“INNOVATION IN TODAY’S FAST-PACED WORLD REQUIRES NOT ONLY BASIC TOOLS OF INVENTION AND ENTREPRENEURSHIP BUT ALSO A CREATIVE MIND-SET AND A PASSION FOR EXPLORATION”

— President Martha E. Pollack
Entrepreneurship at Cornell is governed by 12 deans from every school and college at Cornell University.

Kathryn Boor  
RONALD P. LYNCH DEAN  
College of Agriculture and Life Sciences

Lance Collins  
JOSEPH SILBERT DEAN  
College of Engineering

Joe Thomas  
INTERIM DEAN  
SC Johnson College of Business

Kevin Hallock  
KENNETH F. KAHN DEAN  
School of Industrial and Labor Relations

Dan Huttenlocher  
DEAN AND VICE PROVOST  
Cornell Tech

Greg Morrisett  
DEAN  
Computing and Information Science

Hugh Hemmings  
DEAN OF THE WEILL CORNELL GRADUATE SCHOOL OF MEDICAL SCIENCES AND SENIOR ASSOCIATE DEAN FOR RESEARCH  
Weill Cornell Medical College

Lorin Warnick  
AUSTIN O. HOOEY DEAN OF VETERINARY MEDICINE  
College of Veterinary Medicine

Alan Mathios  
REBECCA Q. AND JAMES C. MORGAN DEAN  
College of Human Ecology

Eduardo Peñalver  
ALLAN R. TESSLER DEAN  
Cornell Law School

Gretchen Ritter  
HAROLD TANNER DEAN  
College of Arts and Sciences

Kent Kleinman  
GAIL AND IRA DRUKIER DEAN  
College of Architecture, Art and Planning
From the Director

As the spring semester gets in full swing, there is excitement and activity in eHub Collegetown and eHub Kennedy Hall at all hours of the day and night. Our students are truly inspirational.

We’ve had an amazing year. More than 500 people attended our Summit event in New York City and another 750 joined last year’s Celebration event. More teams than ever before have applied for our Big Idea Competition. The caliber and interdisciplinary nature of the 15 businesses going through the eLab business accelerator program this year is top notch. And students from every school and college are taking entrepreneurial classes, finding support and partners for their ideas and using the myriad of resources on campus to move those ideas from plan to action.

A key recent development is that we now have a university-wide minor in entrepreneurship! Students will learn about the role entrepreneurship plays in society and business generally, while learning the skills they’ll need to become successful entrepreneurs if they so choose. Faculty director Susan Fleming said it will create students who are prepared to be “agents of change” no matter where their career takes them.

Students are clearly ready for that challenge. Membership in eHub has now topped 5,000 and those students are broadly spread out among our schools/colleges, majors and interests. Likewise, our Blackstone LaunchPad mentoring program, numerous hackathons, critical internship program and other events also showcase the truly interdisciplinary nature of entrepreneurship at Cornell.

The students we meet every day are bright, creative and motivated and we believe their ideas will change the way we do business and the way we live.

We hope the stories in this edition of eShip inspire you. Stay in touch if you want to get even more involved. We have many ways to engage, and we hope you take advantage of that. Here’s to a successful 2018!

Very truly yours,

Zachary Shulman ’87, JD ’90
Director, Entrepreneurship at Cornell
IN MEMORIAM

David BenDaniel

Professor David BenDaniel, the Don & Margi Berens Professor of Entrepreneurship at the Samuel Curtis Johnson Graduate School of Management, passed away on Nov. 22, 2017 after a brief illness. He is truly missed far above Cayuga’s waters.

One of the founding fathers of Cornell entrepreneurship, David started at the Johnson School in 1985 and was intimately involved in the creation and growth of Entrepreneurship at Cornell over the past three decades. He was honored at the April 2017 Celebration event with a lifetime achievement award.

During his 33 years at Cornell, David taught courses in entrepreneurship and private equity, and mentored a large number of students as faculty adviser for Big Red Ventures. He had the remarkable ability to get the best out of his students and motivate them to work hard, while still being their favorite professor. David’s wisdom, eagerness to teach and especially his warmth was felt and appreciated by all who interacted with him.
Our two marquee events, Celebration on campus in April and Summit in New York City in November, offer alumni, faculty, staff and students the chance to meet each other, as well as learn from and connect with luminaries in the global entrepreneurial ecosystem.

See more 2017 Celebration photos at eship.cornell.edu/celebrations-2017-gallery/, and 2017 Summit photos at summit.eship.cornell.edu/2017/.
THE ESHIP

1. Entrepreneurship at Cornell
2. Entrepreneurship at Cornell Internship Program
3. Blackstone LaunchPad
4. eLab
5. eHub Kennedy Hall and eHub Collegetown
6. Leland C. and Mary M. Pillsbury Institute for Hospitality Entrepreneurship
7. Smith Family Business Initiative
8. BR Venture Fund
9. Kevin G. McGovern Family Center for Venture Development in the Life Sciences
10. Center for Sustainable Global Enterprise
11. Center for Technology Licensing
12. Center for Transformative Action
13. Engineering Commercialization Fellowship
14. B.E.S.T. Program
15. Kessler Fellows Program
16. Student Agencies Inc.
17. Life Changing Labs
18. Center for Advanced Technology
19. Cornell Startup Tree
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<tr>
<td><strong>ENTREPRENEURSHIP AT CORNELL</strong></td>
<td>A diverse, university-wide program that finds and fosters the entrepreneurial spirit in participants from every college, every field, and in every stage of life and the gateway to everything entrepreneurial at Cornell.</td>
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<td><strong>INTERNSHIP PROGRAM</strong></td>
<td>Connects entrepreneurial students with opportunities to gain essential experience in small to mid-sized businesses located throughout the US and abroad.</td>
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<td><strong>BLACKSTONE LAUNCHPAD</strong></td>
<td>Offers mentorship and venture creation support for individuals or startups at any stage in any industry, as well as access to a global network and other resources.</td>
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<td><strong>eLAB</strong></td>
<td>A year-long business accelerator program for Cornell students to grow their business and earn course credit.</td>
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<td><strong>eHUB KENNEDY HALL &amp; COLLEGETOWN</strong></td>
<td>Two locations providing open, flexible and dynamic collaboration and coworking space fostering entrepreneurship for the entire Cornell community.</td>
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<td><strong>LELAND C. AND MARY M. PILLSBURY INSTITUTE FOR HOSPITALITY ENTREPRENEURSHIP</strong></td>
<td>Teams students with seasoned faculty and accomplished entrepreneurs to help them develop the knowledge, skills, and practical experience necessary to pursue their entrepreneurial ambitions.</td>
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<td><strong>SMITH FAMILY BUSINESS INITIATIVE</strong></td>
<td>Supports and strengthens family businesses through education and networking initiatives for family business owners, successors and students.</td>
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<td><strong>BR VENTURE FUND</strong></td>
<td>An early-stage venture capital fund operated by MBA students at Cornell.</td>
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<td><strong>KEVIN G. MCGOVERN CENTER FOR VENTURE DEVELOPMENT IN THE LIFE SCIENCES</strong></td>
<td>Develops young Cornell life science companies by helping to accelerate research/development of their technology/products, validating business plans and strengthening management teams.</td>
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<td><strong>CENTER FOR SUSTAINABLE GLOBAL ENTERPRISE</strong></td>
<td>A resource for Cornell students interested in issues pertaining to business and sustainability.</td>
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<td><strong>CENTER FOR TECHNOLOGY LICENSING</strong></td>
<td>Cornell’s technology transfer office manages inventions from Cornell and licenses Cornell technologies to industry partners.</td>
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<td><strong>CENTER FOR TRANSFORMATIVE ACTION</strong></td>
<td>Helps create socially-just and ecologically-sound communities by sponsoring educational programs and supporting projects with incubator and fiscal services.</td>
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<td><strong>ENGINEERING COMMERCIALIZATION FELLOWSHIP</strong></td>
<td>An opportunity for engineering PhD students to take a deep dive into the commercialization process and potential real-world application of university technology.</td>
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<td><strong>CORNELL BROADENING EXPERIENCES IN SCIENTIFIC TRAINING (BEST)</strong></td>
<td>Enhances training opportunities for graduate students and postdoctoral scholars to prepare them for careers beyond academic research.</td>
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<td><strong>KESSLER FELLOWS PROGRAM</strong></td>
<td>A year-long experience for junior engineering students, combining learning at Cornell with a summer placement in an entrepreneurial environment.</td>
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<td><strong>STUDENT AGENCIES INC</strong></td>
<td>A student-run corporation providing diverse services ranging from summer storage to campus marketing. Its foundation is a major supporter for eLab, eHub and the annual Summit and Celebration events.</td>
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<td><strong>LIFE CHANGING LABS</strong></td>
<td>A local nonprofit that supports Cornell’s entrepreneurially-minded students through various activities including a summer incubator, make-a-thons, pitch contests and dinners.</td>
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<td><strong>CENTER FOR ADVANCED TECHNOLOGY</strong></td>
<td>Offers funding, training and programs for Cornell life sciences researchers to develop biotechnologies with commercial potential, and partners with New York state companies.</td>
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<td><strong>CORNELL STARTUP TREE</strong></td>
<td>An online community for Cornell startups to foster connections.</td>
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<td><strong>REV: ITHACA STARTUP WORKS</strong></td>
<td>Business incubator and event space offering mentorship, workspace and startup resources for Ithaca’s entrepreneurial community.</td>
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<td><strong>CORNELL TECH</strong></td>
<td>Cornell’s new graduate school campus on Roosevelt Island in New York City, offering programs in business, engineering and law, as well as dual-degree programs with the Technion-Israel Institute of Technology.</td>
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<td><strong>WEILL CORNELL MEDICINE BIOVENTURE eLAB</strong></td>
<td>Fosters an entrepreneurial ecosystem for researchers, clinicians and staff at Weill Cornell Medicine by providing access to resources, training and mentorship in biomedical entrepreneurship.</td>
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<td><strong>THE TECHNOLOGY FARM</strong></td>
<td>Allows food, agriculture and bio-based technology companies to locate in close proximity to and collaborate with the research capabilities of Cornell.</td>
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<td><strong>CORNELL FOOD VENTURE CENTER</strong></td>
<td>Assists beginning and established food entrepreneurs in business and product process development, product safety, process/product technology transfer and product commercialization.</td>
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<td><strong>CORNELL ENTREPRENEUR NETWORK (CEN)</strong></td>
<td>Offers events throughout the country and globally, networking opportunities and online webinars featuring alumni industry leaders as speakers.</td>
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<td><strong>CORNELL SILICON VALLEY</strong></td>
<td>Provides educational and networking opportunities throughout the Bay Area.</td>
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<td><strong>76WEST</strong></td>
<td>A clean energy business competition, sponsored by NYSERDA, focused on growing clean energy businesses and jobs in New York State’s Southern Tier region.</td>
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<td><strong>UPSTATE NEW YORK I-CORPS</strong></td>
<td>Led by Cornell University, in partnership with other regional institutions, the program helps researchers move their technology to market. 20-30 teams are recruited for the national NSF program and receive over $25,000 in funding.</td>
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<td><strong>SOUTHERN TIER STARTUP ALLIANCE</strong></td>
<td>A partnership of business incubators in the Southern Tier region, working to support regional startups, share entrepreneurial resources, and raise capital in the region.</td>
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ENTREPRENEURSHIP AT CORNELL PROGRAMS & EVENTS, 2017

SUMMIT, NYC ATTENDEES

- ALUMNI: 189
- STUDENTS: 105
- OTHER: 221
- TOTAL: 515

750 ATTENDEES AT CELEBRATION IN ITHACA

- Included 85 undergraduates participating in the Big Idea Competition - more than triple the number of students than in 2014!

SUMMER INTERNSHIP PROGRAM

- 40 students placed in 32 companies

CLINTON GLOBAL INITIATIVE

- 15 student delegates

BLACKSTONE LAUNCHPAD

- 25 mentors providing 649 appointments

CORNELL’S CENTER FOR REGIONAL ECONOMIC ADVANCEMENT

- 375 different startups mentored and over 2,500 attendees participated in events

- 100+ variations of prototypes were created during the 11 Hardware Accelerator at Rev: Ithaca Startup Works

- 65 research teams, with deep technology, interviewed nearly 350 customers during 11 Cornell-led NSF I-Corps short courses

REV:ITHACA STARTUP WORKS

- $21 million raised in capital
- 92 jobs created

- $18.2 million in Ithaca
- $8.2 million revenue generated

- $7.8 million in Ithaca

5 HACKATHONS

University-wide participation by undergrad & grad students

ANIMAL HEALTH

VR

HEALTH

HOSPITALITY

FINTECH

E HUB

Kennedy Hall and Collegetown locations combined provide over 15,000 sq ft of co-working and meeting space for

COLLEGE OF ENGINEERING: 26.9%
COLLEGE OF ARTS AND SCIENCES: 22.7%
COLLEGE OF AGRICULTURE AND LIFE SCIENCES: 15.4%
COLLEGE OF HUMAN ECOSYSTEMS: 9.2%
SCHOOL OF HOTEL ADMINISTRATION: 7.4%
SCHOOL OF INDUSTRIAL AND LABOR RELATIONS: 6.4%
DYSON SCHOOL: 5.8%
SC JOHNSON GRADUATE SCHOOL OF MANAGEMENT: 3.1%
COLLEGE OF ARCHITECTURE, ART, AND PLANNING: 1.8%
COLLEGE OF VETERINARY MEDICINE: 0.7%
CORNELL LAW SCHOOL: 0.5%
OTHER SCHOOLS, COLLEGES: 8.2%

ENGINEERING
A&S
CALS
BUSINESS
CORNELL TECH
VET
OTHER SCHOOLS, COLLEGES
“WE ARE FACILITATING the creation of startups, which can then lead to bigger companies, workforce development and economic development that is associated with this kind of activity,” said Emmanuel Giannelis, vice provost for research, Cornell University, speaking before an assembly of researchers, startup founders and venture capitalists at The Kevin M. McGovern Family Center for Venture Development in Life Sciences during a November celebration of new companies ready to move out of the incubator.

Sterifre Medical, Inc. is commercializing a novel disinfection technology that operates at room temperature and room pressure, without the use of harsh chemicals.

The company was founded by prolific inventor and scientist, Czeslaw (Czes) Golkowski, PhD ’91, who, along with his son Mark Golkowski ’02, started the company in his basement.

“By combining vaporized hydrogen peroxide and ozone, two legacy technologies, we were able to design a low cost and rapid disinfection system that was extremely gentle on even an iPhone,” said Czes. The system has been tested to be safe on live tissue, electronics, and textiles, typically materials that are difficult to safely decontaminate with autoclaves and chemical methods. And prototypes have been in use by Weill Cornell Medicine researcher Dr. Jason Spector.

Yet while the science and initial engineering was sound, the prospect of shaping it into a startup was a daunting one for Czes.

“He realized he needed support to shape his science into a business that investors found exciting. The McGovern Center provided Czes with the support and lab space he needed to make this transition,” said Jonathan Greene MBA ’04, vice president of development for Sterifre and one of three founding executives in residence (EIR) at the McGovern Center. “Facilities like the McGovern Center and champions, such as Lou Walcer, are key factors for supporting the growth of the technology commercialization community on campus.”

The company’s first product offering is a desktop disinfection appliance for hospitals and healthcare clinics. Sterifre is developing this product to process electronics, badges, stethoscopes and other personal items that staff and visitors carry into and out of these facilities. Greene elaborated, “Our goal is for the Sterifre brand and our products to be as visible as the hand sanitizer dispensers commonly found in healthcare facilities.”

Cornell alum and current McGovern EIR, Becky Robinson ’07 MBA ’15, introduced the Sterifre team to their current CEO, Rick Shea. “Having Rick leading our team catalyzed our fundraising efforts and enabled us to quickly transition from bench top to product development,” said Greene. Indeed, the company has exceeded its initial fundraising goal of $5 million and is actively working on several strategic partnerships to facilitate market entry in 2019.

Greene concluded by saying that, “…this experience re-energized my interest in commercialization at Cornell, making me even more enthusiastic about our community’s prospects in the future.”

“The benefits are not just for the startups and entrepreneurs themselves. As these companies grow and succeed, the university benefits from collaborative research and university labs sponsored by the companies,” said Michael Kotlikoff, Cornell provost, speaking at the celebration. “The university also receives royalty payments for equity through licenses or equity partnership agreements. When these companies achieve an investor exit through a public offering — as occurred with Agronomic Technology, Inc. — the university can realize a substantial return on its investment, either through sale of its shares or buyout of its license.”

Former members of the McGovern Center incubator celebrate their success. From left, Jonathan Greene MBA ’04 of SteriFre Medical, Inc.; Yingchao (Alex) Yu PhD ’14 of Lionano, Inc., McGovern Center Director Lou Walcer and Ryan Boyko of Embark.
This spring, 57 teams of student founders at Cornell Tech kicked off their journey into entrepreneurship in the Startup Studio.

The aptly named program, now in its fourth iteration, is led by venture investor, entrepreneur, and TechStars NYC co-founder David Tisch. Startup Studio challenges students in all seven master’s degree programs on the NYC campus with forming teams and building products that address opportunities in the commercial world.

From AI, computer vision, and VR to healthcare, government, and industrial IoT, this year’s teams span a wide variety of industries, technologies, and interests.

The Startup Studio Process involves several steps:

• **DEVELOPING A VISION.** During the fall semester, under the guidance of experienced entrepreneurs and venture capitalists, students develop, evaluate, and refine thousands of startup ideas in Startup Ideas, then choose one of those ideas to pursue in Startup Studio.

• **ASSEMBLING A TEAM.** As students evaluate ideas in the Startup Ideas process, they find peers with complementary skill sets and shared passions.

• **CREATING A STARTUP.** Students then dive into the process of creating a startup: refining their idea and developing a pitch deck and prototype that they test with users and present to members of New York City’s vibrant tech startup community.

• **HONING PRODUCT DEVELOPMENT SKILLS.** As students develop their startup idea in the Studio, they also participate in weekly Product Management sessions, in which they learn and practice the many product management skills required to develop new technology products.

• **WORK SMARTER.** To accelerate the business development progress, students participate in scrum, crit and Studio Sprints with active entrepreneurs, product owners and technical managers who will provide practical feedback and instruction, encourage weekly progress and help address any challenges the team is facing.

• **TAKE IT WITH THEM.** The primary goal of Startup Studio is to provide students with skills and experience that they can apply to the rest of their degree and new ventures after graduation, but many teams turn their Startup Studio projects into real businesses. At the end of the semester, four of these teams will each receive $100,000 in pre-seed funding and one year of free co-working office space, bestowed at the Cornell Tech’s fourth annual Startup Awards competition in May.

Sarah Kishinevsky PhD ’16, director and head of the BioVenture eLab, said the annual event brings together members of the community interested in learning about innovative biomedical and health care startups. This year’s event featured a keynote speech by Piraye Beim PhD ’07, founder and CEO of Celmatix, as well as presentations by six biomedical startups and a networking reception with more than 25 posters of early stage biomedical technologies, seed and series A biomedical startups affiliated with Cornell.

One of the presenters was Du Cheng, an MD-PhD student at Weill whose company iDu Optics has developed LabCam: a hardware iPhone accessory that fits perfectly into a microscope and allows users to easily photograph and share images. The device has multiple applications in research and telemedicine such as ophthalmology and dermatology.

One of their customers is a doctor in Peru, who uses the device to share pathology samples with colleagues in Minnesota in real time to aid in pathology consultation, Cheng said. LabCam is also being used in IRB approved studies in Tanzania and low-income areas in Brooklyn.

Du was the winner of the BioVenture eLab Bench to Bedside Initiative Pitch Day as well as the Biomedical Business Plan Challenge last year.

The company has sold more than 2,000 of its $250 LabCam devices to universities and organizations like Doctors without Borders, Cheng said.

A HOST OF NEW EVENTS AND RESOURCES are taking shape at Weill Cornell Medicine’s BioVenture eLab, to help students, postdocs and faculty take research from the lab into commercial applications.

One of those is the popular Startup Symposium, now a yearly event held in January and co-sponsored by Entrepreneurship at Cornell.

The BioVenture eLab regularly sponsors workshops in 3D printing, intellectual property, electronics design, and other topics of interest to entrepreneurs, as well as an annual biomedical business plan competition. And its Bench to Bedside initiative, a 12-week life sciences intensive course, teaches scientists and clinicians how to write a pitch around biomedical technologies. BBI has resulted in the creation of several seed-funded startups.
Entrepreneurship and new startups are fueling a world of new employment opportunities, including jobs for people with disabilities.

Speaking at a two-day conference in New York City hosted by the K. Lisa Yang and Hock E. Tan Institute on Employment and Disability, BTL Investment partner Jim McCaffrey ILR ’81, said investing in firms that are owned or operated by individuals with disabilities is “a relatively untapped space which is why we think it could be interesting. What determines the success or failure of any entrepreneurial startup is really the willingness of the individual to work hard, get the required skills and understand the importance of self-reliance and that applies to any business startup.”

There are 4 million Americans on the autism spectrum in the U.S. and 85% of autistic adults are unemployed or underemployed. Speaking as a guest lecturer to ILR students, CEO Rajesh Anandan explained how ULTRAtesting, a software quality assurance firm, proves that building a business around cognitive differences can be a highly successful endeavor.

Embracing “neurodiversity,” ULTRA focuses on individuals’ abilities, not disabilities, as they actively recruit, train and employ people who are on the autism spectrum.

“Instead of looking at what our recruits are not good at, we look specifically for what we feel make for a fantastic software tester or engineer. Some of those are cognitive, like pattern recognition and logical reasoning, and some are behavioral like perseverance,” explained Anandan.

ULTRA has created a model where they spot talent that has been hidden, then provide an environment where that talent can be developed to deliver business value for their clients.

“The majority of the people hired have never had a skilled, paid job before, but within a month the individual is working at billable client rate. Within a year, they are doing expert level work,” Anandan stated.

Describing on-going challenges for his company, Anandan said that they have to weigh advances in technology and automation with the desire to keep jobs for their workers.

“We are constantly trying to balance this tension between needing to build smart tools that make our teams more productive and at the same time, we don’t want to become a tool company because that doesn’t create the kinds of jobs we want

Entrepreneurship, Technology and Disability Panel (left to right: Paolo Gaudioso, Jim McCaffrey, ILR ’81; Rajesh Anandan, Kate Caldwell, Diego Mariscal). Photo: Peter Quinn, Yang-Tan Institute, ILR School.
to create.” Ultimately, ULTRA is a business competing with others, Anandan continued. “We don’t call ourselves a ‘social enterprise’ because no one wants to trust the quality of their software on a social enterprise. We simply say we are the best in the business because of the talent pool we tap. And you can feel good about doing business with us.”

“My personal belief,” McCaffrey says, “is that people with disabilities are at an advantage in that [startup] space. They understand overcoming challenges. They understand what hard work and effort is all about. And that is in the end what makes an entrepreneur successful.”
Graduate students Joe Mattson and David Kemmenoe both chose to work in one of chemical engineering Professor Paul Steen’s labs because the research applies to a real problem facing a real company. In fact, the two are often in contact with company employees at Metglas as they refine and broaden their process.

Their research focuses on amorphous metals with applications in energy and electricity distribution, such as transformer cores and electromagnetics. The work of the lab is funded in part by Metglas through a fellowship managed by the Cornell Center for Materials Research’s Industrial Partnerships Program.

In their Olin Hall lab, Mattson and Kemmenoe work with undergrads Joe Hassler ’18 and Avash Pandit ’20 on experiments that send molten metal alloys through a small funnel onto a rotating copper wheel, which immediately freezes the substance into thin sheets and shoots them out.

Steen began this research lab in the 1980s as part of a partnership with Alcoa, which was seeking to decrease manufacturing cost by processing aluminum foil in a single stage, avoiding the costly capital equipment related to downstream hot and cold rolling to a desired thinness. When that research project ramped down, Steen connected to Metglas about 10 years ago because their needs in rapid solidification technology meshed with his lab’s expertise.

“The way they developed this material is pretty Edisonian (trial and error),” Steen said. “Our role is to help Metglas understand the basic physics and chemistry behind this process.” Mattson, a chemical engineer, is working on optimizing the process, while Kemmenoe, a mechanical engineer, works on the final products.

Mattson said the lab’s output of material is much higher than similar labs at other universities, so it gives him more of an idea about the actual operations in industry.

“You know the drill. Your living room couch is circa 1980s, a gift from your parents. It’s time to upgrade. You see the perfect piece in a friend’s Instagram shot. But how can you find that exact same couch?”

Enter Grokstyle, a company founded in 2015 by Cornell computer science Professor Kavita Bala and her former grad student Sean Bell PhD ’16, who now serves as CEO.

The visual search and recognition company uses artificial intelligence and deep learning to recognize fine details in photographs and match them to products. Now focused on the home furnishing vertical, Bala said there are applications for their technology in many sectors.

“I’ve always been very interested in human perception,” said Bala, whose research into computer graphics often focuses on creating images that can fool the brain into thinking they are real. According to Bala, her research on computer vision solves the inverse problem, “When looking at images, can we use AI to understand what is in them in the same way that humans do?”

The company, started with funds from Small Business Innovation Research (SBIR) grants and angel investments of $1.7 million, now has 10 employees and is seeking series A funding. They have several pilot projects going on now with retailers.

“Takign a photograph and deciding what’s in it is the next frontier for disruption,” she said. “In the past five years, deep learning and artificial intelligence have had a major impact on how visual problems can be solved. Using photographs as a medium for communications, a universal language, is something that’s happening now.”

Bala said Cornell was strongly supportive of her entrepreneurial venture, granting her a one-year sabbatical and then a one-year leave to work on the company. She returns this fall.

“Cornell has figured out what is going on in entrepreneurship,” she said. Bala said she’ll continue to work on the company along with her teaching and research.

“What I love most about building a company is getting technology out there in the hands of consumers, and understanding what their needs are and meeting those needs with our products.”
DANIELA BURSZTYN ’19 is passionate about her concept for a restaurant that melds Latin and Jewish influences. She just needed some help translating those passions into words, phrases, pitches, letters and emails.

So she signed up for a business writing class and then the Communication for Entrepreneurs class, both at the Hotel School and taught by Andrew Quagliata, lecturer in management communication. The second class is a new one Quagliata started last spring.

“I’ve been working in restaurants since I was 15 and I was always in the kitchen. I was going to be the chef,” said Bursztyn, who is also a graduate of the Culinary Institute of America “But now I think I can be more effective as a business owner. This class was the first step in realizing that.”

Quagliata created the class specifically for students who want to start a business. He noticed that entrepreneurial minded students had a variety of communication questions that he didn’t have time to cover in his other courses. Along with hotel school students, the classes have attracted students studying computer science, engineering, labor relations, government, veterinary medicine and other topics.

“The class prepares students to tell the right story at the right time to the right people,” Quagliata said, whether the audience is investors, employees, customers or the media.

Along with a focus on communication vehicles like executive summaries, business plans, emails, pitches and presentations, Quagliata asks students to spend a chunk of time in customer discovery, forcing them to get out and talk to potential customers either face to face or by phone.

“They learn how to ask the right questions and practice the important skill of listening,” he said. “Plus, students talk to real people who may have the problem they are trying to solve. They may find out the problem is actually different than they thought, so if they have an entrepreneurial mindset, they’ll figure out how to adjust their idea.”

In addition, gathering stories like these from real people will benefit students as they move forward in their business, Quagliata said.

“As humans, we are wired for story. So, when we’re trying to convince someone of the power of their idea, if we can couch it in a story, we know that our brains become more in sync.”

The last class project is a written reflection or a keynote presentation, similar to a TED talk, where students talk about something that’s important to them. Quagliata emphasizes that it’s not a pitch.

Bursztyn, for example, talked about food memories and how food impacts each and every person.

“It’s important for an entrepreneur to be able to talk about a big idea without selling their business,” Quagliata said. “I challenge students to become an expert in their space.”
During the 2017-18 academic year, 15 Cornell students were accepted as delegates to the Clinton Global Initiative University (CGI U) program. Their Commitment to Action proposals were selected from thousands of applicants and will be delivered in Ghana, Nigeria and Senegal, as well as in the U.S.

A key benefit of being a delegate to the CGI U conference is the opportunity to network with stellar global leaders like former U.S. Secretary of State Madeleine K. Albright, who spoke eloquently of the importance of “dreamers” as she related her personal background as an immigrant to the U.S.

Among the Cornell delegation, six students are citizens of other countries. Madhur Srivastava, PhD candidate in Cornell’s Meinig School of Biomedical Engineering who also participates in Cornell’s Broadening Experiences in Scientific Training (B.E.S.T.) and Engineering Commercialization Fellows programs, is a native of India. He said speaking with students from other universities with different backgrounds was a big benefit of attending the CGIU Conference.

“One student from the University of Arizona suggested that, because I come from a technology perspective, I need to include people on my team with experience in the social sector who will help me attain my social goals,” Srivastava said.

Beyond traditional startup challenges such as building a diverse and talented team, social entrepreneurs also seek answers to questions such as: How do I pursue this passion while attaining my degree and juggling other responsibilities? How do I make my vision sustainable without relying on grants? What are good models for, and how do I manage, community engagement?

Deanna Deyhim, CALS ’18, attended a session featuring Karim Abouelnaga ’13, founder and CEO of Practice Makes Perfect, who explained how he changed his company from a not-for-profit to a for-profit entity. “He had some very unique ideas about fund-raising that I had not considered before,” Deyhim said. “It helped me see that people are more likely to give financially if they make that personal connection and see you accomplish something tangible.”

“The value that these conferences create is sowing seeds,” said Dennis Nyango, A&S ’18, whose commitment will improve the patient experience in Ghana. “Some outcomes are intangible initially but, in the future, have a great impact.”

Learn more about this and other social entrepreneurship programs: eship.cornell.edu/social-entrepreneurship/
“Power and control dynamics in a group are observed and moderated as relationships are built,” said Megan Odenthal, plenary speaker at the 2017 Finger Lakes Social Entrepreneurship Institute Conference, which took place on campus in November.

Odenthal, who holds a master’s in social work degree, focuses her research on understanding complex social problems through systems dynamics modeling. She shared case studies of her work with teens in St. Louis to address gun violence and in Sioux City to address affordable housing issues. “The aha moments come from the individuals themselves not from the expert in the room,” she told the audience of students and local residents,

“There are two ways to think about scale – size and greatness,” said Esteban Kelly, executive director for the U.S. Federation of Worker Cooperatives and a leader and creative force in solidarity economy and co-op movements, another speaker at the conference. Among the benefits of worker cooperatives, Esteban explained, are shared decision-making as well as shared equity and profits.

“Worker Cooperatives are well-suited to value-driven businesses, labor-intensive industries and for new and low wealth entrepreneurs,” he said.

Home health care, many aspects of the food industry, and family-owned business are ideal for transitioning to cooperatives because they value contributions from a multi-generational workforce.

“Our vision needs to be bigger than settling for a few small wins. Capital is not evil but it should be serving our needs.” Esteban emphasized, “We need to flip the relationship between people and capital.”

Anke Wessels, executive director of the Center for Transformative Action and organizer of the two-day annual conference, said a recurring theme for the yearly conferences is: What is your entry point for thinking about justice for everyone?

“The study of entrepreneurship, and indeed the opportunity afforded by starting a new venture, can be transformational for the individuals involved,” she said. “Conferences and classes which are framed ‘social entrepreneurship’ help students think about their personal values as well as ethical business practices. We help students to explore different paths to achieve greatness without that success being at the expense of others.”
HONGWEI WANG’S MHA ’18 volunteer experience at a nursing home in China made her realize that she wanted to leave her career at IBM to work in the senior living industry. Now finishing up her studies in Cornell’s Sloan Program for Health Administration, Wang has a business idea that will help seniors with their nutritional needs.

“The idea came from my internship experience (at Sage Senior Living), where I noticed that many of the residents have chronic diseases, but the meals provided don’t fit their individual nutritional needs,” she said. “I know from a nutrition and disease class I took that personalized nutrition can help improve the health and quality of life.”

Wang’s Cornell experience helped her develop the skills she will need for her business. She took classes in entrepreneurial management and financing and one of Sloan’s Practitioner-led Intensive Courses on senior living. She also took human development classes to better understand the aging process.

Wang met alumni through the intensive course, as well as a Cornell Institute for Healthy Futures roundtable. “They reflected some pain points in their real-world businesses, which also inspired me to think how to help the elderly better,” she said.

Wang’s software will help facilities personalize their menus and offer better nutrition for residents. She has completed the platform architecture design and plans to launch platform development in the first half of this year.

“I think the most important skills I learned from the Sloan program are systematic thought process and the ability to find or design the solutions to realize a goal step by step,” Wang said.
UPSTATE NEW YORK is home to more than 470 sheep, alpaca and goat farms – representatives of the state’s legacy in wool production – but these farmers do not have an easy way to reach target markets. LocalFiber is a startup dedicated to helping regional farmers make connections that will enable them to have a profitable revenue stream from fiber produced by their herds.

Founders Dana Havas ’19 and local fiber artist Victoria Hantout came together over their shared passion for natural fibers. They were introduced by Helen Trejo, PhD ’18, whose degree is in fiber science and apparel design. Trejo, along with Haley Smith ’20 and faculty advisor Tasha Lewis, recently researched and published “The New York State Regional Yarn Source Book” funded by Engaged Cornell.

Responding to a survey conducted by Havas, 97 Upstate New York farmers said that finding processing facilities and bringing their fiber to market is a time-consuming and unprofitable task. Many respondents, who identified themselves as “hobby-farmers,” also said they would like to at least break even on the costs associated with feed and veterinary care for their small herd.

“My training as an engineer helped me to view the farmers’ pain point as a process issue, which could be alleviated with innovative thinking,” Havas said.

Taking a holistic approach, LocalFiber wants to create a community network in which resources and knowledge about the entire process – frequently abbreviated as “from sheep to shawl” – will be shared, thus removing some of the barriers to profitability. Early validation of their business idea was realized during the winter holiday season when they brought together fiber producers and craftspeople to sell locally produced yarns and finished wool products at a pop-up shop in downtown Ithaca.

“The public response was quite phenomenal. Many shoppers said they were unaware that such high-quality fiber was available locally,” Hantout said. “We connected with artisans who are using natural dyes to create beautiful products but need easier and more direct access to the fibers.”

LocalFiber’s proposed strategy includes an online sales channel for locally produced yarn and end-products. The core of their business, however, is generating a database and online platform for educating farmers, spinners, weavers and knitters about supply chain resources. In addition, they are researching ideas, such as establishing a “wool pool” cooperative, to address weak points in the current supply chain.

Trejo is currently developing a U.S. fiber farm map database through Fiber Novation Loops LLC, co-founded with her sister Nidia Trejo ’14. LocalFiber will reference this resource for future business development.
JUAN GUZMAN PHD ’17 came to Cornell knowing he wanted to start a company and that he wanted to study with Lars Angenent, a professor in the Department of Biological and Environmental Engineering. In Angenent’s lab, students and post-doctoral researchers have been studying and scaling up a bioreactor platform in which specially honed batches of bacteria convert acid whey, and other carbon-containing chemicals such as ethanol, to bio-oil.

A College of Engineering Commercialization Fellowship afforded Guzman time outside the lab to explore a business idea. It also offered training about how to engage with industry. Guzman was also accepted into the National Science Foundation’s I-Corps program, designed to provide scientists with the skills and resources they need to accelerate their technologies toward the marketplace. Mentoring provided by Mark Hurwitz PhD ’96 and Brian Bauer ’85 further enabled Guzman to do extensive customer discovery.

“Initially, we researched converting waste water from the bioethanol industry and waste water from the wine industry,” explained Guzman. “I also went to an American Cheese Society conference and spoke to them about conversion of waste water with whey. I discovered this was not really a pain point for them; but, when we looked at research on acid whey, we began to think seriously about the Greek yogurt industry.”

“Right now, Ithaca is a perfect location for our company because 70 percent of Greek yogurt is produced in New York State. We can establish our business here without moving,” Guzman continued.

One of the perks of being a Commercialization Fellow is collaboration with Cornell SC Johnson Business College MBA students. Beginning in the fall of 2017, Guzman teamed up Robert Mueller ’19, Shane Counts ’19, Sarah Hale ’19 and William Hall ’19.

“Juan’s got this incredible depth of understanding of this project, and what we bring is a breadth of business knowledge,” Mueller said. “We have a lot of these toolsets to be able to figure out the customer segmentation, how we should position the product, the financial models, and so we basically tag team with the PhDs to help them take their technologies to market.”

* For more information about Commercialization Fellows visit: crea.cornell.edu/commercialfellows/
  Caitlin Hayes, staff writer, Office of the Vice Provost for Research, contributed to this story. Photo: Dave Burbank.
When the Antithesis team meets to talk about their business, they usually arrive hungry, because they know there will be snacking involved.

The team of graduate students in the food science program is refining their main product – Grabanzos, a protein-packed chickpea snack covered in chocolate. So many of their team meetings include taste tests of new varieties.

“Chick peas provide a blank slate for flavors so we can take that in a bunch of different directions,” said Ashton Yoon ’18, a master’s student who is serving as vice president of research and development for the team.

The company was co-founded by Jason Goodman, a doctoral student in food science. The team came up with the initial idea in a product development class that challenged students to come up with a healthy snack.

“Even after the class was over, we kept eating them all of the time,” he said. “It was solving a snacking problem for us.”

The Antithesis team all have different specialties, including product development, food processing, graphic design, website development and safety and procedures.

“None of us are business majors,” Goodman said, so when they heard about eLab, they applied and were accepted last fall.

“We thought our product tasted great and everyone in the whole world would want to buy it, but eLab helped us to focus on our customers,” he said. “We talked to a lot of people and learned about how they eat and what they care about when they eat.”

This year’s eLab cohort includes only two food-related teams, and Goodman said that variety is helpful.

“We’re still working to finalize our formulation,” he said. “Then, we’ll conduct some sensory evaluations and gather feedback from potential customers. We learn a lot from every mistake.”
Joining the Technology, Entrepreneurship and Commercialization (TEC) Club opened doors for Levon Atoyan PhD '18, that are now leading him to Tennessee with a new startup company, Active Energy Systems Inc.

The company, co-founded by Atoyan and Mitchell Ishmael PhD '17, was accepted into the new Innovation Crossroads program at the Oak Ridge National Laboratory, where they joined three other entrepreneurial teams working to create the next generation of clean energy companies.

The company’s idea involves harnessing energy from waste heat as low as 120 °F created in the commercial and industrial sectors, such as by large server networks. They first charge their system, consuming electricity from the grid, and then discharge their system, using that waste heat to generate electricity. The primary early customer targets include data center operators like Amazon and Google, as well as pulp and paper manufacturers.

“We believe our technology could save them as much as 5 percent on their electric bills,” Atoyan said.

Atoyan met Ishmael at a meeting of the TEC club during his second year as a graduate student at Cornell. They worked together on projects for the club, became good friends, and Atoyan eventually joined Ishmael to help him commercialize his energy storage technology, a project that would evolve into Active Energy Systems.

Ishmael was accepted first into Cornell’s Commercialization Fellows Program in 2016. The company was chosen for the Nexus New York clean energy accelerator in 2017 and the Oak Ridge Innovation Crossroads program starting in mid-2017. They hope to have a working prototype built and tested by the end of 2018. They’re also applying for research money and may soon reach out for other forms of investment, Atoyan said.

Atoyan also explored entrepreneurial opportunities through Cornell’s Broadening Experiences in Scientific Training (BEST) program, including taking part in a trek to Silicon Valley to meet entrepreneurs and alumni there.

“My goal is to learn how to commercialize lab technology so that it’s not just sitting on a shelf,” Atoyan said of this pursuit and future entrepreneurial plans.
Jamie Kim ’19 is trying to expand people’s minds when it comes to granola. Rather than the sweet raisin-filled snack you munch out of the bag or eat with milk in the morning, Kim would like it if people would try it on top of soups, or maybe instead of croutons. And she’d like you to realize that rosemary actually goes great in granola, and so does sharp cheddar.

Kim’s products, under the bumble and butter label, are currently sold in 10 locations and online. She has three flavors: vanilla bean with dried cherries, rosemary with Zante currants, and sharp cheddar and she uses local ingredients whenever possible.

“My marketing professor, Professor Helen Chun, was the first to help me bring awareness when I started last year,” Kim said. “She let me pitch the idea and bring samples to the class, which is what got students to immediately come up to me asking to buy it.”

Kim started making granola in high school, but only as a treat for friends and family. She came to Cornell with a dream of wanting to open one of the world’s best restaurants.

“I realized that the world of entrepreneurship is super exciting and that the people in this community could really help me with what I’m doing,” she said, adding that she’s taken advantage of many of the hotel school’s visiting entrepreneurs in residence, classes related to entrepreneurship and is now a member of eLab.

“I like that the program has challenged me to think about the problems past my solution, as well as articulate to myself why my business matters,” she said. “I also enjoyed going to the Summit in NYC this past year - I had a table where I gave out samples and talked to people about my product.”

Kim has found Cornell a supportive place to grow her business. “I think Cornell has a lot to offer for entrepreneurs,” she said.
After several years of discussions and resource planning, Cornell is now offering a university-wide minor in entrepreneurship and innovation, available to all undergraduates at any school or college. Students graduating at the end of the fall 2018 semester, or later, can apply now to graduate with the minor.

Building on existing entrepreneurship concentrations at the Dyson School of Applied Economics and Management and the School of Hotel Administration, the minor will be managed through the new Cornell SC Johnson College of Business and housed in the School of Hotel Administration. Prior to the creation of the university-wide minor, only the College of Engineering offered a minor in entrepreneurship.

“There is no expectation that students have their own startup ideas, nor that they necessarily aspire to become founders,” said Susan Fleming, senior lecturer in the School of Hotel Administration and faculty director of the new minor. “The minor is not exclusively about ideation or the practical aspects of starting a company. Instead, it offers a more general approach...”
to stimulate entrepreneurial thinking and problem-solving by including courses that focus on generalized academic frameworks. The minor will be particularly attractive to students who are preparing to be agents of change as they work to meet local and global economic and social challenges.”

The minor requires a total of 17 credits. Students select courses that introduce them to the role that entrepreneurship plays in society, as well as courses that provide skills necessary for successful entrepreneurship. By selecting from a matrix of courses categorized as “guided exploration,” students design a study track based on their interests. For example, a student majoring in food science or human ecology may take core courses related to their field and then build upon this foundation with courses from the minor. Students are also free to design their own study track - for example, taking entrepreneurship courses may help a student interested in sports to define a startup opportunity.

Underlying the minor is the premise that the value of entrepreneurship education is to create an innovative, creative mindset and to add a set of entrepreneurial tools and experiences that will prepare students from across Cornell as citizens and professionals.
ASHA CHRISTIAN ’21 is only a freshman at Cornell but she already has a successful entrepreneurial venture under her belt and a few more in the works.

Christian, who grew up in Atlanta, worked with two of her siblings to launch an app called Five-0 in 2016 while she was still a sophomore in high school. The app allows people to report on their interactions with police, with comments being tallied into a database accessible to the public.

“We were reading so many stories about police brutality throughout the U.S. and we decided something needed to be done,” she said. “The purpose of our app was to give citizens a voice in their interactions with law enforcement, and create a place where citizens and law enforcement could interact with each other,” she said. The app has had more than 60,000 downloads and received widespread media attention by the likes of the New York Times, Washington Post, CNN and others.

“That really opened our eyes to app development and where we could go as entrepreneurs,” she said, so she and her siblings began working on other apps and formed a company, Pinetart Inc., named after a traditional treat from her family’s home country of Guyana.

Furthermore, Christian and her team coordinated with the Ministry of Education in Guyana to develop an app that helps students study for national middle school exams, which determine what high school they will be accepted into and, Christian said, determines the course of their future.

Other apps help women find appropriate hair care products and assist conference attendees in sharing virtual business cards. Their latest project, K12 Youth Code, teaches elementary school students programming and coding while they work through challenges related to the Common Core.

“We come up with ideas and pinpoint problems very easily,” Christian said about her family. “Our parents raised us to be problem-solvers.”

So far at Cornell, Christian has met staff in the Entrepreneurship at Cornell office and plans to take a class this spring related to entrepreneurship and engineering. She spends a lot of her spare time working on her company, but she has met other entrepreneurial students at Cornell and plans to take advantage of other opportunities like speakers, resources like eLab and networking connections.

“I definitely see myself running my own company and having something going by the time I graduate,” Christian said. “I know I will always be happiest working for myself.”
Chinese Law Students Help US Companies Find Knock-off Goods

AS AN INTERN AT A CHINESE LAW FIRM, PETERSON JIANG was given the challenging job of trolling e-commerce sites on the web to find instances of trademark infringement. That “Coach” purse being sold for only $25 or the Star Wars shirt with Han Solo’s face looking a bit strange? He would find them, one by one.

But Jiang, a second-year JD student at Cornell Law School, was amazed that there was no automatic way for companies to do these kinds of searches, especially in Chinese markets. So, he came up with one. Dragon Catcher is creating software that uses machine learning that automatically identifies, monitors and reports incidents of licensing fraud and trademark infringement. They were accepted into eLab last fall.

“The number of counterfeit goods in Chinese e-commerce markets is massive and U.S. companies lack effective ways to monitor,” said Cora Liang, also a second-year JD student at Cornell Law School and company co-founder. “We were surprised to find the number of e-commerce sites out there and there are new ones popping up every day.”

Jiang said being in eLab has already saved them from making mistakes and wasting time. He expressed gratefulness to Ken Rother, who met with the team and provided guidance on a weekly basis.

“Law school isn’t a place where startups are coming out every day,” Liang said. “It’s very exciting for us to meet other startup teams at eLab from other schools on campus, exchange what we are doing, and listen to their suggestions and recommendations.”
Ayrouz Hares MBA ‘18, has an idea that could change the way we buy clothes. She thinks that soon, people will come to showrooms to try on clothes and then order custom garments delivered to their door.

Hares, an entrepreneur who already had one startup company focused on fashion in her home country of Morocco, is studying managerial finance and planning a future career in retail.

Hares co-founded her e-commerce company with her husband (he is joining the one-year MBA ‘19) after discovering a lack of sites offering professional clothing for women at reasonable prices. With her undergrad degree in management and a master’s degree in finance and her husband’s background in engineering and operations research, they had success. But she soon discovered she needed to learn more about scaling her business and developing a long-term strategy, so she decided to return for her MBA.

“The Moroccan market is hard to deal with because of people’s hesitation to use credit cards or buy fabric that they didn’t touch or see,” she said. “We had to get people to trust us and have the option to see our products and easily return them if they didn’t like them.”

That’s why Hares thinks the showroom option might be the wave of the future as it combines the traditional shopping experience and the convenience of online retail, and she said she’s encouraged to pursue that idea, as well as other creative thoughts, as a result of her classes.

“I took the design thinking class in New York City (at Cornell Tech), which helped me frame the creative process,” she said. “And the class on competition in emerging markets gave me real insight into what to do if I go back and start another business.”

She said classes in Strategy, operations and data analytics have also inspired her, and she was also able to take a class on equine sciences – one of her outside loves – at the Cornell vet school this semester.

Another inspiration for Hares were the speakers that visited through both the Emerging Markets Institute and Cornell Lectures in Finance series. “They help you to remember that you are in a school with a lot of successful alumni,” she said. “You have access to a very good network.”
LEARNING THE VALUE OF LEADERSHIP

FOR KEVIN KANG MBA ’18, some of the most important skills he’s learned during his two years at the SC Johnson College of Business have nothing to do with numbers or spreadsheets.

“Through the Johnson Leadership Fellows class, we talked about critical traits a leader should have: the ability to ask powerful questions, to listen actively, to give and receive honest feedback, to resolve conflicts and so many more. Having the opportunity to action those by coaching a group of 4 first-years helped me understand the importance of good leadership more than ever.”

Coming from his family’s import/export business in Argentina, Kang returned to school to gain the skills he will need in finance, HR, management and operations so that he’ll be prepared when the time comes to take over the business from his parents.

Kang became very involved in both the Smith Family Business Initiative and the Emerging Markets Institute at Johnson and said he was surprised about the level of access he was given, not only to professors but also to visiting speakers and alumni.

“We were able to meet business leaders, people from multilateral organizations, people from the military and others who are amazing leaders and great human beings,” he said. “And all of our professors have a very open-door policy. They say ‘If you need anything, just put time on my calendar,’ and they mean it.”

Kang said working with students from around the world who have had vastly different experiences enriches the discussion inside and outside the classroom.

During a session about logistics for a family business, for example, “my classmate was talking about the subsidies and support from the government and the company’s plan for the next 10 years,” he said. “While I was talking about political stability, financial crisis and hyperinflation,” which are variables that each business in Argentina should take into account when planning.

Kang plans to work for two to three years outside of his family business, then return with a broader perspective.
HELPING ATHLETES AND OTHERS HANDLE THEIR FINANCES

JEREMIAH SHAW ’18 and his friends have a passion for football and for entrepreneurship. He also cares a lot about helping athletes and entertainers who aren’t really prepared for the financial decisions involved in being a professional athlete or celebrity.

“Between 60 to 70 percent of professional football players are financially insecure within 5 years of retirement,” said Shaw, who started his business, Essential Exposure Management Group, in the fall of 2016. “That’s unacceptable to us. We are looking to help people curb unhealthy spending habits so they can be well off financially for the rest of their lives.”

The company offers management services to help athletes find professional opportunities either independently or through drafts. They also aid in contract negotiations, identify other business and endorsement opportunities and educate clients about saving and investing so that they can have long-term financial security.

An applied economics and management major, Shaw founded the company with Trey Duncombe ’18, another football player, and other Cornell students. So far, they are working with several musicians and athletes looking to start playing football in Europe or join the NFL.

Shaw said while there are many managers out there for athletes to choose from, few of them are looking out for the athletes’ long-term interests.

“We’re all former Division I athletes,” Shaw said, “so we have had similar experiences and can relate to what they’re going through.”

While they’ve worked on their business, Shaw said the team has received lots of helpful advice and connections from Felix Litvinsky, director of Blackstone LaunchPad at Cornell. “He has been a great person to bounce ideas off of and he kept us from going down a lot of bad paths,” Shaw said.

Shaw said although running a company while an undergrad is a challenge, it’s one he’s happy to have.

“Even when we’re sitting in the classroom, my mind is racing through different ideas,” he said. “It’s not even work to me. It’s my passion.”
Doctoral candidate and Engineering Commercialization Fellow Arna Pálsdóttir initially focused her research on waste water and geothermal energy, until one of her thesis advisors, John F. H. Thompson, a 35-year veteran of the mining industry, encouraged her to investigate applying her technology to lithium mining.

Today, the demand for lithium is rising rapidly as the manufacturing of eco-friendly electric vehicles, which rely on lithium batteries, is ramping up globally. Historically, lithium has been secured through hard-dropped mine or precipitated from mining waste water ponds.

These traditional mining processes are reliant upon many variables including unique site conditions and extreme weather patterns which may lower gross margins and increase the financial risk for mining corporations.

Arna’s training in process-thinking and her entrepreneurial mindset prompted her to see an opportunity. The process she is researching will apply technology, used in other industries, to extract the lithium directly from the waste water. The result will reduce the timeline for mining lithium from 12-18 months to just a few hours.

“Within Cornell, there is a lot of collaboration,” Arna said. She combined cross-disciplines within her research and also benefited from mentors with commodity industry experience whom she met through the Commercialization Fellows program.

Attending a mining conference in Toronto, Arna noted a gender and generation gap in attendees. “The industry is poised to be changing when new graduates move into the industry,” she said.

As part of her fellowship, Arna worked with MBA students on financial modeling and other business aspects, “but I need to finish my research and test brines in the lab before I think about starting a company,” she said.
CAITLIN STRANDBERG

Caitlin Strandberg ’10 is a vice president at FirstMark, an early-stage venture firm based in New York City. She focuses on the sourcing and due diligence of new investments, as well as supporting the FirstMark Platform. Caitlin previously worked on the investment team at Flybridge Capital Partners and at two NYC startups, LearnVest (acquired by Northwestern Mutual) and Behance (acquired by Adobe). Strandberg also has an MBA from Harvard Business School.

ARSHAM MEMARZADEH

Arsham Memarzadeh ’14 is an investor at OpenView. He was previously a market strategist at OpenView, working with portfolio leaders to develop and optimize go-to-market and whole product strategies.

ZACK SCHILDHORN

Schildhorn ’07, MBA ’08, a partner at Lux Capital, created his own curriculum at Cornell, combining materials science and entrepreneurship. Prior to joining Lux, he worked as an expedition photographer on the Colorado plateau. He is a contributing editor at Forbes and has been a guest speaker at Cornell, Drexel University, New York University and The University of Pennsylvania.

What is most exciting/most challenging about being involved in venture capital right now?

CS / There are more entrepreneurs than ever before starting companies. It is exciting to see both the diversity of talent and ideas emerging. New technologies are also taking form and getting attention, with the emergence of blockchain, cryptocurrency, autonomous vehicles, and artificial intelligence, to name a few, there is plenty to get excited about.

AM / The bar for innovation is higher than I’ve ever seen. With hosting prices driven down from fierce competition amongst cloud providers, the proliferation of open source software, low-cost distribution models, and geographically disperse pockets of talent, it’s never been easier to start a company. What that also means is that we’re finding great companies outside of the typical innovation hubs. No longer is it just Silicon Valley, NYC or Boston. My last three investments were in Indianapolis, Toronto, and Sydney, respectively. Also, capital is increasingly becoming a commodity, and venture firms need to rely on an additional set of offerings to set themselves apart. Whenever a new firm pops up, they’ll need either a differentiated investment focus, network, or a set of offerings that will attract entrepreneurs to them instead of a rival VC.

ZS / The most challenging aspect of our business right now is the huge influx of capital into the ecosystem. It’s making deals more competitive and driving up prices across the board. But that’s also what makes it exciting. Firstly, it’s easier to finance our existing companies at attractive valuations. More importantly, investment dollars attract entrepreneurs, and that means amazing new ideas are being pursued. It’s like a tractor beam for the future.
What are two pieces of advice you would give to a student interested in a career in venture capital?

CS / 1) I would recommend starting your career skill-building outside of venture capital to establish certain key foundational skills. Join a company where you can learn and practice business fundamentals and frameworks or join a well-funded startup to gain an understanding of the challenges of entrepreneurship. If you’re dead-set on venture capital, find a firm that offers a robust training and development program. And if you are interested, and it’s feasible, start a company (and please call me when you do!)

2) Continue to be a student - great venture investors are lifelong learners. Read about new companies in TechCrunch, listen to podcasts that feature entrepreneurs and investors, talk to friends about what they are interested in and ask questions. Write down any concepts, words or phrases you don’t know and look them up. The more information you learn, the better suited and comfortable you’ll be to draw insights and spot opportunities over time.

AM / As with any industry or job, think through the reasons motivating your interest in VC. Does it just sound like a glamorous job (not as glamorous as you might think!), or do you have deep-seated passion for technology? If the latter, this should be evident through your internships/early career experience, your coursework, your writing, etc.

Go work for or found a startup and build something cool! There’s so much pressure at Cornell to join industries with previously paved career paths like investment banking or consulting. That’s fine, but there’s a lot to be said for taking part in the formative years of a company’s journey. (Bonus: read Peter Thiel’s Zero to One.)

ZS / I always joke there are four ways into venture: entrepreneurship, journalism, nepotism and internship. I obviously took that last path. The reality is there’s no one way to get into this business, and like most things in life, luck and timing play a big role. But two things do really matter: passion and persistence. Many people want to get jobs in venture capital, but the ones who stand out treat the process less like a career search and more like a life calling.

How have your Cornell connections and/or experiences/classes proven useful to you throughout your career?

CS / Cornell’s curriculum and community gave me the space to explore entrepreneurship and co-founded a tech-focused organization, Slope Media. At Slope Media, we worked toward a collective goal with an outstanding team of peers and friends. That experience was key to kick-starting my passion for entrepreneurship.

In Deb Streeter’s courses, Women, Leadership, Entrepreneurship and Entrepreneurial Leadership, I met alumni that helped me land my first job and provided me with a network of mentors that have continued to advise me throughout my career. Even now in my day-to-day, I cross paths and work with many Cornellians at startups and in venture firms.

AM / I wouldn’t be at OpenView had it not been for Cornell. I first got connected to the firm while I was president of Cornell Venture Capital (CVC). We engaged in a project with one of OpenView’s NYC-based portfolio companies and the rest is history. My classes as an ILR major steered me to a firm whose mission aligns directly with the underlying theme of my coursework: improving people’s working lives. I focus my time on business software oriented towards serving the end-user, making their time at work more productive, efficient, and enjoyable.

ZS / I wouldn’t be where I am today if it wasn’t for Cornell. One of Lux’s co-founders is a Cornellian, and my career here started as an unpaid intern after my junior year of college -- an opportunity discovered through Cornell’s entrepreneurship program.

PICKS & SHOVELS & BEARS IN THE CITY

Meghan Cross Breeden ’08 was the first full-time employee for Red Bear Angels, an investment group founded in 2015 dedicated to supporting early stage companies founded or led by Cornell alums, students or faculty. Founded by Sam Szak ‘90, John Alexander ‘74 MBA ‘76, Harvey Kinzelberg ‘67 and a group of other seasoned investors, today there are more than 800 people in the Red Bear Angels network, 10 percent of whom are active investors. To date, $7 million has been invested across 21 companies.

“Our portfolio is very diverse, with companies ranging from those focused on cyber security to life sciences,” Breeden said. “The common denominator is that every founder is very shrewd at leveraging the network that Red Bear Angels provides. We continue to get into great deals through VCs here in New York City and in the Bay Area who, anytime they hear Cornell, they send the deal our way for consideration.”

The success of Red Bear Angels is its proven premise that Cornell faculty, staff and alumni, who serve as subject matter experts during the due diligence process, and the founders of the resulting portfolio of companies have benefited from Cornell methodologies in science, technology, engineering and mathematics.

What advice does Breeden offer students considering a career as a venture capitalist?

“The best investors are those who know which questions to ask and when. They are individuals who are interested in learning about companies,” Breeden said. “It is really about learning about the picks and shovels of growing industries. Having both operating experience in a given field and finance experience is critical.”
WANT TO BE MORE CREATIVE?

Get Your Heart Broken

MATT HAGERTY ’17 says “bootstrapping and turning something into nothing in the face of near-impossible odds, are not only applicable to filmmakers, but also, and perhaps particularly, to entrepreneurs in general.”

Hagerty’s film Anatomy of a Breakup, was produced during a tumultuous period of his undergrad studies at Cornell when he “channeled the terrible and universal feeling of heartache into taking on a massive, difficult project with absolutely no plan whatsoever.”

A Dyson School economics major turned screenwriter, who then stepped way out of his comfort zone to be the film’s director, Hagerty tapped Hollywood professionals for both the filming and post-production work. “The way technology has evolved, you can hire the best people from around the world, and it’s like you’re right there in the room with them. We had this global team of 30 some-odd people spanning three continents, and I ran it from a laptop almost entirely at Mann Library at Cornell.”

His hyper-stylized 17-minute short film is being distributed by Amazon Video. Film critic and journalist Cassandra Rider, who contributes to the Medium site Entrepreneurs’ Handbook, says “Amazon doesn’t release metrics, but to give you some perspective of how the film is doing: If you search “breakup” on Amazon Video (as of this writing) Anatomy of a Breakup is the top result. And as we know, there are a ton of breakup movies—let alone shorts.”

Three Cornell alumni, who have remained friends for three decades, illustrate how the entrepreneurship spirit can be realized at any point in life. They recently joined forces, bringing their passions for education, environment and technology together, to launch Adventerra Digital Games, LLC.

Bryan Mundell ’83, MS ’90 & PhD ’94 is a multi-faceted business person and academic living in Switzerland. This is his second venture built around gaming. He co-founded the new company with his sister Sue Mundell who recently returned to their hometown of Ithaca. Sue’s prior editorial experience at Houghton-Mifflin academic publishing, coupled with Bryan’s interest in environmental issues, spawned the idea for a virtual reality lab for chemistry and environmental science students.

Without prior experience in VR, the Mundells looked to Bryan’s long-time Cornell friends (who are also serial entrepreneurs) to help develop the first prototype. “I joined Adventerra Digital Games because I’ve spent my career working on innovative and disruptive technology, making it practical and useful,” said Karl Schulmeisters ’82. “With this company I see an opportunity to reify the promise of virtual reality.”

“Cornell’s early work in computer graphics inspired me to change my goals, and I have worked on computer graphics in Hollywood ever since, including initial work at Disney and Sony Pictures Imageworks,” said Jim Houston ’82. “Adventerra Digital Games is an opportunity to explore a new medium with VR that doesn’t come along often.”

The team’s vision is to develop VR labs and simulations to make science learning cool. Upon entering Spectral FlameLab, students see a ‘safety first’ sign and must put on safety equipment before flame testing different chemicals on the lab bench. “We are looking for the experience to be didactically as accurate as possible while still being fun and interesting,” Sue explained. “The students use a spectrometer and other standard laboratory equipment. They feel the sense of accomplishment as they do the labs, but if they violate safety procedures or break equipment, they are stymied and have to start over.”

“The high school AP chemistry curriculum has 16 labs; our goal is to produce VR modules for all,” said Bryan. “The aim is not to replace the wet labs, but to enhance student performance and reduce the time necessary to do the lab exercises well.”

After this initial product launch within the Google Play store, the company plans to create labs for environmental science and general chemistry courses aimed at a broader market, including home-schoolers and rural areas without easy access to wet labs.
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Old paradigm:  “competing to be the best”

New paradigm:  “race to win it all”

Reality: BOTH

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Student Agencies Foundation is a 501(c)(3) nonprofit organization dedicated to serving Cornell students and the Cornell community. Our mission, at its core, is to provide extraordinary opportunities for Cornell students to gain practical skills through entrepreneurial learning in business and entrepreneurship.

Student Agencies has a rich history, dating back over 120 years to 1894, when an entrepreneurial Cornell student named Seth Higby started a laundry service to support his own education. The simple laundry business was passed down to incoming students from year to year, and over time, it grew into the modern Student Agencies.

Student Agencies Foundation (SAF) delivers its mission to the Cornell community in many ways:

**Student Agencies, Inc (SAI)** is led by a Cornell student President and a management team made up of Cornell students. SAI operates several businesses including TakeNote, Big Red Shipping & Storage, Hired Hands Moving, Campus Promotions, the Cornellian Yearbook, and Student Agencies Real Estate.

**eLab** provides mentorship, capital, and business acceleration services to Cornell students who wish to start their own businesses. The teams who participate in the eLab program also receive Cornell academic credit.

**eHub**, a vibrant, 24/7 work, learning, and meeting space located in the heart of Collegetown. Students, faculty, and practitioners meet here to share ideas, collaborate on startups, advance existing businesses, and gain practical experience in business, entrepreneurship, and life.

**Life Changing Labs (LCL)**, an 8-week program open to Cornell students, offers entrepreneurial-minded individuals mentorship, up to $5,000 in seed funding, and over $100,000 in value for the services offered.

SAF sponsors events that support its mission. For the last 10 years, SAF has been the underwriting sponsor of today's event, Celebration. In addition, SAF has been a lead sponsor of the Entrepreneurship Summit NYC since its inception.

Learn more at [www.studentagenciesfoundation.org](http://www.studentagenciesfoundation.org)
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ENTREPRENEURSHIP AT CORNELL

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EaC’s Advisory Council of entrepreneurs, business and organization leaders provides advice, support and financial resources. To learn more about becoming a member of the EaC Advisory Council, contact Debra Moesch at dlm8@cornell.edu or (607) 254-2802.

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