scholarship."

Last year, the Einhorn Family Charitable Trust provided seed funding for a study to look at the broad network of experiential learning and public engagement support for Cornell students and faculty and to recommend how to create a more integrated, collaborative and networked approach to engagement on campus. The study was conducted by the Faculty Committee on Service-Learning, led by Laura Brown, vice provost for undergraduate education; Susan Murphy, vice president for student and academic services; and Ron Seeber, senior vice provost.

"We are excited to help Cornellians better engage with what they are learning in the classroom and with the world," Cheryl Einhorn said. "The outcome should be a better understanding of and empathy for society's challenges along

with how we can work together to tackle them."

"This is an exciting opportunity for Cornell to be a champion for public engagement," added David Einhorn, "and we're honored to partner with the university as it aspires to produce civically engaged students of the world."

Richard Kiely, Ph.D. '02, who had been an associate director of Cornell's Center for Teaching Excellence for the past three years and has long been involved with Cornell's Public Service Center as a scholar in the field of community-engaged learning, will be the center's director.

"We have a strong tradition of engagement at Cornell," Kiely said, "and I look forward to supporting students, faculty, staff and community members in making Cornell a leader in engaged learning and research."

A tradition of experiential learning

Experiential learning – the idea that students can often learn more effectively through direct experience rather than through abstract thinking – has always been strong at Cornell, with its founding land-grant mission and history of public engagement. The role of the new center – created as a unit focused on support for the



academic mission – is to foster this “scholarship of engagement” in a way that will enhance and extend the university’s commitment to public engagement, Brown said.

Core to the trust’s mission of helping people get along better, service learning provides students the opportunity to build positive relationships across differences; practice and better develop prosocial skills and behaviors, such as empathy, kindness, cooperation and civility; and work collectively for the common good.

There is a palpable sense of excitement among faculty members who served on the committee, Brown said, “about the opportunity to take Cornell’s relationship to public engagement to another level.” The university is poised to be a national leader in this area, and the time is right, she said. The center will provide an infrastructure to “produce an integrated institutional awareness” and support the efforts of existing units like the Public Service Center, which fosters community involvement and service-learning curriculum development.

Within a few months, a Provost’s Fellow for Public Engagement will be named to help build an internal institutional infrastructure for public engagement.

Enhancing current efforts

The new center will work collaboratively, for example, with the Public Service Center to share resources, manage community partnerships and support faculty development opportunities; with the Office of Undergraduate Research to add community-based research projects into the undergraduate research experience; with the Office of



International Relations/Center for International Education to coalesce university procedures and policies for students taking on community-engaged learning and research across the globe; with the Office of Academic Diversity Initiatives and the Center for Teaching Excellence to increase student and faculty involvement in service-learning courses and in course development; and with the Center for Transformative Action, New York Campus Compact and Cornell’s extension system to increase the university’s leadership in the growing field of higher education public engagement.

Kiely said the center’s initial focus will be to promote the diversity of community-engaged learning and research at Cornell, providing professional development, funding and research opportunities. The center, he said, will give undergraduate and graduate students a guiding purpose and motivation for academic success through community-engaged learning; strengthen faculty members’ involvement in the field; and oversee support for current activities and courses, the development of new courses and program and curriculum design.

For more information, visit now.cornell.edu/engaged/ or email engagedcornell@cornell.edu.

This page, top image: From left, John Rhee ’12, Xochitl Cruz ’12 and Ashley Maher ’13 spend part of a September weekend helping residents of Owego, N.Y., clean up their homes after a devastating flood created by Tropical Storm Lee. Cornell’s Public Service Center, which celebrated its 20th anniversary this year, helped coordinate volunteer efforts with Owego officials and Cornell student groups. **Middle:** New students, from left, Gina Piersanti Gioe, Chrisoula Duros, Carleen Krieb, Abigail Woughter and Alyssa Troutner work on a blooming labyrinth at Hospicare during Pre-Orientation Service Trips (POST), one of the Public Service Center’s programs, in 2011.

Bottom image: Christy Pon, left, Carleen Krieb and Pat Nowak, all Class of 2014, volunteer at Ithaca’s Loaves and Fishes as part of POST in 2010.

Opposite page, above: Landscape architecture professor Paula Horrigan’s Rust to Green project in Utica, N.Y., is a high-profile, ongoing service-learning course. Here, Rust to Green civic research fellows in Utica this past summer install native plantings into a newly constructed green infrastructure bioswale and a rain garden of their design adjacent to Utica City Hall.

Opposite page, below: Richard Kiely, Ph.D. ’02, who had been an associate director of Cornell’s Center for Teaching Excellence for the past three years, is the director of Cornell’s new Center for Community Engaged Learning and Research.



Woods Bagot/Provided

An atrium view of the Marriott Student Learning Center in Statler Hall, as rendered by design firm Woods Bagot.

Marriott Foundation supports student learning center for the 21st century

Learning happens in physical, social and virtual spaces. With a \$3 million lead gift from the J. Willard and Alice S. Marriott Foundation, construction will soon begin for the Marriott Student Learning Center at Cornell's School of Hotel Administration (SHA), combining all of these components in what SHA Dean Michael Johnson describes as "one integrated space dedicated to how students learn today."

Scheduled to open in fall 2012, the learning center will unite the George B. Mallory '54 Student Lounge and the Nestlé Library. It will feature spaces for individual and group study as well as lounge areas for social interaction, and it will provide additional computer workstations and digitized library collections while maintaining library consultation services provided by resident librarians.

The gift – the largest received by SHA from the Marriott Foundation – represents a milestone in the more than 50-year relationship between the hotel school and the Marriott family.

Another crucial partnership helped pave the way for the center: the consolidation, begun in 2009, of the traditional library services of the Samuel Curtis Johnson Graduate School of Management, ILR School and SHA under the Martin P. Catherwood Library (located in ILR), creating the opportunity to re-envision 8,000 square feet of space within Statler Hall. "I think this is one of the best, concrete examples I've seen yet of not just finding a way to become more efficient, but finding a way to make something better through the 'Reimagining Cornell' process," Johnson says, referring to the university's strategic response to the economic downturn of 2008.

The center's design, which fosters collaboration, aligns with what Johnson describes as a "first-class undergraduate business education firmly grounded in the context of the hospitality industry." The dean explains: "SHA students need to be able to collaborate with other people, communicate effectively and access the latest technology. This environment is literally going to be built to facilitate the development of these skills."

Anukul Chandhok, a junior hotelier from India, agrees: "The hotel school is all about talking to people, knowing what's going on in the industry and knowing what your peers are up to. So if we have more such spaces where people are encouraged to participate, learning's going to be at another level."

Peter "Tripp" Plamondon III '15 has a special appreciation for the new student center: "I am a third-generation hotelier and fifth overall from my family, and the school has improved with each generation through these major enhancements to the building as well as the evolution of the curriculum." He adds: "The Marriotts are a great family, and the donation toward this new student center shows tremendous generosity on their part and on the part of the Marriott Foundation."

Apart from benefiting hotel school students, the Marriott Student Learning Center – along with SHA's campuswide programs such as the popular real estate minor – is expected to attract students from other colleges and schools. "If the Marriot Center can help us support activities where our students are working with students across campus in this new space, I couldn't be happier," Johnson says.

Engineers are getting down to business

Building a better mousetrap is one thing, but revolutionizing the mousetrap industry is quite another. After all, for every iPhone or Droid, there are several Apple Newtons or Iridium phones – technological innovations that failed in the marketplace because of poor planning, overhyped technology or failure to gauge public tastes accurately.

Historically, few young engineers, even those graduating from top programs like Cornell's, have had a solid training in business. For Cornell engineers, however, that is changing. Inspired by an initial investment for a pilot program and now secured with a \$7 million endowment, College of Engineering students have the opportunity to complement their technical education with a minor from a top undergraduate business program. The only other Ivy League engineering program to offer a similar business curriculum is the University of Pennsylvania.

The minor, which was launched in the 2007-08 academic year with the goal of offering practical business instruction to science and engineering students, is offered through the Charles H. Dyson School of Applied Economics and Management in the College of Agriculture and Life Sciences and produced its first graduates in May 2008.

"The Business Minor for Engineering Majors addresses a growing demand on the part of engineering students for business-related courses," says Lance R. Collins, the Joseph Silbert Dean of the College of Engineering. "I see it as nothing less than a means to ensure that Cornell-educated engineers are like few others – uniquely prepared to be innovative technical problem solvers but with a solid grounding of business knowledge."

The anonymous alumnus who envisioned and endowed the minor asserts that the most successful engineers he hires have "a real understanding of the entire process of how a product actually gets to market and is useful to society."

"We are grateful for the thoughtful and generous investment of the anonymous donor who is making this gift," says Kathryn Boor, the Ronald P. Lynch Dean of Agriculture and Life Sciences. "He has a keen understanding of the challenges in engineering, manufacturing and business, and a clear and compelling vision for providing Cornell students with the instruction and opportunity they need for careers of value and impact."

Students pursuing the minor take four fundamental



Students in the Financial Accounting course, which is one of the four fundamental courses taken by engineers enrolled in the business minor.

courses – Introduction to Business Management, Marketing, Finance and Financial Accounting – to complement courses identified in the College of Engineering. They also have the option of taking a capstone course that involves team-based, hands-on experiential learning, and also the chance to collaborate with non-engineering majors.

Deborah Streeter, the Bruce F. Failing Sr. Professor of Personal Enterprise and Small Business, organizes the one-credit capstone course, called Business Lab for Engineers, which takes place over three days during the spring semester.

"Students participate in a sort of simulated economy ... The idea is that each of the teams is running a company, and they have to make decisions on everything from marketing budgets to engineering specs," says Streeter.

The capstone course is facilitated by Paul Joseph '91, a self-employed business consultant. Each student team practices bringing a particular product to market, and the decisions they make along the way are run through a simulation program, giving the students quick feedback on the business consequences of their actions and those of the other teams.

"What has impressed me about the Cornell students is their diligence in trying to understand not just how the simulation works, but really the relevance in a business context," says Joseph.

Thomas Murray '10, a consultant in the emerging technologies and business strategy group of Navigant Consulting, says he uses the knowledge he gained through the business minor "every day."

In addition to understanding the technologies themselves, "You have to understand the business, how much does it cost to implement; what is the life cycle cost, and how do you determine the present value of that type of information?" he says.

The reaction among engineering students for the business minor has been positive, with between 60 and 90 students enrolled each year since the program began. The leadership of the Dyson School and the College of Engineering anticipate that the business minor will increasingly attract other science-based majors.

Charting the future: After a half century, the Einaudi Center looks ahead



Top left: Mario Einaudi and Cornell President Frank H.T. Rhodes at the center's renaming ceremony in 1991. Left: Cornell President David Skorton addresses the Einaudi Center's 50th anniversary symposium Nov. 14. Above: Einaudi Center Director Fredrik Logevall at the symposium.

From Cornell's earliest days, the university has looked outward. The first entering class of 407 students boasted five international students. For more than a century, Cornell has educated Chinese students and participated in large-scale research and scholarly exchange with China. When the Qatar campus of the medical college opened in 2001, Cornell became the first American university to offer its M.D. degree overseas.

This year the Mario Einaudi Center for International Studies, a key hub of international activity at Cornell, celebrates its 50th anniversary. "The university needs a robust, vibrant center for international studies," says Einaudi Center Director Fredrik Logevall, the John S. Knight Professor of International Studies. "We harness, direct, organize and support much of the international programming at the university."

At the center's 50th anniversary symposium in November, Cornell President David Skorton outlined his vision for international studies and international engagement at Cornell. Because the world's chief problems transcend national boundaries, he emphasized it is necessary to replenish faculty ranks with scholars who bring an international dimension to teaching and research. He also called for increasing the number of undergraduate students who engage in international experiences to 50 percent and expanding efforts to fund-raise for international studies.

Chris Barrett, the Stephen B. and Janice G. Ashley Professor of Applied Economics and Management and a symposium panelist, said, "Most of the world's biggest problems will take place in areas of the world where Cornell is comparatively advantaged to make a difference."



From left: Bartels Fellows the Dalai Lama (1991), Arkady Shevchenko (1985), Fared Zakaria (2011), Fernando Henrique Cardoso (2010), Desmond Tutu (2000) and Olusegun Obasanjo (1996).

In addition to faculty's impact through international engagement, he said, Cornell's impact can be multiplied many times through its students. "We can have a bigger footprint in the world if more of our students have international experiences," he said.

The Einaudi Center provides a home to seven core programs and supports 11 thematic international programs, and, through the 800 Cornell faculty members associated with its programs, makes an impact on virtually the entire student body. In addition to serving as an umbrella organization, it has its own programming and offers grants to graduate students and faculty.

"Cornell was a pioneer in the emphasis on regional expertise in many disciplines," Logevall said. "This was an interdisciplinary enterprise from the outset, bringing people together to educate Cornell students about the world, and in many cases making a contribution to solving problems. It's a very rich history. Today, we're reinventing ourselves to make our best contribution to the university's vision."

The center has hosted foreign policy luminaries and former presidents as Bartels World Affairs lecturers and as participants in the center's Foreign Policy Distinguished Speakers Series. It also conducts K-12 outreach, sponsoring college students to share their expertise about nearly every continent.

Launched in 1961 as a focal point for international studies and activities, the Center for International Studies expanded its operations in the '70s and '80s to include international development and organize the international undergraduate experience. In 1991, the center was renamed in honor of its founder, Mario Einaudi, the Goldwin Smith Professor of Government.

Upcoming plans for the Einaudi Center include bolstering the popular international relations minor and further developing the Foreign Policy Initiative by establishing a practitioner-in-residence program and by taking the center's popular faculty-alumni roundtable discussion of contemporary issues on the road, first to Washington, D.C., and eventually to other cities.

At the symposium, Logevall also announced that the Einaudi Center has just received the go-ahead to offer a postdoctoral fellowship program in global affairs with a likely emphasis on security studies, broadly conceived. "Thanks to the tremendous generosity of the Bartels family, we're now in a position to make this happen," he said.

The program is expected to launch in fall 2013 with two fellows, each of whom will teach an undergraduate class.

Many peer universities, Logevall noted, have devoted major resources to international studies and global engagement. "Over the past few decades, Cornell has not made that same investment," he said. "We're paying a price for that. ... It is by no means too late, but we have work to do."

"In this regard, it is good news," he said, "that international studies is a priority in the 'Cornell Now' campaign."

Alice Pell, Cornell's vice provost for international relations, said Cornell is poised to accelerate its activities and seeks to infuse an international dimension into all aspects of learning, research and engagement. "We are in a place where new ideas and approaches are possible. We have an opportunity for change," she said.



"Veggie-mobile," a photo taken in Vietnam's An Giang province by Edmund Joo Vin Oh. For years, the Einaudi Center has held a photo contest that features Cornell graduate students' images from abroad.



Fiaalii "Junior" Togiasso '15, near the Engineering Quad, above, and on the field for the Big Red men's football team, right.

Tough start, bright future

Dreams of becoming an engineer propelled this freshman to Cornell and the Big Red

Winning admission to highly selective universities like Cornell can be tough. Tougher still may be meeting the physical demands of playing Big Red football while studying in Cornell's top-ranked engineering college.

But Cornell freshman defensive tackle Fiaalii "Junior" Togiasso '15 has been overcoming obstacles and succeeding, inside the classroom and on the field, since middle school.

Cornell assistant coach Travis Burkett says when he was on the road recruiting and first saw films of Togiasso, he realized right away that he had the talent to play big-time college football.

"Athletically, you just don't find a player with that combination of size, quickness and strength very often," says Burkett. "What jumped off the film was his ability to run to the football and the passion he has for playing."

When Burkett talked with him about Cornell's engineering programs, Togiasso's eyes lit up. Togiasso hoped to

major in civil engineering, Burkett learned, and he has always dreamed of building things.

"Once I talked with him about engineering I knew we had an advantage over Yale and Princeton because if you want to be an engineer and you want to play in the Ivy League, there should only be one choice: Cornell," says Burkett.

Andy Noel, the Meakem*Smith Director of Athletics and Physical Education, says that Cornell's success in enrolling talented student-athletes often depends on the competitiveness of the university's financial aid packages. "We compete every year with much wealthier universities – Harvard and Princeton, for instance. Fortunately, as a result of the president's commitment to enhancing access, Cornell is decreasing the debt burden for low-income families and increasing the size of its grant awards. It has also made scholarships a top fundraising priority. All of these efforts do a good job of leveling the playing field."

The son of native Samoans, Togiasso is the eldest of four

brothers. In fifth grade, one of his teachers in San Diego recommended him for a charter school with a mission to prepare low-income students to become the first in their families to earn a college degree.

His size (by eighth grade, he was 5'8" and 270 lbs.), athletic skill and good grades subsequently caught the eye of recruiters at La Jolla Country Day, a high school that offered him a scholarship. At the time, Togliaso's parents were out of work. The family lost its apartment and was forced to move from one cheap hotel room to another.

Jeff Hutzler, the athletic director and head football coach at Country Day, took Togliaso under his wing. When Togliaso's family moved to Long Beach in pursuit of work during his junior year, Hutzler and his wife

invited Togliaso to stay in town in their home. Two years later, he still has a room there.

Despite a serious knee injury during his junior year, his performance playing defensive and offensive line attracted the attention of football powers such as Stanford, UCLA, Texas-El Paso and Utah, and Cornell's Ivy League rivals Yale and Princeton. Representatives from those football programs, Togliaso recounts, talked to him more about athletics than academics.

"So many coaches were about what their football team did, how many championships they'd won, what their model in regards to football is," says Togliaso. "But at Cornell, Coach [Kent] Austin really did well talking to me about character, honor and loyalty. It's one of the biggest reasons why I chose Cornell."

Then, this past September, during practice, Togliaso slipped, fell and broke his thumb. As much as he wanted to play this past season, Togliaso sees the bright side of being a medical redshirt, which means that he gets an extra year of eligibility under NCAA rules but cannot play in any more games this season.

"Things happen for a reason. I love to play football, and it bums me out that I don't get to travel with the team," says Togliaso. "But now that I'm redshirting I can focus on academics more and get a solid foundation there."

"He's struggling, like most first-year students do in the College of Engineering," says Burkett. "But he's an upward trajectory guy, and I know he's going to do great things."



The latest talent on campus

Introducing five new members of the university's faculty



Anthony Burrow

assistant professor, human development

College: Human Ecology

Academic focus:

The influence of racial identity on psychosocial adjustment, purpose in life among youth.

Previous positions:

Assistant professor, psychology, Loyola University of Chicago, 2007-11; postdoctoral research fellow, Multicultural Research Institute, University of Notre Dame, 2005-07.

Academic

background: B.A., psychology, University of North Carolina at Chapel Hill, 1998; M.S., developmental psychology, Florida International University, 2002; Ph.D., developmental psychology, Florida International University, 2005.

Last book read: "The Stranger" by Albert Camus.

In his own time:

"Spending time with my family, watching movies, sightseeing."



Andreea Minca

assistant professor, financial engineering

College: Engineering

Academic focus:

Mathematical modeling of systemic risk, distress propagation in financial networks, credit risk, random graphs.

Academic background:

B.S. and M.S., engineering, Ecole Polytechnique, 2007; DEA probability and finance (equivalent to master's degree), Ecole Polytechnique, 2008; Ph.D., applied mathematics, Paris 6 University, 2011.

Last book read: "The Unbearable Lightness of Being" by Milan Kundera.

In her own time:

Amateur theater, painting, traveling, enjoying time with friends.



Victoria Prowse

assistant professor, economics

College: ILR School

Academic focus:

Labor economics and experimental economics, including evaluation of tax and transfer programs, retirement, pensions, behavioral economics and learning.

Previous positions:

University lecturer, fellow and tutor, economics, 2007-11, University of Oxford, United Kingdom; junior research fellow, 2006-07, University of Oxford, United Kingdom; research affiliate, Institute for the Study of Labor, Bonn, Germany, 2005-08.

Academic background:

B.A., economics and management, 2002; M.Phil., economics, 2004; D.Phil., economics, 2007, all from University of Oxford.

Last book read: "The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It" by Paul Collier.

In her own time:

Traveling and hiking.



Adrienne Roeder

assistant professor, plant biology

College: Agriculture and Life Sciences

Academic focus:

Plant cell and developmental biology; using imaging and computational biology to understand how plant cells divide and grow to form leaves and other plant organs.

Previous position:

Postdoctoral scholar, California Institute of Technology, 2005-11.

Academic background:

B.S., biology with minor in mathematical and computational science, Stanford University, 1999; Ph.D., biology, University of California, San Diego, 2005.

Last book read: "The Immortal Life of Henrietta Lacks" by Rebecca Skloot.

In her own time: Hiking, baking, reading and traveling.



Marten Wegkamp

professor of mathematics and statistical science

College: Computing and Information Science

Academic focus:

Classification, copula modeling, learning theory, empirical process theory, matrix estimation and completion, model selection and aggregation, nonparametric estimation.

Previous positions:

Associate professor/professor of statistics, Florida State University, 2003-11; assistant/associate professor of statistics, Yale University, 1997-2003.

Academic

background:

M.S, 1992; Ph.D., mathematics, Leiden University, the Netherlands, 1996.

Last book read: "Lotte Weeda" by Maarten't Hart.

In his own time:

Music, photography, hiking.

Cornell at a crossroads

“We drink deeply from wells we did not dig, we luxuriate in the fruit from trees that we did not plant, and we eat bountifully of harvest from soil that we did not cultivate. Now we must prove worthy of these sacrifices by prior generations demonstrating our own commitment to the generations to come so that the great story of America, our collective sacrifice and our collective struggle for our common ideals, may continue and flourish.”

These are words spoken by Cory Booker, the brilliant young mayor of Newark, N.J., and they are equally true of Cornell. We are all the beneficiaries of the work done by previous generations of Cornellians who enabled us to have a great education. And, in so many ways, the education we received as a result of the fruits of their efforts necessitate that we provide the same opportunity to future generations of Cornellians.

A great education does not happen by itself, and it does not happen without facilities and people. If it did, we'd all be attending online universities. A great education requires enthusiastic and engaged faculty, first-class classrooms, labs and housing, talented students with whom to collaborate to attain the truth, and a dynamic environment where learning for the next centuries can take place.

Cornell is blessed with an excess of opportunities from which to choose how it will move forward. The scope on the Ithaca campus alone spans many academic disciplines, the only limitation being the lack of sufficient funds to pay for everything we'd like to do. That reality points to the importance of the “Cornell Now” campaign's goal, which is to make the priorities enunciated in the “Cornell University at its Sesquicentennial” Strategic Plan a reality. Specifically we want to:

- assure a great faculty of the future;
- advance growth areas for world leadership;
- maintain a culture of teaching excellence;
- catalyze connections across the colleges;
- strengthen our core competencies;
- reflect global diversity; and
- improve lives and find solutions.

To do this, we have looked at what Cornell does best, and we have developed overarching themes for our drive



Andrew Tisch '71

CORNELL IS BLESSED WITH AN EXCESS OF OPPORTUNITIES FROM WHICH TO CHOOSE HOW IT WILL MOVE FORWARD.

to 2015. We are primed to make transformative contributions because we understand the global implications of managing one planet, the convergence of care in maintaining health and preventing disease, the need for a sustainable future and the benefits of a return to the fundamentals of knowledge and ethics.

Cornell is an institution that is constantly changing and renewing itself to meet the needs of current and future generations.

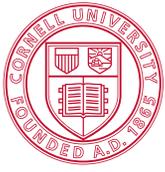
As we approach our 150th birthday, we are enhancing our campuses in Ithaca, New York City and Doha, Qatar, to ensure they are cutting-edge centers for education and research. We have a presence around the country and the globe, including Washington, Beijing, Tanzania, Haiti, Rome, Jakarta, Paris and many other countries. And Cornell is in every county in New York state. We involve ourselves widely to meet the needs not only of our students but also the people of our state, country and the world.

It is not coincidental that the goals of the Cornell Now 2015 Capital Campaign dovetail with the needs of the university as we strive not just to remain relevant, but to accelerate the pace of growth of our influence in improving our world. The capital, scholarship and faculty renewal needs enunciated in the campaign are all necessary to keep Cornell vibrant, alive and relevant – not for us, its alumni, but for the current and future generations of Cornellians.

In the years to come, it will be the current students' obligation to move Cornell forward to its bicentennial.

Today, that obligation is ours.

Andrew Tisch '71 is co-chair of “Cornell Now,” a member of the Cornell University Board of Trustees and co-chair of Loews Corp.



Cornell University

Ezra magazine
Circulation
130 E. Seneca St., Suite 400
Ithaca, NY 14850

Non-Profit Org.
U.S. Postage
PAID
Cornell University

the FUTURE within reach

As Cornell approaches its sesquicentennial
in 2015, it continues to lead the way
as the nation's original opportunity
university and New York state's
land-grant institution to the world.



discover the possibilities
visit now.cornell.edu