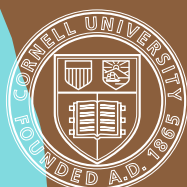


HumanEcology

POWERFUL Collaborations



Cornell University

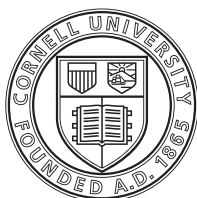
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Design by Valerie McMillen and icons by Freepik.



Human Ecology

Volume 44 | Number 1 | Spring 2016

ISSN 1530-7069

Published by the New York
State College of Human
Ecology at Cornell University

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Printed in U.S.A. on FSC
certified paper

Third-class postage paid at
Ithaca, N.Y.

Change of Address

To ensure uninterrupted
delivery, write to Cornell
University, College of Human
Ecology, Box HE, Ithaca, NY
14853-4401, with old and new
addresses.

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IMPROVING LIVES BY
EXPLORING AND SHAPING
HUMAN CONNECTIONS TO
NATURAL, SOCIAL, AND
BUILT ENVIRONMENTS

In the earliest days of the Department of Home Economics, our founders already understood the importance of collaboration. In building their new program in the early 20th century, Flora Rose and Martha Van Rensselaer sought experts in a wide range of fields, convinced that the knowledge that comes from reaching across disciplines was critical to effecting practical, real-world change in the home.

Much has happened in the years since, but as our challenges become ever more complex and interconnected, the College of Human Ecology remains committed to its original vision. Our work is interdisciplinary because our world demands it, and in pursuing our mission, CHE faculty continue to search for the kind of lasting, far-ranging solutions that can only be found by building bridges across the university and around the globe.

With this issue of *Human Ecology*, we focus on some of these pioneering efforts, as CHE researchers join forces with experts in the College of Engineering and Weill Cornell Medical College, creating partnerships in civil engineering, computer and electrical engineering, materials science, mechanical engineering, systems engineering, and medicine ("Problem Solvers"). Through these novel collaborations, our faculty and students are driving innovations to support human needs—such as insights into the mechanics of the resting brain and smartphone-based "lab in a pocket" technology that will revolutionize population health. Looking to the future, they are also anticipating the regulatory framework for autonomous vehicles and devising thermoregulatory clothing that heats or cools the person rather than the place.

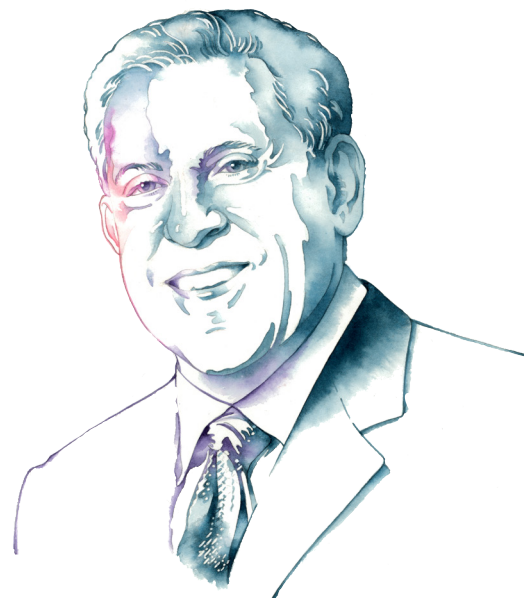
As our researchers break new ground, students are right there with them. Year after year, Human Ecology leads all Cornell colleges with the highest proportion of undergrads engaged in faculty research, building upon classroom lessons to create new knowledge in the lab and the field. We highlight the close-knit relationships that develop between students and their mentors, uncovering how these partnerships lead to new ideas in design,

nutrition, fiber science, human development, and policy analysis ("Side by Side").

Much of this work originates in Ithaca, but its reach is global. In this issue, you'll read how faculty and students travel to the Dominican Republic to develop bamboo-based, hurricane-resistant structures ("Grass Houses"), and Tanzanian nutritionists visit campus to foster dialogue between educators, health care workers, and public policy makers ("Knowledge into Action"). Through the work of our alumni, we see breakthroughs in information technology ("A Direct HIT"), entertainment ("Chart Toppers"), water safety ("Book of Life"), and community development and education ("Maximum Potential")—to name just a few of the global solutions that flow from our work.

Finally, honoring the spirit that makes these achievements possible, we celebrate the most successful capital campaign in the history of the college, raising a record \$94.6 million and far surpassing its goals ("The Giving Spree"). Your generosity leads directly to increased student scholarships, faculty renewal, state-of-the-art facilities, and many more tangible outcomes.

We're proud to have received 22,000 gifts in the past decade, which have enriched the experience of Human Ecology at every level, and we're grateful for the support that has made this such a transformative time in the life of the college. Thanks to you, Human Ecology continues to expand its impact, forging new partnerships, new solutions, and new ways to explore our human connections to the world.



Alan Mathios



Above: A community health worker interviews a Tanzanian mother. Right: Jeanne Moseley, associate director of Cornell's Global Health Program, leads a workshop during the campus visit by Tanzanian colleagues.

Knowledge INTO ACTION

Researchers share strategies for improving health in Tanzania

Last October, ten Tanzanian nutritionists spent two weeks on campus with Division of Nutritional Sciences faculty members and researchers, talking about ways to improve nutrition interventions and education at the local level in Tanzania.

The collaborative project, “Building Strong Nutrition Systems: Implementation Science in Support of Scaling up Nutrition,” is funded by a grant from the Bill & Melinda Gates Foundation. Cornell nutritional sciences professor Rebecca Stoltzfus, director of the college's Global Health Program, is co-principal investigator on the project along with Mary Mosha, lecturer in the Department of Community Health at Kilimanjaro Christian Medical University College, located on the slopes of Mount Kilimanjaro.

The project's aims are emphasized by sobering statistics: Globally, more than one-third of children suffer from malnutrition. Eliminating childhood malnutrition would reduce child deaths by about 35 percent and help break the intergenerational cycle of family poverty.

The partnership began with an assessment of nutrition knowledge held by village- and

district-level medical and educational staff in several Tanzanian communities, knowing that success depends on the scaling-up nutrition model to train a sustainable, in-country workforce in nutrition education and effective interventions. Currently, project leaders say, weaknesses in the capacity to deliver high-quality nutrition interventions affect the health of 7.3 million children and 10.9 million women of reproductive age in Tanzania. The second phase looks at the best ways to develop and implement a curriculum for Tanzanian nutrition workers.

“At the policy level, Tanzania is a good example of having a forward-looking, national strategy where nutrition is seen as being very much a part of development, food security, healthy diets, and infant feeding,” says Stoltzfus. “But when we went down to the grassroots level, we found this big gap and lack of understanding.”

The goal of the two-week session at Cornell, says Mosha, was “to turn knowledge into action and build a strategy to move forward.” Over the course of this year, each of the five participating Tanzanian institutions will choose one community to test the

recommendations, curricula, and capacity-building resources that came out of the workshop; then, near the end of the two-year project, attendees will share their results.

“In Tanzania, a lot of action depends upon relationships,” says Stoltzfus, talking about a recommendation to hire a nutrition officer in each district. “Education in Tanzania is most effective when it is in person, dialogical, and participatory. So we're trying to figure out some ways to use [our] resources ... but also to use the educational institutions in Tanzania and their students, who often go into the communities, to build relationships.”

“This was a great opportunity,” said attendee Akwilina Mwanri, a lecturer in human nutrition at Sokoine University of Agriculture. “Even for us, from institutions in Tanzania, we rarely meet and have discussions about our nutrition issues in our country. We also have created a new networking system [where] it's easier for us to know who is doing what at Cornell, who we can collaborate with, and who can assist in this issue.”

— Joe Wilensky



Dominican teens enjoy a performance by the Recycled Orchestra of Cateura, a Paraguayan musical group, at the outdoor classroom designed and built by the Cornell team.

Grass HOUSES

Jack Elliott pioneers bamboo-based building in the Dominican Republic

A technology created by Jack Elliott, associate professor in Design and Environmental Analysis (DEA), has been adopted to build bamboo hurricane- and earthquake-resistant structures where they're needed most: the Caribbean. Last year, in the first field test of Elliott's Triakonta system, Cornell students helped build an outdoor classroom for the Puntacana Ecological Foundation on the eastern tip of the Dominican Republic.

"The structure itself is elegant and has sparked dialogue about sustainable architecture amongst visiting guests, students, and architects," says Jake Kheel MS '02, environmental director of Grupo Puntacana, which operates a resort adjoining the eco-preserve.

The classroom, he continues, "will showcase new design concepts for construction in the Dominican Republic.

Eventually, if this type of bamboo is produced in the Dominican Republic, we could fine-tune the construction methods and bring costs down, making this a viable option for sustainable tourism."

The type of bamboo, called guadua, is a fast-growing, large-diameter variety from the Amazon basin that Chris Dennis '13 hoped to cultivate in Haiti. Dennis had transferred from McGill University to Cornell, where the young filmmaker studied communication as well as international agriculture and rural development. When he asked for help designing sun-shade nurseries for bamboo sprouts, Elliott knew he'd found an application for Triakonta technology.

Named for the triakontahedron—a 30-sided rhombic polyhedron first depicted in the 1600s by mathematician Johannes Kepler—Triakonta uses metal nodes (fasteners) that hold together struts

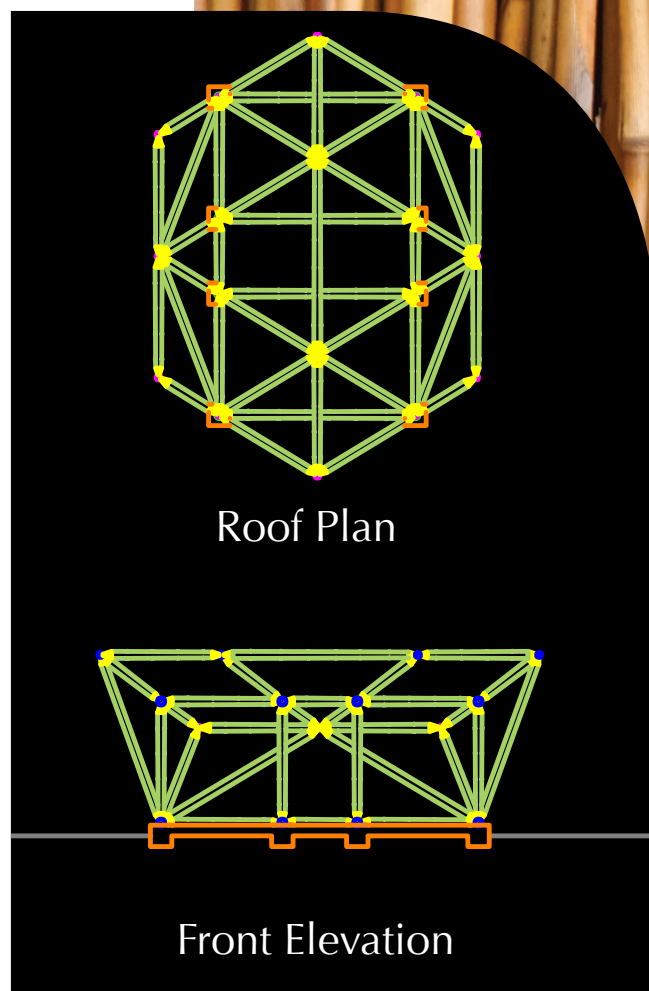
(framing timbers) in nearly any orientation imaginable. With three different lengths of bamboo struts and a set of cast-aluminum nodes, structures can be assembled anywhere, in all shapes and sizes, and disassembled for later reuse.

Elliott, a Human Ecology faculty member since 1998, invented the Triakonta system after he was asked to design a multi-purpose building for the Ithaca Children's Garden. Elliott's initial designs weren't "figurative enough" for administrators at the garden, which features a giant, earthen playscape in the shape of a turtle.

"They were thinking of something more biomorphic, like a giant bumblebee," Elliott recalls, and at first he was taken back: "I'm a serious designer. I don't do bees." On second thought, Elliott relented and came up with a critter-shaped design that would wrap around a circular garden and rise with



Elliott and students completed a test build in Cornell's High Voltage Laboratory before erecting the structure in Punta Cana.



a tower, “not unlike an otter raising its head and looking back on itself.” The building was designed as a geodesic space-frame structure—using black locust, a locally grown, low-demand hardwood, and offering plenty of space for photovoltaic paneling.

The Triakonta otter has yet to arise, and that’s why Elliott was thrilled to find students who shared his dream: leveraging the virtues of bamboo—fast-growing in tropical climates, strength and durability, carbon sequestration—to create an affordable, modular, reusable structural framing system for community builds. From schools to medical centers, recreational facilities, and disaster-relief housing, the possibilities are practically endless.

“I was most impressed with the simplicity in the fabrication and construction of the structures,” says Nick Teaford ’15, one of more than 40 Cornell students who assisted in the Triakonta projects on campus and in the Dominican Republic. “With a small group of students working scattered hours around our studies, we were still able to learn how to machine most of the parts, pour our own concrete to fill the bamboo, and erect the structure ourselves. After this field test can be analyzed, I’d like to see this system become used in sustainable, temporary

structures for disaster relief groups.”

Tragically, Dennis didn’t live to see his vision come to fruition. He disappeared from an overturned canoe in May 2013, as the sun was rising over the deepest, coldest part of Cayuga Lake, just days before Cornell graduation. As a tribute, the Puntacana Ecological Foundation’s bamboo classroom has been named in his honor.

Elliott continues to develop plans for an engaged learning curriculum in sustainable building practices. In the fall semester, he hopes students will design public facilities with the Triakonta system and work alongside residents in community-build projects during winter breaks. A follow-up course in the spring would cover project analysis and reflection.

“This project could not have been realized without the financial support of some key people and organizations over the years,” he adds. “Thanks go to the Cornell Public Service Center, Richard Kiely, director of Engaged Learning + Research, the Kaplan family, the Dennis family, Jake Kheel and the staff at the Puntacana Ecological Foundation, and the students, faculty, and staff at Cornell for their efforts.”

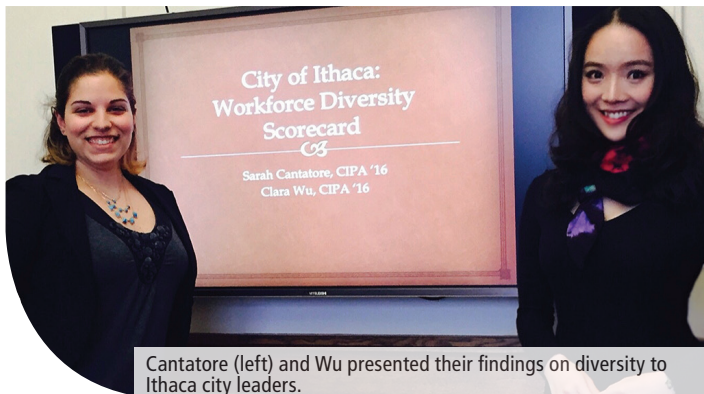
— H. Roger Segelken

Jack Elliott jackelliott.human.cornell.edu



Strategic PLANNERS

CIPA students help organizations at home and abroad



Cantatore (left) and Wu presented their findings on diversity to Ithaca city leaders.

Last fall, Sarah Cantatore and Clara Wu, students in the

Cornell Institute for Public Affairs, tackled the most complex project they'd ever done: creating a "diversity scorecard" to assess how the City of Ithaca builds and maintains its workforce.

To design the scorecard, the students drafted and distributed surveys, conducted focus groups, analyzed feedback, and crunched numbers. But their most important finding came from a simple interaction at their first focus group. They asked city employees and residents to rate words such as "respect" and "accountability," and one participant said, "I'm not sure if I did this correctly."

"Well, there are no right or wrong answers," Cantatore replied. "We just want to see how people conceptualize this idea."

When asked for feedback, several participants said knowing there were no wrong answers was helpful. "So that was one of the first things we said to the next focus group," Cantatore says. "Learning how to conduct a focus group was very valuable, not just for doing this type of work in the future, but also for interacting with the public and understanding how to be very clear in your messaging."

It was one of many lessons during the CIPA capstone class. "The purpose of the program is to provide students with experiences that will help them gain the knowledge and skills they need to solve problems in the real world," says Laurie Miller, associate director for CIPA Public Engagement and the capstone instructor.

Eight groups of students took on projects for nonprofit, for-profit, and government organizations around the world, from nearby Danby, N.Y., to Haiti, Honduras, Mexico, and Panama. The students helped early-stage organizations in strategic planning and fundraising, while more established organizations received assistance analyzing longstanding policies and programs.

One group identified how the Danby Volunteer Fire District could improve the way it collects and transports water to fire scenes. Another assessed how Mexico's Ministry of Health could deploy midwives and obstetric nurses to rural Chiapas so that fewer women die during childbirth. A third explored the benefits of a building a new port on the Panama Canal to handle ships carrying cars, trucks, and railroad cars.



Climate Changers, an Ithaca nonprofit, needed a strategic plan to help grow from a concept into a functioning organization. Global Livingston Institute in Uganda asked a CIPA team to assess former child-soldiers' most pressing physical, mental, and vocational needs.

No matter where their client organizations were based, the students had to grasp the economic, social, and political conditions that affected their clients and their communities, says Miller.

"Students who come from an entirely different culture have to learn a lot at the beginning of their project if they're going to have a chance to be successful."

The students overcome cultural barriers by talking with clients, as well as with former and current CIPA students and faculty who have experience with the organization or the region. Some of the projects begun in this fall course were carried over into the spring; new teams received the opportunity to visit clients overseas and reassess the situation on the ground. In every project, Miller says, the work is focused on meeting client needs.

"The products and presentations have to be great—really relevant and offer realistic recommendations—before they are given to the clients," Miller says. "The capstone students have to achieve a certain level. And they do."

—Susan Kelley

CIPA, Peace Corps launch Fellows Program

In December, the Peace Corps and CIPA joined to offer a new Paul D. Coverdell Fellows Program that will provide scholarships for graduate studies to returned Peace Corps volunteers.

All program fellows will complete internships in underserved American communities, allowing them to bring home and expand upon the skills they learned as volunteers. Fellows will receive a tuition fellowship award of at least \$8,000 per year.

"We are delighted to partner with Cornell University to support our returned volunteers as they pursue higher education and continue their commitment to service," Peace Corps Director Carrie Hessler-Radelet said. "Communities are moved forward by the selflessness of volunteers, and returned Peace Corps volunteers have unique skills and experiences to offer their local communities."

Said Alan Mathios, the Rebecca Q. and James C. Morgan Dean of the College of Human Ecology: "Given their rigorous interdisciplinary field experience, Peace Corps volunteers are an ideal fit for the mission of the college. I am confident that Cornell's MPA program, supported by a global community of public affairs professionals, will provide opportunities for these fellows to advance their careers and make a positive impact on our world."



Lewis (right) and graduate student Sarah Portway use the Fiberizer to turn discarded clothing into composite materials for a variety of purposes.

In January, Fiber Science & Apparel Design (FSAD) faculty members Tasha Lewis, PhD '09, and Anil Netravali received \$150,000 for breakthroughs in textile manufacturing, no-waste apparel design, and reusing post-consumer textiles. The grant, given by the Walmart Foundation and the U.S. Conference of Mayors, is part of a \$10 million effort supporting new technologies to increase sustainability and decrease domestic production costs.

"Through these grants we hope to help remove the barriers to revitalizing and growing U.S. apparel manufacturing while creating more sustainable production processes," said Kathleen McLaughlin, president of the Walmart Foundation and chief sustainability officer for Walmart. "The U.S. Manufacturing Innovation Fund is part of Walmart and the Walmart Foundation's broader commitment to foster new economic growth and opportunity and create stronger communities."

Lewis, who is also a faculty fellow at Cornell's Atkinson Center for a Sustainable Future, focuses her research on the impact of technology in the apparel industry, the behavior of fashion brands, issues in global and domestic apparel production, and the significance of social responsibility throughout the apparel and

Sustainable Threads

Professors receive a grant to develop zero-waste fashion solutions



Roughly 12 million tons of clothing are thrown away each year, leading Cornell apparel experts to investigate a no-waste solution.

product supply chain.

"Our project aims to reduce the consumption of natural resources to create virgin textiles," says Lewis. "We're also trying to divert used and unwanted clothing away from trash and landfills—all the while putting textiles to better use as a raw material."

"A lot of water is consumed during the textile dyeing and finishing processes, so if we find new ways to use discarded textiles, that's water and landfill use we save," she continues. "The fabric-shredding machine called Fiberizer—developed as a proof-of-concept with Anil

Netravali, through funding from the Atkinson Center—transforms textile waste to make it usable for other products. So we'll apply this grant to develop an industrial-grade Fiberizer for small and medium-sized businesses."

"The Fiberizer opens up the possibility of a 'zero-waste' solution," adds Netravali.

Cornell is among five universities that received grants to create new manufacturing technologies and reduce the cost of producing goods in the U.S.—with the goal of creating jobs and expanding America's manufacturing base. Previously,

Lewis and Netravali explored fashion upcycling—converting secondhand clothing into fashionable new products—in partnership with Canadian-based apparel company LB Designs, a project that led them to see the potential for no-waste fashion design.

Ithaca Mayor Svante Myrick '09 supported Cornell's bid for the grant, explaining how Lewis and Netravali established strong links with Tompkins County entities involved with recycling textiles, including SewGreen, All County Used Clothes, and Catholic Charities.

"While the project has local implications, it also relates to ... the larger apparel manufacturing sector ... in New York," said Myrick. "This engagement aligns with the core land-grant mission of Cornell University and is a perfect representation of how the research activity on campus can serve the immediate needs of the community."

— Blaine Friedlander

Germ THEORY

Nicolas Ziebarth researches the effects of sick leave legislation



In the United States, where about half of all workers lack paid sick leave, the flu is estimated to cost \$87 billion annually. But according to research by Nicolas Ziebarth, flu rates would decline by at least 5 percent if Congress authorized mandatory paid sick leave.

“There’s compelling evidence that a lot of people go to work sick,” says Ziebarth, assistant professor of policy analysis and management. “Paid sick leave is an effective tool to reduce the share of people who go to work when they are ill.”

Those without coverage, especially low-wage employees, are more likely to work with an illness. “Not only is their work productivity lower, but when they have infectious diseases, like the flu, they spread these diseases, so co-workers and customers get sick,” says Ziebarth. “You have negative spillover effects, and nobody wants that—no employer, no customer, no worker.”

No other research has looked at changes in the paid sick leave system and gauged their effect on infection rates, because only a handful of cities and states have laws that require mandatory sick leave. In 2007, San Francisco was the first, and was followed by Seattle, Portland, New York City, and Philadelphia.

On the state level, Connecticut passed a mandatory sick leave law in 2012, and the movement is gaining momentum, with California, Massachusetts, and Oregon enacting laws in the past two years. “Those big states will be game-changers,” Ziebarth says, as other

states watch to see what effects the laws have.

The laws generally require employers to provide one hour of paid sick leave for every week an employee works. After eight weeks of work, employees accrue one day of sick leave. Opponents of paid sick leave typically argue that it dampens job creation and encourages workers to call in sick when they are actually well. But Ziebarth believes employees generally use sick days when they really need them. “That minimizes cheating on the system,” he says.

Published by the Upjohn Institute for Employment Research, “The Pros and Cons of Sick Pay Schemes” established a theoretical framework showing how paid sick leave reduces the number of people coming to work sick, called presenteeism. Ziebarth and co-author Stefan Pichler compared flu rates in the U.S. cities and states that had enacted mandatory sick leave, and found a 5 percent decrease in the flu rate after the laws had been passed.

In a related paper written with Human Ecology undergraduate Philip Susser ’16 and under review with the journal *Health Services Research*, Ziebarth found that those most likely to work while ill are employees making \$20 or less per hour. “That is the group that we are most concerned about: unhealthy low-wage workers who have to come to work sick.”

— Susan Kelley



A Direct HIT

New course immerses Sloan students in information technology

Last fall, Professor Sean Nicholson, director of the Sloan Program in Health Administration, and Arnaub Chatterjee, MHA/MPA '07, pictured above, launched a new course: a health care information technology (HIT) “boot camp” designed to immerse second-year MHA students in the ways data and information technology are transforming health care. Twenty-six Sloan students participated in this 1.5-credit course, which took place November 13-14 in New York City and combined presentations from industry experts, case studies, and insights from faculty and students from Weill Cornell Medical College and Cornell Tech.

For Nicholson, the goal was to tap Cornell’s engineering and entrepreneurial resources to give students a deeper base for evaluating, implementing, and managing HIT solutions. He and Chatterjee took advantage of the New York City campuses to recruit a “star cast” of speakers: health care executives, start-up founders and CEOs, venture capitalists, and clinicians. Back in Ithaca, student teams completed their final projects, conducting in-depth business, market, and regulatory analyses of selected HIT companies.

“The course is a blast in 36 hours of the current and future opportunities in HIT,” says Nicholson. “It’s a heavy dose of real-world learning, helping students critically evaluate HIT in their post-graduation

roles—and cut through the hype.”

Indeed, there’s plenty of hype in digital health—a field that garnered \$4.5 billion in investments during 2015. “For me, the impetus for this course was to expose students to opportunities they may never have considered,” says Chatterjee, who is director of data science and insights for Merck and teaching associate at Harvard Medical School.

Chatterjee says the biggest HIT trends right now deal with harnessing the power of “big data,” advances in genomics and precision medicine, and a growing use of telehealth services. These tools are altering clinical practice, whether through the nearly 30 million video consultations between patients and providers last year or the array of patient data now available. At Merck, Chatterjee works with a growing landscape of patient information that ranges from insurance claims to Fitbit sensors. It’s an exciting world that, like most areas in health care, is rapidly evolving. This is where Chatterjee, a former health care advisor for the Obama Administration, believes Sloan students have an advantage.

“The Sloan program provides a solid grounding in health care policy, combined with quantitatively rigorous coursework,” he says. “If you can understand the economics and design of the health care system, you’re way ahead of the curve.”

For Dae-Hee Lee, Sloan '16, the

experience bridged coursework with his next role in hospital administration, providing up-to-date insights he’ll use to make better management decisions. “Clinicians and administrators have lots of frustrations with HIT systems,” says Lee. “Now I know what things to look for as an administrator when HIT vendors approach me. This was very helpful for me and created a wave of ideas for everyone.”

Nicholson credits Chatterjee and David Artz, M.D., an associate professor of health care policy and research at Weill Medical, with helping recruit expert presenters, including some with academic and clinical ties to Weill Medical and its affiliate, NewYork-Presbyterian Hospital. Artz, a co-founder of Standard Molecular, teaches information technology to students in Weill’s Master of Science in Health Informatics program; he and 12 of his students also joined Nicholson’s course.

Nicholson and Chatterjee are already planning the next “HIT Trek,” which they hope will increasingly integrate students and faculty from Cornell Tech and Weill Medical to make Sloan graduates even stronger. “We want students to get a sense of the real world, to hear from people who are walking the walk,” Nicholson says. “It reminds them why they’re pursuing this degree: to improve the health care system.”

— Sarah S. Thompson



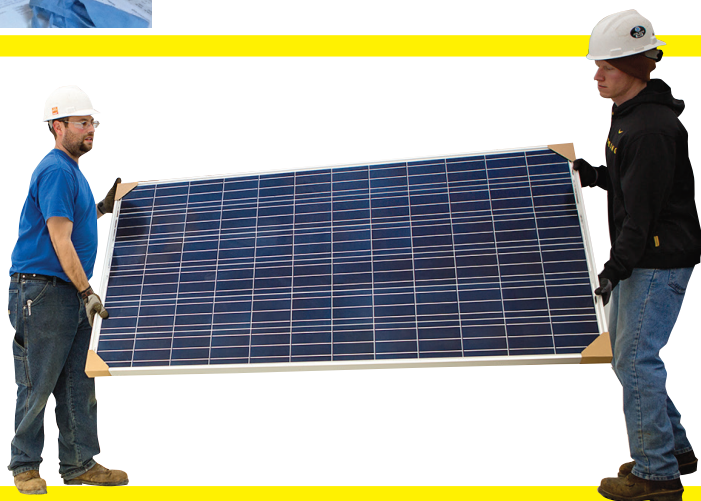
Sizing UP India's Apparel Industry

Sloane Applebaum '18 will never look at a "Made in India" clothing label the same way again, following a two-week class trip to see textile and apparel production in the world's second largest producer of cotton. Applebaum now pictures the people who work to make the fibers, weave them into fabric, cut the material, and sew the clothing hanging in her closet. "Every time I put on a shirt, I think about those people and what are their working conditions like," said Applebaum, a fashion design management major.

From Jan. 2-16, 13 students and two faculty members from the Department of Fiber Science & Apparel Design traveled to Bengaluru, Coimbatore, Hyderabad, and Tiruppur, visiting fiber, apparel, and textile mills, laundering facilities, design studios, textile research centers, and a handloom park where traditional ikat fabrics are dyed and woven. The trip received financial support from Ajit Khaitani, whose daughter, Karishma Khaitani '10, studied fashion at Cornell.

Seizing the SUN'S Energy

Powered by more than 225 solar panels, the Human Ecology Building (HEB) can generate 70 kilowatts of energy on a sunny day. Crews installed the solar arrays last winter, along with another 64 panels on Klarman Hall, thanks to a joint project between Cornell Energy and Sustainability and the colleges of Human Ecology and Arts and Sciences. The solar panels allow Human Ecology to reduce emissions and realize utility cost savings through an agreement with developer Distributed Sun. In 2012, HEB became the first structure on campus to achieve LEED Platinum status.



Tinkering TEENS

In October 2016, when thousands of children and teens gather worldwide for 4-H National Youth Science Day, they'll be using guidebooks and kits devised by Cornell scientists and youth development experts. Alexa Maille, New York State 4-H STEM specialist in the Bronfenbrenner Center for Translational Research, leads a team of experts from campus and several New York counties that will craft an engineering design challenge to be shared with 4-H. Billed as "the world's largest youth-led science experiment," the project will focus on drone technology and its applications for agricultural production, tracking invasive species, improved community and public planning, and citizen science. 4-H selected Cornell to build the experiment following a competition with eight land-grant institutions.



Digging into Health Policy



Kripa Sreepada, MHA '16, received the 2016-17 David A. Winston Health Policy Fellowship.

As one of two students nationwide to earn the award, Sreepada will attend a Washington D.C.-based postgraduate program that offers a firsthand look at the development and implementation of federal health policy. While at Cornell, Sreepada has served as a health policy fellow at the National Council on Aging, where she has developed an interest in health policy affecting seniors. "I know the year will prove to be formative for my future in health policy,

and it is a privilege to learn from the network formed to honor David Winston's bridge-building legacy," Sreepada said.

MASTER TEACHER



Cornell named Sean Nicholson, professor of policy analysis and management and director of the Sloan Program in Health Administration, as one of three Stephen H. Weiss Presidential Fellows. Established in 1992, the university award is given to a tenured faculty member who has a sustained record of effective, inspiring, and distinguished teaching of undergraduates.

A professor at Cornell since 2004, Nicholson teaches two popular undergrad courses, Pharmaceutical Policy and the U.S. Health Care System, along with a graduate course. "He is the kind of professor one always hopes to meet ... one that can truly change the trajectory of his or her experience there," said one student in Nicholson's award nomination.

Sustainability IN STYLE

Eric Beaudette '16, fiber science and apparel design (FSAD), won one of four \$30,000 Geoffrey Beene National Scholarships from the YMA Fashion Scholarship Fund for "Recycl3-D," his concept for 3-D printed, custom-fit menswear. (See profile on page 25.) Beaudette's designs could spark the next breakthrough in sustainable fashion: convertible, multipurpose clothing that wearers personalize by adding or removing collars, sleeves, hoods, pockets, or other accessories, depending on the occasion. The fully recyclable garments would virtually eliminate waste found in the typical apparel design and manufacturing process. Beaudette joins Justine Lee '14 and Blake Uretsky '15 as the third FSAD student to win the Geoffrey Beene award in the past three years.



Nutrition on a Global Scale

In February, the World Health Organization (WHO) designated the Division of Nutritional Sciences (DNS) as a collaborating center, establishing Cornell as a research and training partner in WHO's public health and nutrition policies. The four-year agreement will build on the Cochrane/Cornell University Summer Institute for Systematic Reviews in Nutrition for Global

Policy Making, which gathers nutrition experts from around the world for hands-on training in applying scientific evidence to global health concerns. Patrick Stover, DNS director and professor of nutritional sciences, said, "This partnership allows us to better advance Cornell science for the public good on a global scale."





Human Ecology, Engineering researchers tackle human challenges

By H. Roger Segelken, with illustrations by Marshall Hopkins

A Human Ecology neuroscientist gets the nerve to ask Cornell engineers for help. Fiber scientists leave their comfort zone so office workers can chill. Built environment experts dream of quiet nights in the hospital.

Surely, some extraordinary collaborations are afoot.

“I needed a multidisciplinary team, and Cornell Engineering was there for us,” says Human Ecology’s Rana Zadeh, assistant professor of design and environmental analysis. “If they don’t have technology at hand, they’ll invent one, and they’re eager to help.”

From Human Ecology’s academic departments, five stories of engineering collaboration:

Dreaming of Sleep

Nobody checks into the hospital to get a great night’s sleep. Urgently needed medical treatment, expeditious healing, and recovery—all are reasonable expectations of an ICU stay. But uninterrupted, quality sleep? You’ve got to be kidding.

A multidisciplinary team of problem solvers from Human Ecology, Cornell Engineering, and Weill Cornell Medical College are not kidding at all.

“We dream of a time when healthful, restorative sleep is one of the treatments you receive,” says Zadeh, an architect who takes a systems approach to improving clinical environments. “Our principal focus will be bed-bound patients in intensive care units, because that’s where the need for restorative sleep is greatest.”

Cynthia Lien, M.D., a geriatric fellow in Weill Cornell’s Division of Geriatrics and Palliative Care, tells why caregivers should care about patients’ sleep: “Sleep deprivation is associated with weakened immune response, poor wound healing, impaired glucose tolerance, elevated stress hormones, elevated blood pressure, pain, and mood disorders.”

It’s especially critical among geriatric patients, Dr. Lien adds, where sleep deprivation can cause delirium, falls, and cognitive decline—diminishing patients’ quality of life, increasing the workload for caregivers, and hiking health care costs for everyone.

Back in the ICU, Zadeh surveys the microenvironment surrounding the patient. “The reasons for sleep disruption and circadian disruption can be simple things like environmental noise or light or movement or stress,” she observes. Sources of sleep disturbance come with the territory: Alarms, telemetry, paging systems, construction, cleaning, lights, and noises are everywhere—even as patients are repeatedly awakened for vital signs, phlebotomy, medications, breathing treatments, and finger-stick glucose checks.

“Our engineering group, our design group, and our medical group thought: How can we address the problem?” Zadeh recounts. “Together we created this system, called PRIME Sleep, to seamlessly measure, monitor, and communicate information from each patient’s microenvironment. By seamlessly, I mean we do not interrupt care and the patient’s healing process.”

Technical help comes from Amit Lal, the Robert M. Scharf 1977 Professor of Engineering. A specialist in microsystems engineering, Lal makes sure the PRIME Sleep monitors operate effectively without adding yet another source of sleep disruption. Adding more collaborators, the team recently partnered with professors Al George of Systems Engineering, Margaret Frey and Huiju Park of Fiber Science, and Edwin Kan of Electrical and Computer Engineering to refine PRIME Sleep’s user interface.

Other Weill Cornell team members include Ana Krieger, M.D., an associate professor specializing in the mechanisms of cardiovascular



disease in sleep disorders, and Eugenia Siegler, M.D., the Mason Adams Professor of Geriatric Medicine, who works to improve quality of care for hospitalized elders. Human Ecology researchers include Paul Eshelman, a professor of design and environmental analysis who specializes in design for special populations and Hessam Sadatsafavi, a postdoctoral associate focused on the built environment. Prototype testing is underway at Weill Cornell's Center for Sleep Medicine.

The PRIME Sleep monitoring system—it stands for Program for Improving and Managing the Environment for Sleep—is midway

through the patent-application process, so exact details are under wraps. Zadeh explains that data—collected one patient at a time—can serve long-range, policy and procedural needs in hospitals while benefitting individual patients almost immediately.

Their prescription to health care personnel and administrators includes this postscript: “We hope PRIME Sleep becomes fully developed and is available in every ICU so that patients can sleep well,” Zadeh says. “Nurses and doctors can have a way to measure, evaluate, and improve patients’ sleep.”

Mapping the Resting-state Brain

In the Department of Human Development, fMRI (functional magnetic resonance imaging) informs Nathan Spreng's studies of large-scale brain network dynamics and their role in cognition.

A Rebecca Q. and James C. Morgan Sesquicentennial Faculty Fellow, Spreng is curious about how volunteer test subjects in his Laboratory of Brain and Cognition conceive of the future and how they navigate the social world. Then there's the hypothesized link between thinking about the past and imagining the future. "These different cognitive tasks activate similar brain regions," Spreng explains. "But it's actually the other regions they talk to that help determine whether we're thinking about the past or the future."

It's not only when the brain is doing something—performing cognitive tasks—that's interesting to Spreng. Neuroscientists also study brain activity while people are simply resting in the scanner. But do our brains ever truly "rest"?

Not according to Spreng: "Signaling is always going on up there. Understanding how different brain regions hum along together (or are connected functionally) while people are simply resting can tell us a lot about how their brains work during cognitive tasks, and might eventually help us predict how resilient they will be to aging or brain disease."

Spreng believes there's even more in the resting-state fMRI data than previously imagined. In collaboration with Peter Doerschuk, professor of biomedical engineering, Spreng is developing a new method for analyzing resting-state activity. Doerschuk, also a Harvard-educated medical doctor, excels at developing algorithms for high-performance software systems.

In published reports of their progress so far, Spreng and Doerschuk say they're finding ways to add important new details to the map of the resting brain—details like causality and direction of information flow between regions. Cause and signaling direction are important considerations, Spreng notes, "when characterizing exactly how that network operates, and how information flows through the system, and how it might be involved in cognitive functions."

The Cornell collaborators say their new statistical method shows promise in tracking both causation and direction of neural signals, showing us that the resting brain is anything but.

One Smartphone and a Drop of Blood

With a smartphone-based diagnostic device called the NutriPhone already in field testing, the newly established Institute for Nutritional Sciences, Global Health, and Technology (INSiGHT) is on the hunt for even more advanced tools: emerging diagnostic technologies to let health workers and policymakers address complex nutritional and medical challenges with minimal resources.

NutriPhone was designed to provide accurate, rapid, low-cost readings—based on nutritional biomarkers in a single drop of blood—with state-of-the-art microfluidics, photonics, and nanotechnology.

That's why INSiGHT founders Saurabh Mehta, assistant professor of global health, epidemiology, and nutrition in the Division of Nutritional Sciences, and David Erickson, the Sibley College Professor of Mechanical Engineering, with a specialty in biomedical engineering, started collaborating. Erickson and Mehta are the co-inventors of the NutriPhone and the FeverPhone. The latter expands the platform for real-time diagnosis of common causes of fever such as dengue and chikungunya virus infections, malaria, typhoid, leptospirosis, and Chagas disease.

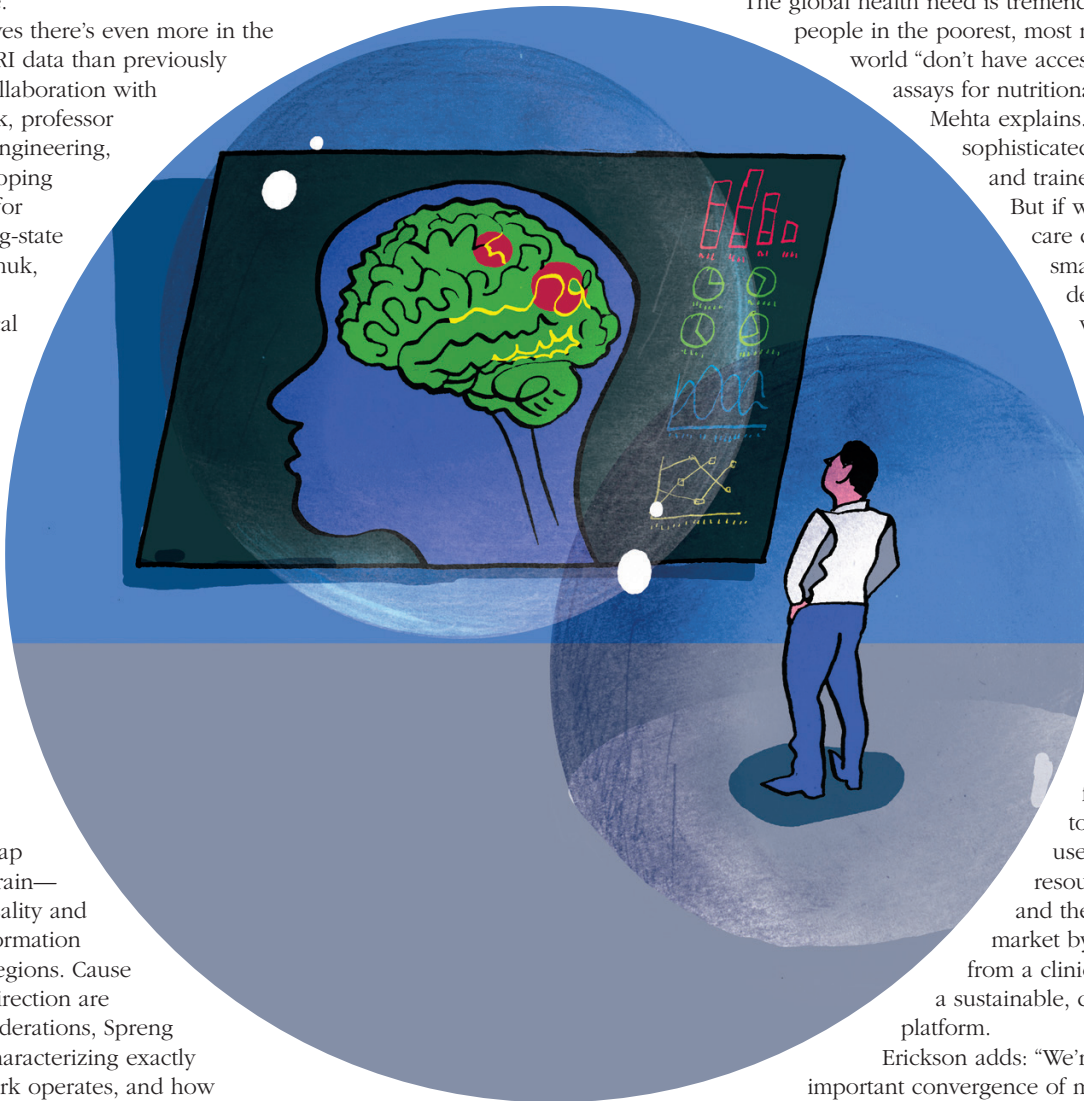
The global health need is tremendous. Millions of people in the poorest, most remote parts of the world "don't have access to conventional assays for nutritional status,"

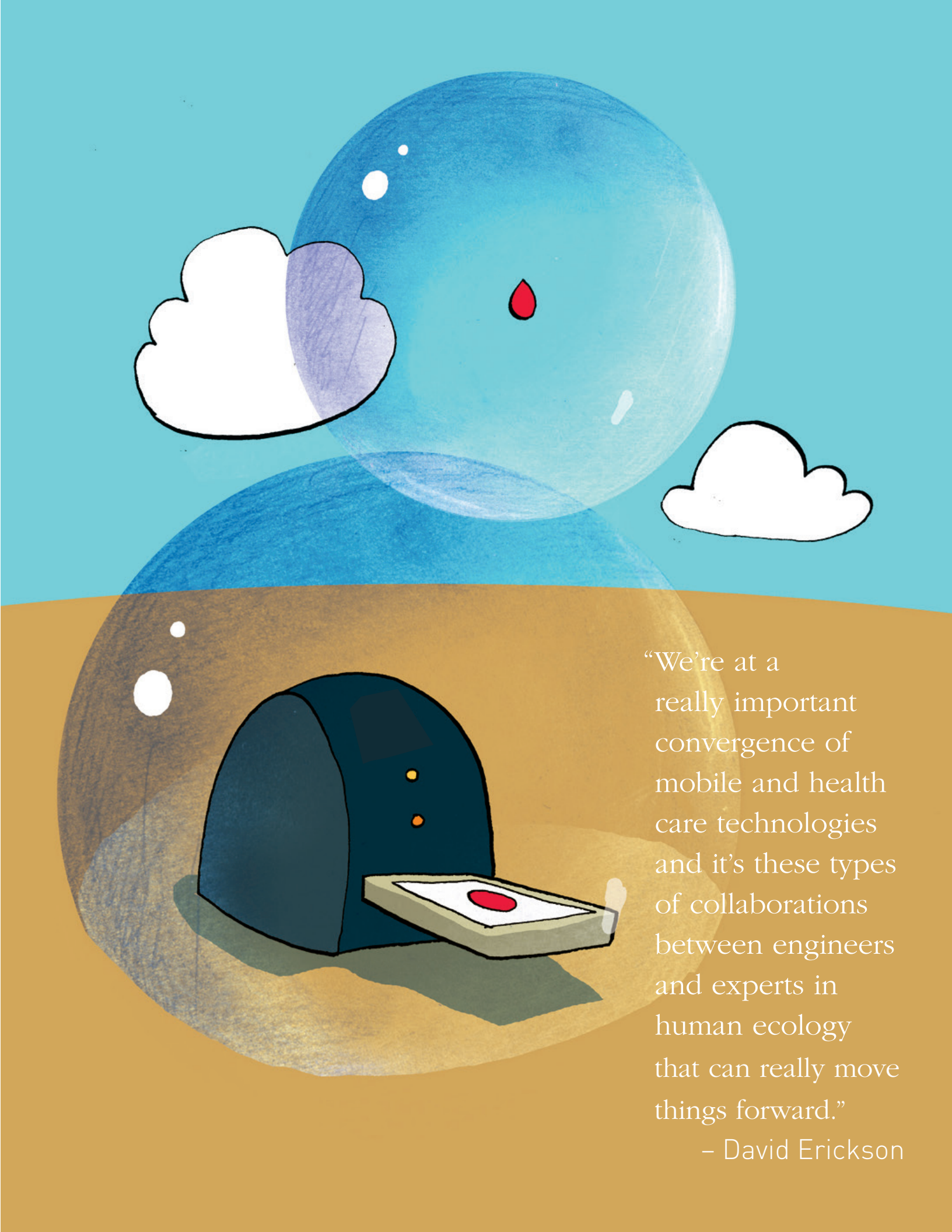
Mehta explains. "That requires sophisticated laboratory setups and trained personnel.

But if we equip health care centers with a smartphone-based device and train workers there to operate and interpret the device, we can immediately upgrade the quality of service and access for the thousands of individuals served by each center."

Mehta and Erickson say INSiGHT looks for better ways to apply easy-to-use technologies to resource-limited settings and the global health care market by shifting focus from a clinic-based model to a sustainable, community-based platform.

Erickson adds: "We're at a really important convergence of mobile and health care technologies and it's these types of collaborations between engineers and experts in human ecology that can really move things forward. Our goal with INSiGHT is to provide a clearinghouse to make more of these interdisciplinary efforts reality."





“We’re at a really important convergence of mobile and health care technologies and it’s these types of collaborations between engineers and experts in human ecology that can really move things forward.”

– David Erickson

Rules of the Infrastructure Road

Cruising down the carpool lane hands free in your 2021 model driverless car, you'll have ample time to wonder: "How'd they ever make the rules of the road for our robot chauffeurs? You know, the policies that regulate the unseen infrastructure needed to keep my car and thousands around me autonomously humming along? And not go boom?"

A universitywide collaboration called the Cornell Program in Infrastructure Policy (CPIP) is planning for that not-too-distant future.

"We fully intend to make Cornell University a global center for the study of infrastructure policy," says Associate Professor of Policy Analysis and Management Rick Geddes, the founding director of CPIP. Associate Professor of Civil and Environmental Engineering Oliver Gao is CPIP's associate director, and the program's faculty affiliates include Emmanuel Giannelis (Materials Science and Engineering), Francis Vanek (Civil and Environmental Engineering), and FSAD Professor Anil Netravali, who specializes in "green" materials for gas pipe infrastructure.

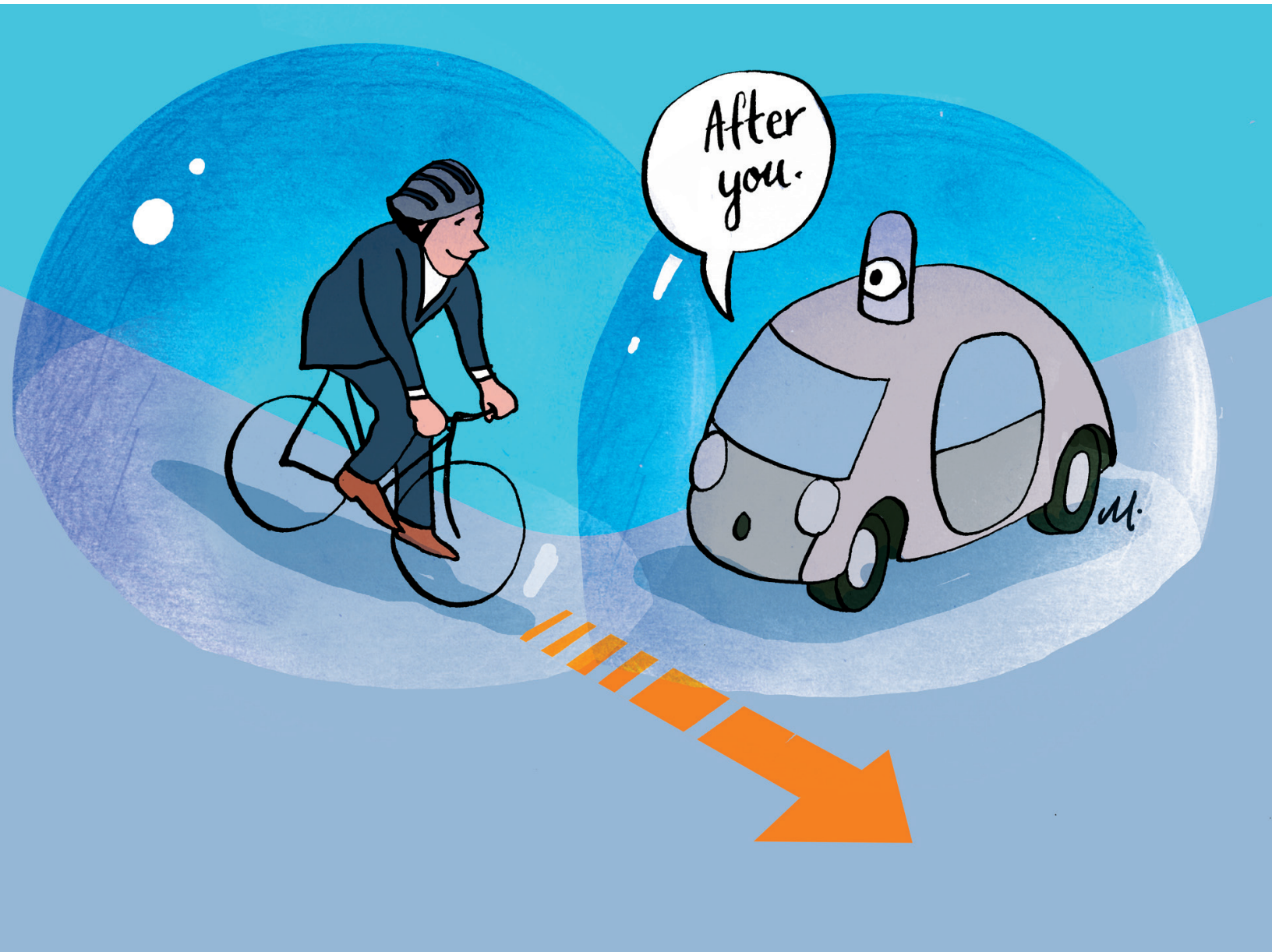
"Our hope is to attract top scholars, students, and postdocs to come to Cornell with the goal of creating a pipeline of graduates, books, articles, and events," Geddes says. "All will address pressing infrastructure problems."

"One key focus for CPIP will be on the interaction of emerging technologies and public policy," Geddes continues. "Consider driverless cars, where policies must be developed to facilitate adoption. Another focus will be on addressing the problem of deferred maintenance of infrastructure, as evidenced by the deterioration of America's roads, bridges, and tunnels."

When the Obama administration announced a program to encourage autonomous vehicles earlier this year, Geddes headed to Capitol Hill (the old-fashioned way, by airplane and Metro), bringing together Congressional representatives, regulators, and industry leaders to discuss policy issues created by driverless cars.

Says Geddes: "Social scientists with an understanding of basic engineering concepts, and engineers with knowledge of social science—both will be critical to the public acceptance and adoption of infrastructure-related technologies. Our team consists of economists, engineers, and city planners, all with extensive expertise in transportation policy, infrastructure policy, and the diffusion of innovation."

And when Geddes teaches the popular class Regulation and Infrastructure Policy, Cornell Engineering students routinely fill the seats next to their Human Ecology peers. For these reasons, he's confident the future of hands-off driving will be in good hands.





Chilling out with your Personal Thermoregulatory Clothing System.

Office thermostat wars could be a thing of the energy-inefficient past. Everyone could dress for work however they please—as long as they don their thermoregulatory undershirts. As much as 15 percent of a building's HVAC (heating, ventilation, air conditioning) costs could be saved by heating or cooling the person, rather than heating and cooling the place.

That is the vision of a Human Ecology-Engineering team leading a three-year, \$3 million U.S. Department of Energy project. Their proposed "Thermoregulatory Clothing System for Building Energy Saving," under the leadership of Jintu Fan, Department of Fiber Science and Apparel Design Chair and Vincent V.C. Woo Professor, won the funding by proposing a technology solution that "integrates advanced textile technology, functional apparel design, and state-of-the-art wearable electronics."

Across campus, Professor of Electrical and Computer Engineering Edwin Kan and his students are responsible for the electronic components. Along with the TRUS (thermoregulatory undergarments) subsystem that distributes cooling or heating power around the body surface, the engineered undershirts need an EMD (electromechanical device) that's compact, flexible, and convenient. The EMD converts

electrical energy to cool or warm wearers based on skin temperature, controlling the function of the TRUS and communicating with the building's HVAC controls.

From there it's the job of FSAD Assistant Professor Huiju Park to slip all the engineers' gear into an affordable undershirt that people can wear comfortably and inconspicuously. "It's an extreme paradigm shift—instead of making the big room comfortable or cool or hot, we make only our body as cool or warm as we want," says Park.

But perfecting the technology and comfort are just two pieces of creating next-generation smart garments. No one wants to walk around dressed like an extra from a sci-fi film. In comes FSAD Assistant Professor Tasha Lewis PhD '09, who focuses on the human behavior question: What will it take to get people to wear futuristic, thermoregulatory clothing?

"My role is around consumer adoptability," Lewis says, "so I conduct focus groups, individual interviews, and field studies to find out how people want these garments to fit, what other items in their wardrobe would these things replace or complement, and under what circumstances they would wear them."

With Cornell experts on the case, it seems your air-conditioned clothing will never go out of style.

H. Roger Segelken is a freelance writer.

The **GIVING** Spree



Dean Alan Mathios calls it a “transformative period for the college.” Rebecca Q. Morgan ’60 believes it will spark “new opportunities to mold students into effective leaders.” Adam Shelepak ’17 says it inspired him to “pay it forward” and create his own legacy on campus.

Donor generosity fuels a record-breaking campaign

By Ted Boscia

No matter the label, Cornell’s decade-long campaign was a resounding success for the College of Human Ecology. Initiated in 2004, formally launched in 2006 as Far Above, and subsequently re-envisioned as Cornell Now, the capital campaign concluded Dec. 31, 2015, surpassing its \$5.75 billion goal with \$6.36 billion raised university-wide. Human Ecology surged well past its \$70 million target, securing \$94.6 million in new gifts and commitments.

“This historic campaign has reinvigorated every element of what we do,” says Mathios, the Rebecca Q. and James C. Morgan Dean, who has guided the college since 2007. “Thanks to the generosity of alumni and donors, we have the resources to build one-of-a-kind undergraduate research opportunities, offer more student scholarships, attract top faculty talent, create new multidisciplinary institutes focused on urgent human needs, provide state-of-the-art facilities for both students and faculty, and establish an innovative outreach and translational research model that delivers knowledge directly to communities.”

In shattering its campaign goal, the college reached other important milestones:

- At \$65 million, alumni giving accounted for greater than two-thirds of the campaign;
- The college received more than 22,000 gifts during the campaign, averaging roughly \$4,000 per donation, which shows the “major collective impact we can make as a community,” according to Mathios;
- Gifts to the Human Ecology Annual Fund soared from \$373,000 for the academic year prior to Mathios’ tenure to a record \$1.5 million in 2015.

The numbers tell one part of the story, with a second, equally impressive, human story underneath: how the campaign is already changing the face of the college and how it promises to transform Human Ecology’s approach to teaching, research, and outreach for decades to come.

BUILDING COLLABORATIONS

When the Human Ecology Building opened in 2011, the 89,000 square foot structure achieved a long-held “dream of integration across the college’s departments,” according to Kay Obendorf, then-senior associate dean of research and graduate education and one of the visionaries for the facility.

Under one roof, design students sketch, cut, and sew garments; nutritional sciences students take labs in biochemistry and human metabolism; ergonomics students form ideas for product design and human comfort; and human development students discuss psychological theory. It’s home to a sweating manikin for testing high-performance garments, a state-of-the-art wood and metal shop, galleries for displaying faculty and student creations, design studios and CAD labs, the Cornell Costume and Textile Collection, a 3-D body scanner, and ultra-sophisticated equipment for testing and measuring the properties of textiles and fabrics.

“There’s a commingling of research units and faculty expertise that matches the character of Human Ecology, where we reach across disciplines to work on common issues,” Obendorf said. “The whole building is designed to foster these types of collaborations.”

Funded by the State University of New York, Cornell University, and the College of Human Ecology, the building has also benefited enormously from donor generosity. The building includes 18 named spaces, ranging from the Jill Stuart Gallery to the Barbara A. Gross ’53 and Norman Gross LLB ’53 Promenade overlooking Beebe Lake.

Other donations have supported new research tools and collaboration areas in the building, maximizing the impact of student and faculty work.

Paying it forward

Like most 18-year-olds, Adam Shelepak ’17 entered college unsure about what he wanted to do with his life. Three years later, he is on track to earn two Ivy League degrees in five years, his career aspirations have crystallized, and he leads a campus-wide project to address food insecurity. Not bad for a student who would have never enrolled at Cornell without a generous financial aid package.

A native of Binghamton, Shelepak describes his family as “solidly middle class.” He and his twin brother, who attends Boston College, were entering college at the same time, and it was beyond his family’s means to pay their way through school. “It’s not like we are a struggling family living paycheck to paycheck, but a large annual tuition bill would make it completely impossible for me to attend Cornell,” he adds.

Shelepak and many fellow students have benefited from Cornell’s investments in undergraduate financial aid in support of its need-blind admissions policy, even as the university weathered the financial downturn of 2008. From 2009 to 2014, Cornell expenditures for financial aid climbed from \$179 million to \$238 million. For the college and university, the roaring success of the campaign has allowed Cornell to maintain its commitment to educating students across the socioeconomic spectrum. For its part, Human Ecology raised nearly \$6 million for undergraduate and graduate aid, leading to 12 new scholarships in the college.

Not only has the campaign broadened access to Cornell, gifts have enhanced the student learning experience. Thanks to donor support, Human Ecology students conduct summer research with faculty members and explore community issues through Cornell Cooperative Extension internships. They work in state-of-the-art facilities under top faculty, both made possible by campaign generosity. And as



Shelepak volunteers in the student pantry at 626 Thurston, where he raises awareness for food insecurity on campus.

Cornell increases its international focus, gifts such as the Laureen Stanton Knutsen ’65 Internship Fund enable Global Health students to work on maternal and child health in the developing world.

As for Shelepak, he says his Cornell studies prompted a “huge change in outlook and experience for me,” exposing him to a diverse mix of ideas and backgrounds among his classmates. Shelepak majored in biology as a freshman, figuring it to be the closest match for his interests in human health and well-being. By taking classes in the Department of Policy Analysis and Management, he discovered the Human Ecology perspective on social determinants of health and other systemic factors in our homes, policies, and communities that shape human lives. Shelepak switched to PAM and has gained early acceptance into the college’s graduate Sloan Program in Health Administration.

With two years remaining on campus, he is committed to returning the favor to the donors who made his education possible. Shelepak co-directs Anabel’s Grocery, a large-scale student project of the Center for Transformative Action to install a low-cost, nutritious grocery store in Anabel Taylor Hall. Expected to open in the fall, the store will offer discounts at checkout to students with a financial need and train students in meal preparation and food budgeting through classes and demos. Project leaders also hope to confront a hidden reality on campus—food insecurity among students, evidenced by 20 percent of students who skipped meals in the past year due to financial constraints—and erase the stigma that goes with it.

“With my focus on community and population health, it is a powerful experience to work on a real-world project that supports the well-being of students,” Shelepak says. “We can do case competitions and discuss these concepts in theory, but it’s such a bonus to apply what I am learning to something that is tangible and makes a difference. My hope is that the store can support thousands of fellow students, and in that sense it would be a multiplier that goes far beyond the investment others made to my financial aid.”



HUMAN ECOLOGY'S R

SOURCE OF GIFTS

TOP MAJORS

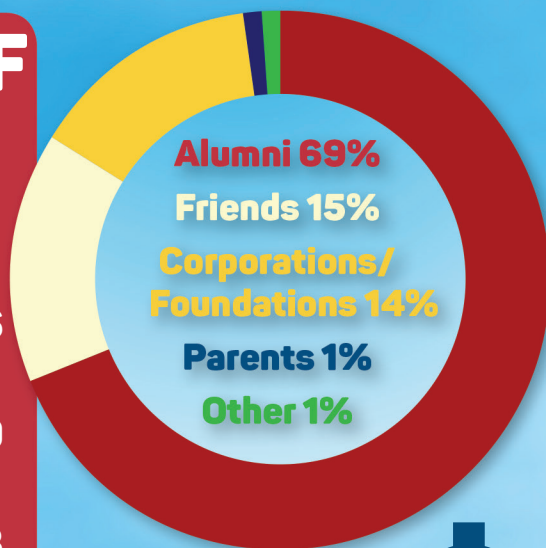
Human Development	1066
Policy Analysis and Management	840
Nutritional Sciences	603
Design and Environmental Analysis	386
Human Biology, Health, & Society	157

TOP CLASSES

2007	100
2010	97
1974	86
1972	83
1973	83

TOP STATES

NEW YORK	1756
CALIFORNIA	325
NEW JERSEY	311
MASS.	253
FLORIDA	213



\$94,600



HISTORIC CAMPAIGN

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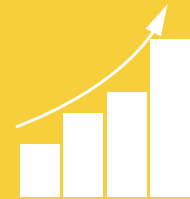


Alumni and friends propelled the college past our \$70 million campaign target to raise nearly \$100 million.

IMPACT OF GIFTS

200%
GROWTH IN
FACULTY
ENDOWMENTS

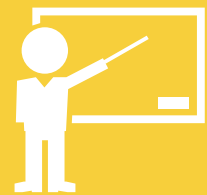
400%
GROWTH IN
ANNUAL FUND



\$11.1M
NEW INSTITUTES
AND PROGRAMS

\$5.9M
NEW
SCHOLARSHIPS

\$3.2M
FACULTY RENEWAL



\$1.6M
FACILITIES AND
CAPITAL PROJECTS



Investing in faculty



Nathan Spreng, recruited to Cornell thanks to increased investments in faculty hiring, leads a neuroscience lecture.

In a campaign full of milestones, few could match the \$10 million gift from longtime Cornell supporters Joan Klein Jacobs '54 (Human Ecology) and Irwin Mark Jacobs '54 (Engineering) to advance faculty renewal. The largest single donation in college history, the gift bolstered the college's efforts to recruit and retain top scholars and researchers, a long-running priority for Mathios.

Just as Shelepak imagines his work creating far-reaching value, the Jacobs gift promises to make a profound difference for faculty hiring. Made in

2014, the gift provides \$4 million to fully endow the Joan K. and Irwin M. Jacobs Professorship, held by Donald Kenkel, a professor of policy analysis and management who focuses on health economics. The couple committed the remaining \$6 million to inspire others to support faculty endowments, providing dollar-for-dollar matching funds for four additional named professorships. To date, the college has secured three \$1.5 million matching gifts—two by Janet Kilby Lankton '53 (Human Ecology) and Gordon Lankton '53 (Engineering) and another

by Lee Cheung Lau, a founding member of the Cornell Institute of Fashion and Fiber Innovation.

"These gifts could not have occurred at a more strategic time for Human Ecology," Mathios says. "We are in the midst of an unprecedented faculty renewal, and the matches allow us to leverage support from other alumni and friends beyond what

a single traditional gift would provide."

Under Mathios, the college has added nearly 40 new professors, accounting for 40 percent of the total faculty. By the end of his ten-year deanship in 2018, Mathios figures the college will have replaced half of its faculty—a once-in-a-generation replenishment of research and teaching talent at a time when many institutions are retrenching due to economic challenges. Such investments would not have been possible without steadfast support throughout the campaign, says Mathios.

Over the campaign, the college tripled its endowed professorships, rising from four to 12. In addition to the historic

Jacobs gift, donors established the Jean and Douglas McLean Professorship, held by Anil Netravali in Fiber Science and Apparel Design; the Ferris Family Professorship held by Daniel Lichter in Policy Analysis and Management; the Evalyn Edwards Milman Professorship held by Tamar Kushnir in Human Development; the Rebecca Q. Morgan Professorship held by C.C. Chu in Fiber Science and Apparel Design; and the Vincent V.C. Woo Professorship held by Jintu Fan in Fiber Science and Apparel Design.

Alice Woo, MS '75,

was inspired to make her endowment in memory of her father, Vincent, who was a textile entrepreneur, philanthropist, and civic leader in China and Hong Kong. As his business grew, Vincent never wavered in his commitment to community causes, giving in support of infrastructure, education, medicine, and other public needs. His life embodied his personal credo: "What you gain from society, you must give back for the benefit of society."

"He inspired me to continue his spirit of giving," Woo says. "The Human Ecology mission is to make people's lives better; therefore it is my pleasure and honor to be a strong supporter of the college."

Supporting the public good

Growing up on her family dairy farm in Vermont, Rebecca Morgan was drawn to 4-H. At cattle shows and fashion displays and as president of her local club, Morgan credits 4-H with teaching her everything from public speaking and accounting to leadership and dressmaking. "4-H was a wonderful outlet for me to develop a great deal of practical skills and gain confidence in my abilities," says Morgan, who went on to become a California state senator, where she was known as an advocate for child development and education.

With a \$1.2 million gift to the college's Bronfenbrenner Center for Translational

Research (BCTR), Morgan is giving back to improve 4-H and community-based youth education programs from the ground up. Her campaign gift provides three years of startup funding for the Program for Research on Youth Development and Engagement (PRYDE), an initiative for Cornell social scientists to foster groundbreaking research in partnership with New York State 4-H and its 200,000 children and teen participants. PRYDE staff and faculty affiliates hope to boost young people's developmental needs in four areas: life purpose, healthy transitions into adolescence,



4-H youth participate in Cornell's Smart Clothing, Smart Girls program to stimulate interest in science, technology, engineering, and mathematics.

intergenerational connections, and productive social media use. PRYDE experts will conduct translational research

in close collaboration with 4-H staff and youth across New York, accelerating the speed at which evidence can be applied to new



Casasola, part of the first class of BCTR Faculty Fellows, reviews a study with undergraduate research assistants in her lab.



In her Cornell Infant Studies Laboratory, Casasola focuses on child cognitive development and language acquisition.

and existing programs while also sparking young people's interest in social science.

"I am most excited that PRYDE is taking science and putting it into service to help young people," says Morgan, president of the Morgan Family Foundation, a philanthropic organization dedicated to youth, education, and the environment. "4-H is the largest youth organization in the U.S. and it offers a ready-made network for translating Cornell research into effective youth programs. The program is positioned to become a national leader on this topic."

The BCTR, the hub of the college's translational research efforts, received another boost during the campaign thanks to a \$1.6 million gift from Evalyn Edwards Milman '60 and Stephen Milman '58, MBA '59. In 2015, the couple endowed the Evalyn Edwards Milman '60 BCTR Faculty Fellowship, part of a new program to embed professors in the center's activities and link their research directly to community needs. Marianella Casasola, associate professor of human development, holds the Milman position, and is joined by Rebecca Seguin, assistant professor of nutritional sciences, and Christopher Wildeman, associate professor of policy analysis and management, as BCTR's first group of faculty fellows. Each fellow receives funding for a graduate research assistant, pilot studies, and translational research pursuits.

The funding has enabled Casasola to extend her research on how preschool children acquire spatial skills

and language, leading to new insights for educators and parents to teach math and geometry. Casasola's lab now works closely with Madison County (N.Y.) Head Start to expand her previous studies on the topic, allowing the program to test its findings in a real-world setting.

"I am excited that Professor Casasola has chosen to work with Head Start, for this was a vision of Professor Urie Bronfenbrenner," says Evalyn Milman, who studied under Bronfenbrenner. "His purpose was to establish a comprehensive program in early childhood education—working with children from low-income families—designed to establish an environment for the development of cognitive skills. This research into constructive play by young children, and exploration of how spatial and language skills develop, will bring results that will have lasting impact in the field of education."

Beyond the BCTR, the college is also stretching the boundaries of public engagement through new institutes that arose during the campaign thanks to a combination of public and private funding. Launched in 2013, the Cornell Institute of Fashion and Fiber Innovation brings together clothing designers, textile scientists, and national and global industry leaders to speed the development of high-tech fibers and smart garments. Applying a similar mindset to the fields of hospitality, health policy and management, and design, the Cornell Institute for Healthy Futures leads

research and outreach in emerging areas of health care and hospitality. Other innovative centers born during the campaign are the Institute for Health Economics, Health Behaviors, and Disparities; the Human Neuroscience Institute;

the Institute for Nutritional Sciences, Global Health, and Technology; and the Cornell Population Center. All are critical to college's outreach mission to extend knowledge to communities in New York and around the world, Mathios says.

Focusing on the future

The impact of the campaign is enormous, and the funds raised are revitalizing every facet of the college's teaching, research, and outreach mission.

"By any measure, this campaign was a great success for the college," says Marybeth Tarzian, assistant dean for alumni affairs and development. "Alumni, parents, and friends participated in so many capacities—as volunteers and advocates for the college, by offering their time and money, and by participating in events. It is inspiring to see such a firm vote of confidence by our community in support of the college and its priorities."

No doubt, unprecedented giving has elevated the college to new heights, and the possibilities for future growth are endless. Mathios has two years remaining as dean, a period in which he hopes to carry forward the momentum of the campaign. He intends to

challenge the Human Ecology community to continue to support key priorities: boosting student financial aid and experiential learning programs; recruiting and retaining top faculty scholars; growing institutes, centers, and programs committed to addressing public needs; and increasing the Human Ecology Annual Fund.

"Thanks to the great dedication of our community, we are incredibly fortunate to have the resources to deliver on our mission to improve lives by exploring and shaping human connections to natural, social, and built environments," Mathios says. "The College of Human Ecology is on an amazing trajectory and with the passion, gifts, time, and energy provided by our supporters, we will only continue to climb higher."

Ted Boscia is director of communications and media for the College of Human Ecology.

SIDEBYSIDE



Undergrad and faculty collaborations lead to new discoveries

By Kenny Berkowitz

Photos by Jason Koski

On a cool March afternoon, a group of Human Ecology students and their mentors gather in the Commons, taking a short break from classes. There's a warmth under the photographer's lights, and as people find their places, there's a sense of coming together.

More than luck has brought them here. At Human Ecology, nearly three-quarters of undergraduates know exactly what it's like to work side by side with faculty in the laboratory, in the studio, or in the field by the time they graduate. These close bonds between students

and professors, and the research that flows from them, define the college's transformative approach to education.

Professors learn from undergrads, just as undergrads learn from professors. In the process, scientific advances are made, papers published, and lives changed. That's what makes these undergrad years a journey of discovery, setting the five students profiled here—and their faculty mentors—on paths that deliver Human Ecology's mission into the world.

ERIC BEAUDETTE & HUIJU PARK

How did you begin collaborating?

Huiju Park, Assistant Professor of Fiber Science and Apparel Design: When Eric was a freshman, he knocked on my office door and asked whether he could do research in my lab. The first project we did together was to develop a sonic destressing vest, which won the Cornell Electrical and Computer Engineering Innovation Award in 2013. Since then, Eric and I have collaborated on many projects, including the development of Ebola-protective clothing.

Eric Beaudette '16: That's our most recent project: to develop a protective clothing system for people working against Ebola. Our team has developed a rapid donning/doffing system and a lightweight cooling system for dealing with invisible biohazards when you're working in extremely hot, humid conditions.

How does that relate to the destressing vest?

Park: We are trying to understand how the human body reacts to environmental stimuli, and how technology can be used as a design tool for human-centered interface. My mission is to contribute to human well-being by providing sophisticated, portable interfaces that can enhance safety of first responders, support health care providers and patients, empower athletes, and protect industrial workers in unfavorable environments. This is often difficult, but very rewarding.

What's exciting about working with Huiju?

Beaudette: As an aspiring product developer for functional apparel, I look up to Professor Park as an expert in the field, someone who's trying to tackle real-world issues. He's been my research adviser, my faculty adviser, my mentor, and

my most reliable resource when I need advice. Before joining his lab, I didn't know what type of design I wanted to pursue. But working with Professor Park, I fell in love with the intersection between design and science, which can be found in functional apparel design. And after our team won the ECE Innovation Award, I felt like I'd found my true passion and career path.

Park: The best part about working with Eric is that we always enjoy using new technologies and solving problems. Eric's independent study on the impact of seams on sportswear thermal properties was a great journey, and his paper won first place at the 2015 conference of the International Textile and

Apparel Association. He has a clear vision of wearable technology. He's creative and also has a sound background in science. Both Eric and I love what we are doing. Through collaboration we learn from each other and end up finding a better solution. That is the beauty of collaboration.

In January, Eric Beaudette received one of four \$30,000 Geoffrey Beene National Scholarships from the YMA Fashion Scholarship Fund.

huijupark.wix.com/humanperformancelab

●
"Eric has a clear vision of wearable technology. He's creative and has a sound background in science."



CARTER CASADY & RICK GEDDES

How did you decide to study infrastructure policy?

Carter Casady '16: I got lucky, and it all started by helping Professor Geddes with some data. There are a lot of students in Policy Analysis and Management who are concentrating in areas such as health care, incarceration, education, and social policy. But in my opinion, infrastructure is the backbone of everything else, even if it doesn't always get the credit it deserves. If we really want to apply our research to improve the welfare of society, this is the place to do it.

Rick Geddes, Associate Professor of Policy Analysis and Management and Director of the Cornell Program in Infrastructure Policy:

I got lucky too, because without Carter's effort, I couldn't do this project. It just wouldn't be feasible. We're studying PPPs, which are public-private partnerships between public sector entities that want projects built and their private sector partners, usually a group of firms that have teamed up to handle design, construction, finance, operation, and maintenance. As it turns out, the data on PPPs is pretty sparse, particularly in the United States, so Carter has been scouring different databases to gather and organize as much information as we can find.

Casady: For the larger project, we're looking at PPP data from a lot of different countries, and for my honors thesis, we're taking a subset of that: focusing on projects in the Canadian market and determining the length of time it takes to finish the contracting phase. Up to this point, it's an area that's been largely ignored in the literature, and it's an important part of calculating the costs of these infrastructure projects.

Geddes: There have been two previous papers, one on Ireland and one on the United Kingdom. This would be the third, and it could change the way governments approach how to deliver infrastructure.

What have you learned from Carter?

Geddes: That undergraduate students can be very, very valuable in the research process. I had a sense of that before, but I was skeptical that undergraduate work could lead to peer-reviewed publication, which is the coin of the realm at Cornell. Carter has taken my expectations for undergrads to a whole new level.

What about you, Carter? Are you surprised to be a researcher?

Casady: When I came to Cornell, I was very open to new possibilities. For a while, I considered being an engineer. I considered being an architect. I had no idea how things would turn out, but standing where I am now and looking back, I'm so glad I fell into this field. Given all my interests, I really think it's the perfect fit.

Carter Casady interned in Bank of America's Finance Management Associate Program and at the President's Council of Economic Advisers.

human.cornell.edu/pam/cpip

●
"Carter has taken my expectations for undergrads to a whole new level."



ANNIE ERICKSON & EVE DE ROSA



“When Annie brought that idea to me, I could see why it might be worth taking a chance to pursue the question.”

What does your lab study?

Annie Erickson '16: Our lab is interested in studying the neural basis of cognitive processes such as attention, learning, and memory. To investigate these complex neural mechanisms, we use a cross-species approach studying both human and animals. We are interested in the neurochemicals that modulate cognition—specifically, a neurotransmitter called acetylcholine. My project focuses on the effect of acute and chronic caffeine intake on cognition in rats, testing whether caffeine can rescue cognitive deficits that have been induced by blocking acetylcholine.

Why study caffeine?

Eve De Rosa, Associate Professor of Human Development and Rebecca Q. and James C. Morgan Sesquicentennial Fellow: We all drink coffee, but we don't always give deep thought to how it affects attention, learning, and memory. That's why I love the real-world importance of Annie's honors thesis question. She's finding cognitive tasks that both rats and humans can perform so that we can translate the basic science experiments in the lab to our understanding of human cognition.

What do you like about this work?

Erickson: After following this project from conception to experimental setup to final execution, it'll be incredibly exciting to see the results. It's been inspiring to work with Eve, and to see the way she's able to balance research, teaching, and family. She's so enthusiastic and positive, and I really enjoy discussing my ideas with her, because she's always so encouraging.

De Rosa: I love mentoring students like Annie! After

participating in the lab as an undergrad research assistant, she approached me with this wonderful question about looking at caffeine's ability to boost cognition, and whether it was caffeine's interaction with acetylcholine that underlies this ability.

The fact that caffeine is a cognitive enhancer is something I was already aware of, but not that it might be important in slowing the decline of pathological cognitive aging, like in Alzheimer's disease. When Annie brought that idea to me, I could see why it might be worth taking a chance to pursue the question.

What's the risk?

De Rosa: Rat neuroscience is expensive, and it's not my primary research focus. I'm very interested in acetylcholine, which declines during normal aging, and in using functional Magnetic Resonance Imaging to assess brain activity. But Annie's research is something I would never have pursued on my own. And now I'm having so much fun reading the literature, thinking about how it relates to my larger research vision.

Erickson: Through the process of developing my independent project, Eve has provided crucial advice while also being incredibly flexible in letting me explore different ideas. She's shown how important collaboration is for successful research and I've learned so much about thinking and writing scientifically—skills that are fundamental to a future in research.

In 2015, Annie Erickson received the Human Ecology Undergraduate Summer Research Stipend, and is currently working toward an honors thesis funded by the Human Ecology Alumni Association.

aclab.human.cornell.edu

JULIA TEDESCO & JULIA FINKELSTEIN

"Julia will be an amazing physician and public health practitioner, wherever her path takes her in life."



What excites you about this research?

Julia Tedesco '17: It's not just me—all of us in the Finkelstein lab are truly passionate about our work. If you went around the table at one of our research meetings, you would hear each person name a micronutrient deficiency or an infectious disease and make a compelling case why it's the most pressing public health problem today. For me, it's the role of malnutrition and dengue fever in pediatric populations.

How did you find that focus?

Tedesco: By working with Dr. Finkelstein. I entered Cornell planning to become a physician, but as a member of Dr. Finkelstein's group, I've seen firsthand that there's so much more that goes into improving the health and survival of at-risk populations than just treating individual cases. That's why I plan to pursue a combined MD/Master of Public Health program and continue

conducting clinical research in an academic setting. It's really inspired me to think critically about the role that nutrition plays in influencing patient outcomes.

Julia Finkelstein, Assistant Professor of Epidemiology and Nutrition and Follett Sesquicentennial Faculty Fellow:

Julia will be an amazing physician and public health practitioner, wherever her path takes her. She has all of the qualities we look for in a Human Ecology student—and then some. Her dedication to not only understand the science, but to improve the health of underserved populations, shines through in everything she does. Last summer, Julia was part of a team of undergraduates conducting research at my field site in coastal Ecuador. She really impressed me with her contributions to the team and progress on her honors thesis.

Tedesco: We were collecting data for a comprehensive review of the clinical,

immunological, and nutritional factors associated with dengue fever. I got to work alongside infectious disease specialists and public health practitioners at our partner hospital, and I became really intrigued by the risk factors for dengue infection and severity. It's an exciting time to be involved in research on mosquito-borne infections, especially with all the attention on Zika virus.

What's the best part of working together?

Tedesco: I always leave my discussions with Dr. Finkelstein feeling inspired. She's the hardest working person I know, and yet she always finds time to meet with me. Her knowledge and enthusiasm have helped me to learn what drives me and what I want to do in my career:

medicine and public health in infectious diseases.

Finkelstein: Julia has been a pleasure to work with from the very beginning. She is extremely bright and motivated, and is always ready to take on a new challenge. I love the work that we do, along with the opportunity to work closely with students like Julia and inspire the next generation of leaders in our field of nutrition and global health.

Julia Tedesco's abstract, "Anthropometry and Dengue Fever in Coastal Ecuador," was accepted as a poster presentation at the 2016 Experimental Biology American Society of Nutrition Conference in San Diego.

finkelstein.human.cornell.edu

JANHAWI KELKAR & MARDELLE McCUSKEY SHEPLEY

How did you find one another?

Janhawi Kelkar '17: I'm majoring in Human Biology, Health, and Society, so before starting research with Dr. Shepley, my interests were mostly in disease and epidemiology. I was working in a different lab during the fall semester of my sophomore year, but I didn't feel very inspired. Then one of my friends told me about the Health Design Innovations Lab. He had a teaching assistant who was trying to decide between design school and medical school, just like me, and she introduced me to Dr. Shepley.

Mardelle McCuskey Shepley, Professor of Design and Environmental Analysis and Associate Director of the Cornell Institute for Healthy Futures: That's about how I

remember it, too. Janhawi had some of the standard, pre-med background, but with a really strong interest in the impact of the physical environment.

Kelkar: I've always loved art, but I didn't realize that art and health could come together in such a scientific way, that there was a major part of DEA that studies health care design. That we could do this research focusing on environmental features—like daylight, for example, or gardens—that influence health and recovery.

What are we going to learn from these studies?

Shepley: We're hoping to find information about the impact of the physical environment in psychiatric facilities, which will help designers produce environments that are more conducive to healing. When we ask health care providers whether

natural light is important, they say, "It's extremely important." But when we ask how much light they have in their patient areas, they might say, "Hardly any."

Kelkar: We're finding these holes, gaps between what designers define as important features and what psychiatric facilities are currently providing. It's really exciting.

What's the latest thing you learned?

Kelkar: This past semester, we were doing a lot of data analysis, so I learned how to use some statistical analysis programs, how to read the scientific literature, how to write articles for publication. I still can't believe that I get to study art and health care side by side, and I'm really surprised by how much influence design can have on recovery.

Shepley: Janhawi was just a sophomore, and she jumped into this and started doing the work of a graduate student. It was action learning. But she's a natural researcher—it's in the nature of how she operates in the world.

Isn't it hard to do graduate level work when you're a second-semester sophomore?

Kelkar: If you enjoy it, it doesn't feel like work. I'm really passionate about this research, so I really enjoy the time I spend on it. It's fun.

Outside the lab, Janhawi Kelkar volunteers with the community service fraternity Alpha Phi Omega.

hdl.human.cornell.edu

"Janhawi was just a sophomore, and she jumped into this and started doing the work of a graduate student."



The Art of TEACHING

Painter and educator Michael Boyd left his mark

Michael Boyd was into color. From his paintings, which are represented in more than 400 public and private collections, to his interactions with students during 28 years teaching in the Department of Design and Environmental Analysis, he lived vibrantly.

Mike, who passed away in September after years with Alzheimer's and heart disease, described painting as "a medium of expression capable of communicating profound visual experiences solely through its own elements: color and structure." His work evolved over time, but his commitment to form and color never wavered, exploring the world through highly structured abstracts painted in acrylic on canvas. Writing in *Art in America*, one critic praised Mike's work as being "as calm and lyrical as skies, and flat and smooth as lakes, with only here and there a drip to remind us that they are really made of paint."

Born and educated in Iowa, Mike became a highly successful artist in New York City, where his paintings gained recognition in solo and group exhibitions, particularly at the Andre Zarre Gallery. His first major exhibition, at the Max Hutchinson Gallery in 1973, was followed by 35 solo shows,

most recently in Milan and Zurich, and close to 100 group shows in North America and Europe.

While keeping his Manhattan studio, Mike came to the College of Human Ecology in 1968, taking a chance on a one-year appointment to teach design, which was followed by another one-year appointment, and then another. That first teaching position, which he called "a fluky situation," launched his career in academia, where he continued as a full-time instructor and a full-time artist until his retirement in 1995.

He received tenure as a full professor in 1986, with a unanimous recommendation that acknowledged his place in both painting and teaching before praising his energy and dedication to undergraduate education. "By today's standards, his situation is an unusual one," wrote the faculty committee chair. "Michael's strongest commitment, of course, is to his art. From the perspective of the department, the important point is that Michael's involvement in painting has some carryover into his teaching activity. We believe it does."

The hundreds of students who took his courses agreed, learning to think

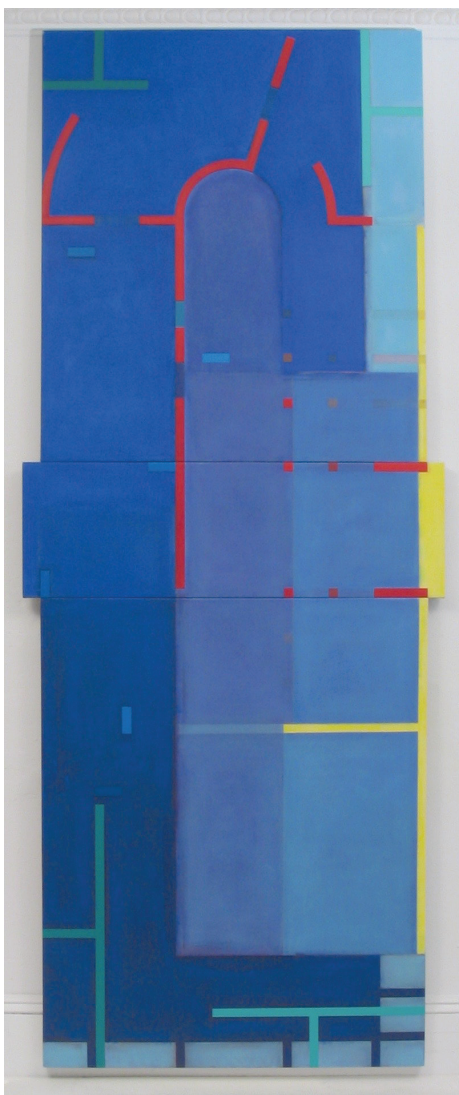
more clearly and convey their ideas and emotions more effectively in his studios; in one example, student work in his graphic design class produced the logo for Ithaca's Sciencenter, which remains a recognizable part of its identity throughout the region. In the process, Mike learned a lot, too: "I pour a lot of my energy into teaching," he said in a magazine profile. "The teaching has made me think about visual things in a more structured way, and work provides me with ideas for getting things across in the classroom."

Mike's interest in design, architecture, and music influenced his art and reflected his unabating curiosity in the world around him. In the words of Professor Paul Eshelman, who worked in the office next door, "Michael was always an oasis of calm and reason. I learned much about teaching



Verlaine Boyd





All works by Michael Boyd. Opposite page, from left: *813 Broadway* (1965), *A+B #9* (1999). Above: *Paris (for Maurice de Sully)* (1988). Right: *Piseco* (1987).

design from his methodical, yet highly creative approach to studio instruction. I enjoyed his fascination with detail, examples being the Japanese ink block and brush along with other thoughtfully selected items he arranged on his desk, the fact that he walked to work each day and brought a delicious-looking sandwich he had crafted, and the sensitivity with which he handled and displayed his students' work."

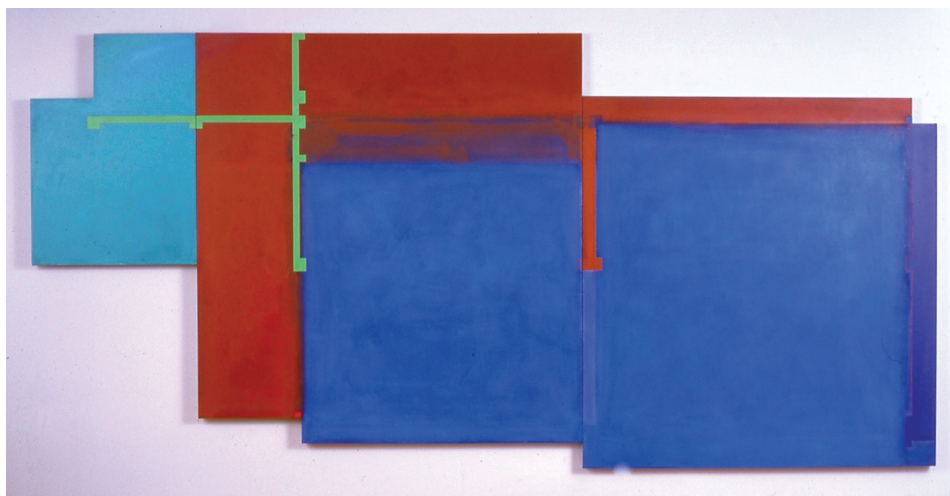
We will all miss him, and when I think of Mike, I'll always remember how the tops of his brightly colored t-shirts would peek out from underneath more muted long-sleeved shirts, with a snippet of color catching your attention like a summer bouquet of flowers on a gray tabletop.

Frank Becker is a professor emeritus in the Department of Design and Environmental Analysis.

in memoriam

Emily Ockenfels Thomas '35, Evansville, Ind.
 Mary Kelly Northrup '38, West Newton, Mass.
 Ruth Mason Phillips '37, Eckert, Colo.
 Betty Spink Riggs '40, Tampa Bay, Fla.
 Ruth Russell Shriver '44, Towson, Md.
 Lois Georgia Humphrey '45, Trumansburg, N.Y.
 Marjorie Beha Lopez '45, Westport, N.Y.
 Ruth Henne Meyer '45, Southern Pines, N.C.
 Edith Windels Illick MS '46, Fort Collins, Colo.
 Elizabeth Peters Yann '46, Columbia City, Ind.
 Janina Czajkowski Esselen MEd '47, Amherst, Mass.
 Gertrude Miller Gleek '47, MEd '48, Alameda, Calif.
 Joanne Wells Nixon '49, Westfield, N.Y.
 Janet Hatch Shear '50, Denver
 Elizabeth Baisley Pohl '51, Sanibel, Fla.
 Mary Strawson Ross '51, Westfield, N.Y.
 Florence White '51, Fayetteville, N.Y.
 Geraldine Lewis Baker '52, Wickliffe, Ky.
 Avola Whitesell Callaway MS '54, Rayle, Ga.
 Carolyn Wilklow Kuhlmann '54, Ellenville, N.Y.
 Ann O'Neil Potter '55, Roswell, Ga.
 Marilyn Jaffee Jones '57, Ramsey, N.J.
 Mona Sutnick '57, Philadelphia
 Dorothy Chitambar MS '58, Sacramento
 Elizabeth Steer Merritt '58, Boonton, N.J.
 Edith Maier Singh MS '59, Lafayette, La.
 Patricia Hicks Kleis '60, Gilroy, Calif.
 Loretta Rothman Lewis '60, Ithaca

Adele Hartney Nealon '60, MA '63, Asheville, N.C.
 Anne Warren Smith '60, Corvallis, Ore.
 Joyce Kitts Connelly '61, Cottonwood, Ariz.
 Helen McGonigle MS '62, Columbia, Miss.
 Maria DiGiacomo MS '62, Springfield, Pa.
 Charlotte Loewy Rubin '62, Brooklyn
 Bonnie Simonson Suchet '63
 Dorothy Malinowski Thomas '63, Charleston, W.V.
 Mary Arendas '64, Wilmerding, Pa.
 Lynda Marshall '64, Ithaca
 Ruth Haber Rifkin '64, Indianapolis
 Patricia Tengel MS '64, Potomac, Md.
 Roberta Meisels Berns '65, MA '66, Bonsall, Calif.
 Majel Rich Pentz MEd '65, Trumansburg, N.Y.
 Emrett Groomes MBA '66, Litchfield Park, Ariz.
 Marjory Beth Martin '68, MS '75, Ithaca
 Warren Pannell MPA '69, Philadelphia
 Sister M. Juliana O'Hara MPA '71, Rochester, N.Y.
 Karabelle Lastique Pizzigati '71, MS '75, PhD '76, Kensington, Md.
 Elizabeth Bauer '72, Lutherville, Md.
 Janet Frankel Staub '73, Camp Hill, Pa.
 Jeffry Bishop PhD '74, Ithaca
 Patricia Daly MS '74, PhD '75, Worcester, Mass.
 Margaret Tyler '76, Fairport, N.Y.
 Barbara Jensen '87, Norwich, N.Y.
 Yusnier Sonora Lopez '14, Palm Beach Gardens, Fla.



A Taste for Life

Cookbook author Amy Riolo connects cultures through cuisine

In 2003, Amy Riolo '95 couldn't have imagined that little over a decade later she'd be a best-selling cookbook author, culinary consultant, TV personality, and lecturer. In fact, she wasn't even sure she'd live that long.

Bedridden by Lyme disease, she tried to envision the life she'd lead if she ever regained her health. "Cook and write" became her dream. Too weak to do either, she began to imagine a book on Egyptian culture and cuisine, based in her previous travels and research.

"It gave me hope and inspiration," says Riolo. "It actually transformed me, and within a year and a half I was not only out of bed, I had a clean bill of health."

experiences and deeply researched stories.

"I really want to give people the background," Riolo explains. "Why is a particular soup so important? What is the symbolism? It's a very easy way for people to literally digest culture, to learn from and be inspired by one another."

Lecturing at museums, including the Smithsonian, Riolo deftly ties together culinary, cultural, and historical strands, a skill she credits to her experience in Human



Riolo promotes her cookbook on the Mediterranean diet at Melissa's Produce in Los Angeles.

Her greatest influence in the kitchen—and in life—was her maternal grandmother, whose treats stood at the center of every holiday. Riolo also learned from her grandfather, a former Army cook, and her mother, who knew how to feed a crowd.

"I thought of food as something you just did," says Riolo. Riolo's two cookbooks for the American Diabetes Association, for example—the *Italian Diabetes Cookbook* was released in January 2016—are based on her experience learning to cook at 15 years old, after her mother was diagnosed with diabetes.

Riolo became a proponent for the Mediterranean diet after visiting relatives in Italy and noticing how much healthier they were than their American counterparts—a fact she attributed to food and lifestyle. Riolo's love for Middle Eastern food and culture arose around the same time during a trip down the Nile. For the next decade and half, she spent months out of each year immersing herself in Egyptian culture and cuisine.

Today, Riolo fills her days with a wide variety of tasks, whether reaching out to her fans on social media, testing recipes for TV appearances, engaging in philanthropic work, or developing her upcoming culturally-based culinary TV show or her own line of spices and cookware. All the while, she keeps feeding her curiosity through research, travel, and conversations.

"I think the best teachers are the ones who are always learning," says Riolo. "And what better way to break the ice than to talk about food?"

— Olivia M. Hall



Riolo and chef restaurateur Luigi Diotaiuti are interviewed at a signing for their book, *The Al Tiramisu Restaurant Cookbook*.

The result, *Nile Style*, now in its second edition, won a World Gourmand Award for Best Arab Cuisine and was chosen by the Library of Congress for the National Book Festival in 2014. Riolo's belief in the transformative power of food is the force behind much of her work. In seven cookbooks and countless public appearances, she not only shares her advocacy for the health benefits of the Mediterranean diet, but also builds bridges between cultures through culinary

Ecology. "If I hadn't gotten a rounded education, I wouldn't be able to do that. I'd only know about food, but I wouldn't know how it relates to other things at large."

When Riolo first arrived at Cornell, she majored in Textiles and Apparel, hoping to become a fashion director. Food was not yet on her radar as a career, even though it was woven deeply into the fabric of her childhood in Jamestown, N.Y. "Food was everything for us," says Riolo, now based in Washington, D.C. "It was nutrition. It was culture. It was entertainment."

Powerful Medicine

A lifelong passion for nutrition fuels Adam Rotunda



Far left: Rotunda leads Newport Skin Cancer Dermatology in Southern California.
Near left: The FDA approved Kybella in 2015 as a treatment to reduce chin fat.
Bottom: Rotunda and Kybella co-inventor Michael Kolodney as early partners in Kolodney's UCLA lab.

When Dr. Adam Rotunda '96 visited his clinical professor's dermatology practice, he was fascinated by a set of photographs. As a young UCLA dermatology resident focusing on skin cancer surgery, he was amazed to see images of research subjects who'd been injected with a substance that seemingly melted the fat under their eyes. A decade later in 2015, that substance—after research and refining by Rotunda—reached the market as Kybella, the first injectable medication approved by the Food and Drug Administration to reduce fat under the chin.

With Kybella, physicians can now offer patients an alternative to surgery. For Rotunda—who continues to specialize in Mohs micrographic surgery—Kybella's approval is a dream come true after years of research. It's also inextricably linked to a life and career powered by nutrition.

It started with Rotunda's father, a bodybuilder who gave him protein pills as treats so he'd sit still during church. Rotunda looked up to him, and to an overweight older brother who'd transformed himself during a summer spent lifting weights and eating well. Starting at 12, working out became a daily discipline for Rotunda, setting him apart from his peers and focusing his studies on a pre-med curriculum in Nutritional Sciences.

"I saw the power of nutrition and working out," he says. "It was very tangible."

That led Rotunda to medical school and his dermatologic surgery residency at UCLA. There, something in Dr. Glynis Ablon's research on the fat-melting injections caught his eye: the active ingredient was purportedly phosphatidylcholine (PC), a nutritional supplement Rotunda knew from his post-workout protein shakes. Another ingredient was sodium deoxycholate (DC), an intestinal bile salt that helps digest fat. Intrigued, Rotunda wrote up Ablon's findings for peer review and publication; the article immediately became controversial.

Most of Rotunda's teachers and peers advised him to quit the work, but one professor, Dr. Michael S. Kolodney, urged him to



uncover why and how the injections worked. "In the lab, Michael told me, 'Adam, this is going to define your career,'" says Rotunda.

After two years of experiments, Rotunda and Kolodney discovered that DC, not PC, was the active ingredient. Following a successful clinical trial, Rotunda and Kolodney patented their work. In 2005, Kolodney presented their findings at a biotech conference, where Kythera Biopharmaceuticals (now Allergan)

took note, buying the rights and shepherding the drug through the long approval process.

Today, Kybella's future is in Allergan's hands, leaving Rotunda to focus on his surgery practice and being a mentor for Cornell students. Rotunda credits Dr. Virginia Utermohlen, former associate professor in nutritional sciences, with encouraging him to apply to the Urban Semester Program, where he found his calling with Dr. Philip S. Barie at the Weill Cornell Surgical Intensive Care Unit.

"I had a very different perspective going back to Cornell after that," says Rotunda. "The work had greater meaning beyond the GPA because there was a purpose, a goal."

Rotunda is making a similar impact on his undergraduate summer interns—integrating them into his medical team, offering opportunities to conduct clinical research, and encouraging them to develop relationships with their patients. "My time with Dr. Rotunda crystallized my goal of becoming a doctor and conducting surgery," says former intern Xun Yang (Leo) Hu '16. "His words gave me the confidence to know that I can handle the years of schooling ahead, the inevitable failures, and endless hours of work."

Above all, Rotunda's mentoring is shaped by his experience after being ridiculed for doing the 'wrong' kind of studies too early in his medical career. "It will be difficult as you pave your path forward," he says. "Find good mentors along the way. They may change your life."

— Sarah S. Thompson

Battling the BULGE

Margo Wootan leads the fight to prevent childhood obesity

While running errands one

Saturday two years ago, Margo Wootan '86 suddenly found herself craving a Snickers bar. She hadn't been thinking of chocolate when she'd left home, but there she was in line at the drug store, the supermarket, and the office supply store, surrounded by sweets.

The realization that the checkout aisle had become a prime marketing tool for junk food led Wootan, director of nutrition policy at the Center for Science in the Public Interest (CSPI), to design a campaign to replace candy with healthier options. With an \$800,000 grant from the Michael and Susan Dell Foundation, Wootan co-wrote a 70-page report on the food industry's "sneaky strategy for selling more" at checkout, which called on retailers and manufacturers to change their practices. "It's just not ethical for stores to be pushing extra calories on people at a time when obesity is one of the most pressing health problems facing the country," she says.

Wootan's fight against junk food is her latest effort to transform the nutritional landscape. In her 23-year-career at CSPI, Wootan has spearheaded campaigns to create national policies requiring trans fat labeling on packaged food products, menu labeling in chain restaurants, and updated nutrition standards in schools.

"Margo is one of the best and strongest advocates that we have for nutrition and public health, particularly for policy efforts to help prevent childhood obesity," says Tracy Fox, president of Food, Nutrition & Policy Consultants. "She has a good



Wootan is a leading voice for national policies to curb obesity, acting as a proponent of the Healthy, Hunger-Free Kids Act (top right). Left: Wootan in the kitchen with her daughter.



political sense and an ability to communicate effectively, and that's what it takes to move the needle in the right direction."

Wootan, who grew up in a family of 11 children in Kingston, N.Y., says her interest in health stems from her father, a physician. After earning an associate's degree at Ulster County Community College, she transferred to Cornell, where one of the first classes she took was Introduction to Nutrition. "It just confirmed to me that this was the right area of study," says Wootan, who later became a teaching assistant in the course.

With a doctorate in nutrition from Harvard's School of Public Health, Wootan landed a job at CSPI, the country's leading

nutrition advocacy organization, in 1993. When studies began showing that trans fat was causing heart disease and high cholesterol, Wootan launched an effort to ask the Food and Drug Administration to require companies to include trans fat on nutrition labels. It would take 13 years before the regulations went into effect.

"It's not just a matter of writing a petition," says Bonnie Liebman, MS '77, director of nutrition at CSPI. "You have to keep the pressure on. Eventually the FDA finalized the regulation, which led to at least a 50 percent reduction of trans fat in the food supply."

Another key battle was Wootan's effort to require

calorie labeling on menus in restaurants with 20 or more outlets. To convince the industry that federal legislation was needed, Wootan worked to pass a dozen state and local laws requiring calorie labeling. Since chains didn't want to meet different sets of regulations, the National Restaurant Association agreed to back a federal law on menu labeling, which is set to go into effect this December.

"A lot of studies link eating out with obesity," says Wootan, who expects the law to help curb rising obesity rates. "The portions are so huge, and people eat less healthfully than when they're home."

— Sherrie Negrea

Chart TOPPERS

Gogi Gupta crunches the data that drives music sales

On Grammy night, Gogi Gupta '00 and his 50 employees

assemble at company headquarters in Boston, ready to spring into action. Founded 11 years ago, Gupta Media develops digital ads, web and video content, and technology solutions to give the top acts in music—names like Beyonce and Taylor Swift—a boost in sales. On music's biggest night, the team allows itself only the 25 seconds it takes a winner to walk on stage to start moving units.

"Our goal," says Gupta, "is to pivot the massive exposure and excitement generated by the wins into sales and fans."

Raised in the suburbs of Buffalo, Gupta credits his performance under pressure to surviving the rigors of Cornell, guided by adviser Rosemary Avery, chair of the Department of Policy and Analysis and Management. "Gogi was one of those rare students who, despite his struggles adapting to the pace at Cornell, had a vision for, and confidence in, his future," says Avery. "He told me before he graduated, 'Don't worry, Professor Avery. I'm going to be successful and make you proud.' And he has!"



Launched in 2005, Gupta Media has risen swiftly in the music industry.



Gupta and employees watch the 2016 Grammy Awards. Right: Gupta Media helped the *Guardians of the Galaxy* soundtrack reach Platinum sales.

It took Gupta a few false starts to find his niche in the marketing world, but after successfully selling digital advertising for websites, he switched to buying ads and promptly snagged Disney Music Group as his first account. Today, with a client list that includes Sony, Universal, and Warner, he finds that his arms-length relationship to music has come in handy.

"You don't get blinded by your own fandom," he says. Instead, it's his passion for technology and data that drives his business. "From the public policy portion of my Cornell education the idea really stuck that you can put a price to a risk and make decisions based on that. It has to be cold and precise. When there aren't emotions involved, the good decisions and bad decisions make themselves apparent."



To put the company's success in Gupta's language of metrics: In 2014, it was the lead digital agency on 49 of the 52 number one albums, combining its team of marketers and engineers for big impact.

"We're able to report the performance of your ad campaign twelve times a day to a tenth of a penny," says Gupta. "It's like I can push this lever, and three CDs will fall off the shelf somewhere in America."

With its product smartURL, which directs users to different destinations, including iTunes and Spotify, based on their device and geographical location, the company supports as many as 130 visitors per second. Looking forward, he is bullish as the music business gains more control of its revenues from physical and digital sales and streaming services.

"We are moving to a model of mass personalization, for example, with services such as Spotify, that will drive more consumption and more passion," says Gupta, who plans to expand his company further into live events, sports, and TV networks.

"Our job as marketers is to find a way to make commerce out of it, and we're the best ad agency at what we do in the entire world."

Gupta's competitive drive and confidence in his team creates a close-knit spirit at "the clubhouse," as his wife Seana Richardson Gupta, Engineering '00, and mother to his three daughters calls Gupta Media headquarters. "What makes Gogi rare and unique is that, despite his success in business, he has never lost his sincerity and connections with those close to him," says Avery. "He has his feet firmly on the ground of what is and is not important in life."

— Olivia M. Hall

Maximum POTENTIAL

Khanh Phuong Tong supports schools and businesses in Honduras

Something about the recruitment poster

caught her eye. A student-based start-up trying to promote educational opportunities in rural Honduras?

Now Khanh Phuong Tong '15, a human biology, health, and society graduate, is chief operating officer of Mayor Potencial, a far-reaching nonprofit whose name means 'greatest potential.'

Together with founder Nancy Bell '09, Tong helped build an organization with three goals: Provide access to education in rural Latin America, help small agribusinesses expand into global markets, and offer experiential learning for Cornell students.

Bell's hometown—before matriculating to Tompkins Cortland Community College and then to Cornell—is El Rodeito, population 200, a Honduran community with one elementary school and little opportunity for kids to go beyond it. Mayor Potencial intends to build a high school there.

Channeling Cornell student ingenuity and enterprise to El Rodeito is the two-semester Social Entrepreneurship Field Study, offered through Applied Economics and Management. Winter break experiences in El Rodeito have students working closely with community members to develop practical, actionable recommendations for small businesses.

Before 2013, Tong thought she was just prepping for medical school. But the moment she met Nancy Bell, rural health and education became Tong's special issue. "I was immediately drawn to her passion and determination," Tong says. "She was grateful for her educational opportunities and wanted to give other students those opportunities.



Tong (second from left) and Bell (third from left) meet with Mayor Potencial liaisons on a visit to El Rodeito, Honduras.



This was something I could relate to."

Tong, 22, says the HBHS program and a minor in policy analysis and management "prepared

me to recognize that health problems are complex in origin. That besides understanding disease and pathology, we need to recognize other factors, such as the roles of nutrition, culture, and politics."

A part-time job as program coordinator for the University of Washington Medical Center allows Tong time to revisit Honduras whenever she can. She also works part-time as a nutrition assistant at Swedish Medical Center in Seattle and volunteers at homeless and primary care clinics several times a week. Medical school should start later this year.

"It was not my intention to take a gap year but I've made the most of it," she says, offering advice for current students in similar situations.

"I want students to know that they cannot give up. Set aside time to relax. Enjoy the gap year, maybe by traveling or spending time with family and friends. Follow your passion, and know that everything will work out."

As the former student manager of Martha's Café, Tong suggests three ways current students might support Mayor Potencial. Design students can create eco-friendly school kitchens and cafeterias for Honduras—as they did for Martha's last year. Nutrition students can develop school meal plans with a focus on healthy eating. And HBHS students can help at the infirmary they plan to build in El Rodeito.

Now a mentor herself, Tong recruits social entrepreneurship students to help Honduran agribusinesses. "We see this as a way for alumni and current students to work together to empower women in rural communities, giving them a greater chance to sustain a business and provide for their families," she says.

— H. Roger Segelken



Cornell students remove seeds from loofas at a local business (left) and volunteer in Honduran schools during visits.



A DECADE OF DIFFERENCE



Celebrating 10 years of success, a crowd of nearly 200 Human Ecology alumni, donors, and friends gathered April 14 at the Manhattan home of Dorothy Hom '86 and Michael Strauss to mark the completion of the college's \$94 million campaign.

To much applause, Dean Alan Mathios, along with faculty and students, shared with guests how the historic fundraising effort had elevated the college's teaching, research, and outreach missions. While praising the impact of the campaign, which ended in 2015, speakers also inspired the crowd with a vision for Human Ecology's future.

Also worth cheering: the West Village home of interior designer Hom and contractor Strauss, who had converted the former commercial property into a townhouse with striking views onto lower Manhattan.



LEEDing the Field

Green Business Certification named Jan Stensland, MS '96, as a 2015 Leadership in Energy and Environmental Design (LEED) Fellow. Stensland and 35 other LEED professionals received the designation as leaders in the green building community. Nominated by their peers, LEED Fellows must have at least 10 years of experience in the green building industry and hold a LEED AP with specialty credential. As founding principal of Inside Matters, Stensland provides indoor environmental quality and sustainable design consulting, education, and research to corporations, government agencies, manufacturers, health care institutions, and universities. Her clients include U.S. Gypsum Corporation, Kaiser Permanente, the University of California, and the California Department of Public Health.



Book of Life

The Drinkable Book, developed by Theresa Dankovich '03, has drawn praise from around the globe for its potential to filter 99.9 percent of harmful bacteria from drinking water while also delivering information about water contamination. *Fast Company* has tabbed the concept with its 2015 Innovation by Design Award, noting that the invention could be a game-changer for billions of people who lack safe drinking water. A chemist who studied fiber science at Cornell, Dankovich began working on the idea as a doctoral student at McGill University, leading to a prototype that she has tested in South Africa and Ghana. The book's paper is coated with silver nanoparticles that kill cholera, *E. coli*, typhoid, and other deadly bacteria.



Cool Competitor

As founder and CEO of Three Twins Ice Cream, Neal Gottlieb '99 has risen to the top of the organic ice cream business. On the 32nd season of *Survivor*, shown this spring on CBS, he vied to keep his cool through the most punishing conditions in the show's history. A member of the Brains tribe, Gottlieb and 17 other castaways began the season competing for a \$1 million prize on the remote Cambodian island of Kaoh Rong. Gottlieb, who majored in consumer economics and housing (now policy analysis and management), was ultimately forced off the island due to injuries, though the ice cream boss showed he had the right blend of guts and guile to make it far.



Committed to CORNELL

Deborah Adelman '71, MS '74 (right), and Nancy S. Meinig '62 (below) are among the seven recipients of the 2015

Frank H. T. Rhodes Exemplary

Alumni Service Award to recognize individuals who demonstrate extraordinary, long-term service to Cornell through volunteer activities and leadership. Adelman

has chaired the President's Council of Cornell Women (PCCW) and the College of

Human Ecology Advisory Council, served as president of the Human

Ecology Alumni Association, and held various leadership positions on the Cornell University

Council. Meinig most recently co-chaired the university's sesquicentennial

committee with her husband, Peter Meinig '61, who also received the

Rhodes Award. Nancy is a life member of the Cornell University Council, a

presidential councillor, and a sustaining member of the PCCW. Adelman and

Meinig are past recipients of the Helen Bull Vandervort Alumni Achievement Award for outstanding service to Human Ecology.



Health Care Honors

Arkansas Business selected Kevin Cullinan, MHA '12, to its annual "20 in their 20s"

list. Cullinan, 29, considered a career in finance before entering Sloan and

deciding to focus on the business of health care. Since joining Catholic

Health Initiatives St. Vincent Health Systems in Little Rock, Cullinan has

worked as an administrative fellow, manager of and director of business

development, and executive director of orthopedics, where he currently oversees the

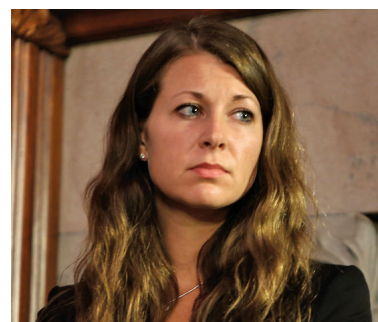
health system's spine and orthopedic service lines.

"The motivation for me is trying to improve anything that I'm a part of," he said.



Serving New York

In late 2015, New York Governor Andrew Cuomo appointed two Cornell Institute for Public Affairs (CIPA) graduates to leadership positions in the executive chamber and state agencies. Melissa DeRosa, ILR '04, MPA '09, became chief of staff, following posts as strategic advisor and communications director for the governor. Her responsibilities include communications,



legislative affairs, politics, labor, and guiding the administration's strategic approach to enacting policy. Before joining the Cuomo administration, DeRosa worked as deputy chief of staff and acting chief of staff in the state attorney general's office.

Cuomo named Jamie Frank, MPA '13, as assistant secretary for education. Most recently, Frank served as a senior budget

examiner in the New York State Division of Budget, where she conducted research and policy analysis on academic performance, accountability, school funding, and pre-kindergarten expansion.

MAKING THE GRADE



For her work in early childhood care and education, Fiona Stewart '87 was selected a Master Leader by the Exchange Leadership Initiative, a national effort by *Exchange* magazine to recognize experts in the field.

Stewart, program director of the Child Care Alliance of Los Angeles, joined 37 other honorees chosen as "experienced professionals who have proven themselves able leaders in their organization and who are taking leadership in

building the profession and advocating for children and families at the local, state, and national levels." At the Child Care Alliance, Stewart oversees professional development programs for early childhood education teachers and providers. The award allows her to collaborate with early childhood experts around the nation.

Uncommon Commons

Dubbed the college's "living room" when it opened in 2011, the Human Ecology Commons has undoubtedly lived up to its name.

The 5,700-square-foot space, bridging the college's historic Martha Van Rensselaer Hall and the new, high-tech Human Ecology Building, provides a respite from the swirl of Cornell life—a place where students can study, socialize, dine, and sometimes sleep.

With flexible, comfortable furniture, it's hosted study groups, impromptu lessons, student fundraisers, staff events, and alumni dinners. Under the signature translucent cloud-like lights hanging from the 21-foot ceiling, families have celebrated Commencement, alumni have mingled during Reunion Breakfast, and faculty and staff have shared laughs at holiday gatherings. Fittingly, upon President Elizabeth Garrett's sudden passing in March, the Human Ecology community met there to grieve and comfort one another.

As the center of Human Ecology, the Commons has become the venue that 10 seniors in the Department of Design and Environmental Analysis dreamed of when they designed it for a class project. The students' vision took shape in 2010 as part of a senior studio with then-lecturer Leah Scolere '03, MA '04, who guided them as they worked with professional architects to research and recommend a plan.

"We wanted to create something that was unique to Human Ecology, that didn't look like anywhere else on campus," says student designer Kristin Malyak '10, MA '11, now a design strategist at Gensler. "Something people would notice the instant they walked in."

— Ted Boscia





Verneda White '05

DEGREE: Bachelor of Arts,
Fiber Science & Apparel Design
POSITION: Founder and creative director,
Human Intonation

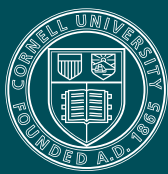


Cornell University
College of Human Ecology

MY TWIN PASSIONS HAVE ALWAYS BEEN
FASHION AND SOCIAL ADVOCACY.

When Hurricane Katrina destroyed parts of New Orleans and my cousin died of AIDS, I was inspired to use fashion as a platform for creating social change and raising funds for global charities. I trace my success back to Human Ecology, where I learned lessons not only in garment construction and business, but also in entrepreneurship and advocacy.

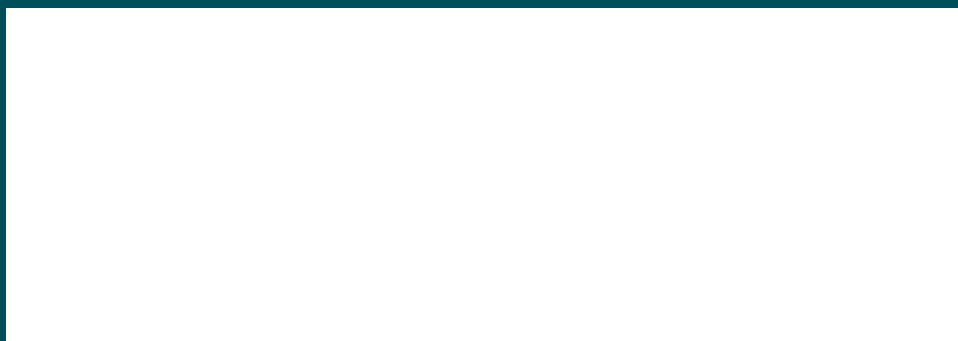
i am *fashion with a voice.*
human ecology



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AUTO DIDACTS

Not only were early Cornell Home Economics students expert in textiles, nutrition, and household design, many also knew how to look under the hood. In this image from 1939, a group performs basic engine maintenance in a course taught by Byron B. Robb, professor of agricultural engineering. Pictured at left are Elizabeth Luxford Webster '39, Carolyn Howland Keefe '39, and Patricia Prescott Hok '38; on the right are Marjorie Voorhees Milner '39, Mary Randolph Prozeller '38, and Phyllis Lee English '36.



Photo courtesy of the Division of Rare and Manuscript Collections, Cornell University Library