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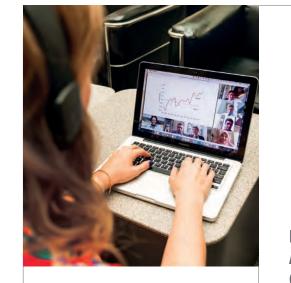


PITTSBURGH.

PHOTOGRAPHS- MURALS-

VENTURES







BEST ONLINE MBA

U.S. News & World

Report 2018



RICHARD YOUNG WINS **AWARD FOR BUSINESS COMMUNICATION TEXTBOOK**

The Association for Business Communication recognized **RICHARD YOUNG**, teaching professor of business management communication, with its Distinguished Publication Award for the recently published second edition of his textbook "Persuasive Communication: How Audiences Decide," published by Routledge.

The award recognizes an article, essay or book that the association determines has made a substantial contribution to the study of business communication. The association presented Young with the award at its conference this year in Dublin.

DOKYUN LEE RECOGNIZED AT INTERNATIONAL CONFERENCE IN INFORMATION SYSTEMS WITH BEST PAPER AWARDS

At the 2017 International Conference in Information Systems (ICIS) last fall, research presented by **DOKYUN LEE**, assistant professor of business analytics, Xerox Junior Faculty Chair AY 2017-2018, earned Best Track Paper in IT and Social Change as well as Best Conference Paper.

"Micro-Giving: On the Use of Mobile **Devices and Monetary Subsidies** in Charitable Giving," which Lee coauthored with Dongwon Lee of the Hong Kong University of Science and Technology and Anand Gopal of the University of Maryland, analyzes the effects of mobile push notifications and monetary rewards on charitable giving.

This year's conference was organized around the theme "Transforming Society with Digital Innovation." Lee's paper was submitted within the IT and social change track — one of more than 20 topics under the conference theme and was selected as the best paper for that track. It then went on to be named the best conference paper overall.

Lean's Letter

end of the school year always brings with it the bittersweet sentiments of bidding farewell to graduating students but eagerly anticipating their successful and rewarding journeys that lie ahead.

But this year is particularly noteworthy as we also say goodbye to the place that thousands of students, faculty and staff have called home for several decades. It would be an understatement to say the GSIA building and Posner Hall have served us well over the past 65 years, but we now turn our figurative and literal sights toward the center of campus and the opening of our new home in the Tepper Quad.

We have just begun the transition, and the Tepper School community will begin to settle into its new home at the Tepper Quad over the coming weeks, bringing to a close a project that began many years ago with the announcement of David Tepper's generous \$67 million gift.

The Tepper Quad brings us physically and intellectually to the center of campus, unifying the collaborative opportunities between the business school and Carnegie Mellon's other academic world-class schools and colleges. Today's business world is undergoing constant transformation through technological innovation, ubiquitous data and the power of analytics. We continue to build bridges with the rest of Carnegie Mellon University, uniquely positioning the Tepper School to provide intellectual leadership and interdisciplinary solutions for unprecedented business challenges.

The Tepper School has a strong ally for collaboration across campus in its new president, Farnam Jahanian. I have had the great pleasure to work closely with him over the past few years and am confident that he will do an exceptional job leading the university at this momentous time in its history.

In the coming months, the Tepper School will implement key aspects of its strategic plan, a transformative blueprint that positions the Tepper School as the leading business school at the intersection of business, technology and analytics. Indeed, our cover story in this issue highlights the Tepper School's unique capacity for producing a new generation of business leaders primed for success in today's dynamic and complex business environment. I hope you will enjoy it.

Thank you for all that you do in support of the Tepper School. I hope to see many of you this fall as we open the doors to our new home in the Tepper Quad.

Robert M. Dammon

Robert M. Dammon

TEPPER SCHOOL LAUNCHES LIFE AT TEPPER STUDENT EXPERIENCE BLOG

This fall, the Tepper School launched Life at Tepper, a blog composed of student voices from the undergraduate business, undergraduate economics, MBA and Ph.D. programs.

Student authors have been sharing their experiences throughout the past several months, from orientation in the fall to finals this spring and beyond. They have highlighted events they have hosted and attended, posted photos and stories of their explorations in Pittsburgh, spoken candidly about the challenges and rewards of the Carnegie Mellon experience, and shown off some remarkable spring break activities.

◄ READ THE BLOG AT BLOGS.TEPPER.CMU.EDU/LIFE

VENTURES



IEFF GALAK RECOGNIZED WITH TWO EARLY CAREER AWARDS

The two largest associations devoted to research on consumer psychology have presented Jeff Galak, associate professor of marketing, with early career awards in recognition of his research accomplishments.

In October, the Association for Consumer Research (ACR) honored Galak during the organization's annual meeting with its 2017 Early Career Award. The award recognizes researchers who earned their doctorates within the last eight years and whose work is identified by a panel of ACR members as demonstrating innovation, methodological rigor and potential to advance knowledge of consumer behavior.

In February, Galak was awarded the Society for Consumer Psychology's 2018 Early Career Award at the society's annual meeting. Galak shares the award with Alison Xu of the Carlson Business School at the University of Minnesota. Awardees must have completed their doctorate after June 1, 2009.

Galak is one of only four professors to receive both awards.

NEW BOOK EXAMINES YUJI IJIRI'S "THEORY OF ACCOUNTING MEASUREMENT" Published in November by Emerald Publishing Limited, "Understanding Mattessich and ljiri: A Study of Accounting Thought" by Nohora García analyzes two prominent texts in the field of accounting — "Accounting and Analytical Methods," written in 1964 by Canadian economist Richard Mattessich, and "Theory of Accounting Management," written in 1975 by the late Yuji Ijiri, R.M. Trueblood University Professor of Accounting and Economics Emeritus. García considers how these two eminent works, considered well ahead of their time, fit with contemporary economic theories and technologies. In particular, she highlights Ijiri's focus on accountability as a foundational

CARNEGIE BOSCH INSTITUTE MOVES TO COLLEGE OF ENGINEERING

element in conventional accounting.

Beginning July 1, 2018, the Carnegie Bosch Institute for Applied Research in International Management (CBI) will change its CMU affiliation from the Tepper School of Business to the College of Engineering.

CBI's governing board has shifted the institute's mission to technological research: the Internet of Things, connectivity, cybersecurity, artificial intelligence, robotics and digital transformation. To that end, CBI will focus primarily on supporting College of Engineering faculty and researchers.

CBI has been affiliated with the business school since 1990, when the Bosch Group — a Germany-based supplier of technology and services — partnered with Carnegie Mellon University to foster an unprecedented collaboration between industry and academia that would improve international management and enhance the knowledge and performance of managers and executives in global operations.

Although the institute will move its physical location to the College of Engineering, it will honor a \$1 million gift to the Tepper Quad announced during CBI's 25th anniversary activities.

Additionally, the institute will continue to sponsor chaired professorships at the business school supporting research that furthers the fields of global leadership and international business, such as those awarded last year to PARAM VIR SINGH, Carnegie Bosch Associate Professor of Business Technologies, and WILLEM-JAN VAN HOEVE, Carnegie Bosch Associate Professor of Operations Research.



BUSINESS LEADERSHIP FNDFAVOR



WORLDWIDE FOR ROL

Quacquarelli Symonds

OS RANKS TEPPER SCHOOL MBA #6 WORLDWIDE FOR ROI

In a new ranking by Quacquarelli Symonds (QS), a British company that focuses on higher education worldwide, the Tepper School's MBA program placed #6 globally and #3 in the U.S. for 10-year return on investment.

The QS TopMBA.com article announcing the ranking cited the Tepper School's "datadriven curriculum" as a top selling point for recruiters and celebrated Pittsburgh's growth in the tech industry.

The article also highlighted that the Tepper School was the highest-ranked program on the East Coast.

✓ SEE MORE NEWS AND **UPDATES FROM THE TEPPER SCHOOL AT** TEPPER.CMU.EDU/VENTURES

UNDERGRADUATE BUSINESS ADMINISTRATION PROGRAM LAUNCHES BUSINESS LEADERSHIP ENDEAVOR COURSE **SEQUENCE**

At the start of the spring 2018 semester, the Tepper School announced a new course sequence titled "Business Leadership Endeavor" (BLE). The program builds upon the existing Professional and Service Project that undergraduate business students generally complete in their senior year, creating a longitudinal experience that further develops six core competencies in collaboration, innovation, critical thinking, network building, selfreliance and global citizenship.

First-year students in the class of 2021 began the first course of the three-year sequence this spring. In their first year

of the program, BLE students complete a self-assessment and produce their own development plan. Students in the program will be heavily involved in the progression of course activities.

As students move into their sophomore and junior years in the program, they will be involved in activities that develop their own skills in leadership, collaboration and innovation, and they will have the opportunity to serve as mentors to younger students.

BLE — developed with the assistance of faculty lead JOHN LANKFORD, distinguished service professor of management — focuses on career readiness. Students have the opportunity to pursue leadership-level activities in mentoring, directing, presenting and instructing, and may qualify for a BLE Leader Certificate upon completion of the sequence.



PH.D. STUDENTS GRANTED **CARNEGIE MELLON UNIVERSITY PRESIDENTIAL FELLOWSHIP AWARDS**

Three Ph.D. candidates were recognized by the university with Presidential Fellowship awards for the 2017-2018 academic year. These fellowships provide financial support to help endow the research of outstanding students at each of the university's seven colleges.

ELIZABETH CAMPBELL, a doctoral student in organizational behavior and theory, was awarded the Henry J. Gailliot Presidential Fellowship. Her research involves investigating the relationship between gender and career advancement.

ALESSANDRO IORIO was awarded a Presidential Fellowship in the Tepper School of Business to support his research analyzing organizational networks. His work focuses on the origins and evolution of social network structures and their implications for individual performance.

ZIJUN SHI, whose doctoral study in marketing focuses on branding, pricing and media impact on consumer choices, was recognized with the Paul and James Wang — Sercomm Presidential Graduate Fellowship.

/yIEWPOINT

along with tech giants like Amazon,
Apple, Google, IBM and Microsoft
— disrupting traditional industries
such as banking, entertainment,
pharmaceuticals and retail, firms are looking
for new ways to be competitive.

Leaders from around the globe are asking the same questions: How will technology impact our business environment? How do I understand these trends and translate potential disruptors into opportunities? How do I create innovative business models that keep my company relevant? What investments do I need to make in technology and in training my managers to stay competitive?

TIM DERDENGER, associate professor of marketing and strategy, has led the charge in educating firms on business model transformation. Managing organizational change is a necessity for firms to make the transition from a pipeline market to a platform world — an environment that requires businesses to master business analytics and technology management.

LEADERS ARE STRIVING TO
LEVERAGE ARTIFICIAL INTELLIGENCE,
ROBOTICS AND MACHINE LEARNING
TO CREATE THE NEXT GENERATION
OF PRODUCTS AND SERVICES,
DELIVERING EXCITING BUT
HARD-TO-REPLICATE VALUE
PROPOSITIONS. THESE INNOVATIONS
REQUIRE CONNECTED ECOSYSTEMS
AND AGILE OPERATING PROCESSES
TO IMPLEMENT NEW BUSINESS
MODELS SUCCESSFULLY.

The challenge that many face, even the most sophisticated companies, is that executive leaders do not appreciate the full power of new technologies while technical experts do not fully grasp the market possibilities. Linking technology advancements to business opportunities is the most important imperative for success.

Since spring of 2016, Indian Railways has sent more than 250 general managers and higher administrative grade managers to the Tepper School of Business Executive Education center in Pittsburgh to participate in a series of programs that support their vision and achievement of "Future Railways." The fourthlargest railway network in the world running 22,200 trains a day and the world's eighthlargest employer with over 1.3 million people, Indian Railways is focused upon its business transformation into the digital economy.

As a global case study, many would benefit by taking note of the organization's ambitious approach: Indian Railways' goals include finding new ways to monetize its assets by creating digital sources of revenue using its extensive fiber optic network, supporting the government's push to create a cashless society, and electrifying the vast system to reduce operating costs and environmental impact.

SUNDER KEKRE, Vasantrao Dempo Professor, professor of operations management, serves as the faculty director for Indian Railways.

As he sees it, Indian Railways is able to take the experiences of collaborating with university faculty and industry thought leaders to produce momentum for what it calls "Future Railways." Not only does this create opportunity for the company to grow its business, but it also has the potential to effect significant impact on Indian society.

As I've worked with and watched our Indian Railways students, it's clear that in order to be successful, leaders must think and act differently:

- Examine their assumptions about how customers buy and how competitors operate.
- Envision how technology will disrupt their industry and use technology to monetize assets and create new business models.
- Create ways to provide access, transparency and value to customers while capturing the value from eliminating intermediaries.
- Expand beyond traditional views of supply chain to create ecosystems of partners, suppliers and networks that link unique capabilities and serve vast customer bases.
- Translate vast amounts of data into insights and capitalize on those insights with product and service offerings.

EMPOWERING AND UNLEASHING
COLLABORATIVE INTERDISCIPLINARY
TEAMS THAT COMBINE DEEP TECHNICAL
EXPERTISE AND ADVANCED ANALYTICS
WITH DESIGN AND STRATEGIC THINKING
IS KEY TO ACCELERATING INNOVATION
AND THE PACE OF CHANGE. EDUCATING
THESE TEAMS TO BE CATALYSTS
OF CHANGE AND BUILDING AGILE
PROCESSES AROUND DESIGN THINKING
AND INNOVATION CAN CREATE KEY
LEVERAGE POINTS FOR PERFORMANCE.



BY MARIA W. TAYLORExecutive Director, Executive Education
Tepper School of Business

TRAMSFORMATIONAL

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Either way, the typical 20th-century leader likely viewed management as more of an art than a science, basing their motivational tactics and even their strategy on decisions that owed more to case studies and gut instinct than to analysis or hard data. If you asked most people (in the U.S., at least) to describe a CEO, they would more than likely describe a well-connected, upper-middle-class white man with an lvy League degree.

Well, your father's CEO isn't running the show anymore.

DATA CHANGED EVERYTHING

seat within the

remuneration and,

most of all, the

or even an entire industry. Ascending

to those heights has always been

perceived as the pinnacle of career

performance and achievement. But

if you're hoping the advice of 20th-

century CEOs will lead you there,

you're likely to lose your way.

The qualities that rocketed

yesterday's leaders to the

top aren't necessarily those

that companies are seeking

for today's leadership ranks.

The career trajectory of

yesterday's top executives had certain traits: They may

have started at the bottom

chance to make a

lasting mark on a

company, a category

C-level comes with recognition,

The first signs of the shift came in the 1980s, says **SRIDHAR TAYUR**, Ford Distinguished Research Chair, professor of operations management at the Tepper School. As margins dropped, management evolved from an art to a codified, professionalized science in which decisions depended on metrics and provable business cases.

The shift accelerated in the 1990s with the rise of the internet and technological innovations that made it possible for the first time to collect and

"TO BE IN THE C-SUITE,
YOU HAVE TO THINK
ABOUT NOT JUST HOW
YOU RUN THE BUSINESS,
BUT HOW YOU GET PEOPLE
TO WORK TOGETHER."

ROBERT KELLEY, DISTINGUISHED SERVICE PROFESSOR OF MANAGEMENT

NEXTGEN CSUITE

THE NEW RULES OF

ENGAGEMENT

F/OR

TOMORROW'S

BUSINESS

LEADER!





As goes society, so goes the marketplace. Companies have recognized that if they want to compete in an increasingly global economy, they need to understand an increasingly diverse potential customer base. In response, they're building leadership teams with a far more diverse array of backgrounds, experiences, nationalities, ethnicities and crucially — genders.

Women wield more earning and purchasing power than ever before, and they're climbing the corporate ladder right alongside men. Indeed, PER LOFBERG, MSIA '73, who recently retired after serving in C-level roles at companies including CVS, Merck and Generation Health Inc., says he remembers only one female classmate at the

"PERHAPS 20 YEARS AGO YOU COULD RISE THROUGH THE RANKS SIMPLY BY WINING AND by the Peterson Institute for DINING CLIENTS OR PLEASING THE RIGHT PEOPLE INTERNALLY, BUT TODAY THE MOST EFFECTIVE LEADERS HAVE SPENT YEARS SOLVING PROBLEMS IN THE TRENCHES AND BUILDING REAL

SUJAL SHAH, MBA '04, CEO OF CYMABAY THERAPEUTICS

RELATIONSHIPS."

than ever for scandals, crimes. complaints and challenges to filter out to customers and potential employees around the world. That emphasis on ethical behavior and leadership, says **LEANNE MEYER**, executive director of the Accelerate

School. Even companies in more conservative legacy industries such line are now actively trying to attract candidates with promises of inclusivity, work-life balance and integrity.

> "putting a C in front of a title doesn't mean anything if you don't matter in terms of P&L decision-making," ROBERT KELLEY, Distinguished Service Professor of Management, counters that all business-critical functions

"Leadership today goes beyond building vision and thinking strategically," says Meyer, who is also program director of the Carnegie Mellon Leadership and Negotiation Academy for Women, a program open to non-students. "They need to create environments where all employees can thrive, and CMU is trying to give students those skill sets."

Tepper School, but MBA programs today are fairly evenly split between men and women. The results speak for themselves: A massive study of publicly traded companies conducted International Economics and EY has revealed that businesses with more women in the C-suite than their peers have higher profits.

Technology and the global marketplace also work together to make it easier has led organizations to increase their Leadership Center at the Tepper

as banking and insurance that once focused exclusively on the bottom

And in one more striking sign of change, C-level positions themselves are changing and proliferating. The chief executive officer, chief operating officer and chief financial officer have been joined not just by the chief innovation officer, chief marketing officer, chief technology officer and chief information security officer, but by the chief talent officer, chief experience officer, chief learning officer, chief sustainability officer and so on. And while Tayur argues that

deserve representation and attention in the C-suite.

Kelley — who teaches courses at the Tepper School on developing star performers, organizational change and the

dissect enormous amounts of data to drive business decisions. From that, it took just a few years before long-established business models began to be transformed and even obliterated, seemingly overnight: "Print media, department stores, taxis, bookstores — many industries have been entirely competed away," says GUNJAN KEDIA, MSIA '94, vice chair of Wealth Management and Investment Services at U.S. Bancorp.

In this age of the data-driven business, knowing and understanding the numbers is no longer just a competitive advantage but a necessity. Organizations of all types are now gathering immense amounts of data about customers, and they need to determine

how best to use that data. At the same time, digital products and on-demand services are supplementing or even replacing physical products in many areas.

"Whether we're monitoring our health with wearables, or we're shopping at the supermarket, or our washing machine knows when to order more detergent, everything IoT-enabled rides on analytics," says **STEPHEN RAKAS**, executive director of the Career Opportunities Center at the Tepper School. And that calls for leaders who not only need to know how to think analytically, but also are comfortable using analytic tools to speed up the process of drawing inferences from data and making better decisions.

"THE PROLIFERATION OF C-LEVEL ROLES CREATES INCREDIBLE OPPORTUNITIES FOR PEOPLE TO ADD VALUE AT THE TOP BY BEING EFFECTIVE EXPERTS."

STEPHEN RAKAS, EXECUTIVE DIRECTOR OF THE CAREER OPPORTUNITIES CENTER

7/H/E/ TEPPER SCHOOL'S EDGE

In a complex, uncertain global market, case studies about what organizations have done in the past aren't the firmest foundation upon which to build a strategy for the future. How do you solve a problem that has never existed? Companies are increasingly looking to hard data for clues about what to do next — and seeking out job candidates with the proven ability to handle uncertain variables and data and to draw the inferences that drive companies forward.

Students at the Tepper School are especially well-positioned in this new world where business, technology and analytics have converged.

"Recruiters are seeing proficiency in technology and analytics as a driving force even outside of tech companies," says STEPHEN RAKAS, executive director of the Career Opportunities Center. "The Tepper School offers a hopeful glance into what the future is going to look like — over the last five years, for example, we've had more women than men MBA grads successfully enter the tech sector, which is notable given how much that industry has been criticized for lacking women in leadership roles."

To get students on a leadership path right away, the Tepper School supplements its classroom curriculum with workshops and one-on-one coaching through the Accelerate Leadership Center and the new Business Leadership Endeavor.

Every MBA student spends the first day of the program taking a four-hour assessment and exercising interpersonal communication skills. The results determine what they work on individually with leadership coaches. The Accelerate Leadership Center hosts mandatory and optional workshops on topics ranging from conflict management and design thinking to team building and generational differences in the workplace, says Executive Director LEANNE MEYER.

This spring, undergraduate business students began a new course sequence titled "Business Leadership Endeavor." Students begin the sequence in their sophomore year with a similar selfassessment as offered by the Accelerate Leadership Center and develop leadership skills in collaboration, innovation, critical thinking, network building, self-reliance and global citizenship through their junior and senior years.

new rules of business — sums up these tectonic leadership shifts succinctly: "Thirty years ago, the approach to business was 'the machine is running, so let's keep it humming along.' But today, there's disruption coming from not only your traditional competitors, but competitors you didn't even know existed. So companies need analytics to compete and C-level executives who can help guide the analytics that keep you ahead of the disrupters, which inevitably means you need a diversified C-suite that's aware of threats and opportunities in all the spheres

that can impact the business."

MEETING EXPECTATIONS

Today's ambitious business school student and graduate still need leadership skills. The ability

to implement strategy and indicate how it fits into the company's broader goals, without hand-holding, will never go out of style. But companies now expect much more from a 21st-century business leader.

Confidence with analytics and complexity

A good head for numbers is now, as they say, table stakes. BRIAN OLSAVSKY, MSIA '89, senior vice president and CFO of Amazon, insists that anyone aiming for a C-level position must be comfortable with large data sets and the need to distill them into usable information. "Amazon has always had to do this, because turning data into usable information to take action on behalf of customers is the core of our business," he says. "I think that trend is true across every business. You may not need to be a machine learning expert, for example, but you had better know what machine learning is and what it implies for you and your competitors."

Actual work experience

The future CxO needs to rise through the ranks, not just come right out of business school or a leadership training program and expect to stroll directly into a corner office, says SUJAL SHAH, MBA '04, who started his career as a biomedical engineer in a laboratory.

SUCCESSFUL LEADER NEEDS TO ABSORB A LOT, REACT QUICKLY AND SERVE MANY MORE CONSTITUENTS THAN JUST SHAREHOLDERS."

GUNJAN KEDIA, MSIA '94,

VICE CHAIR OF WEALTH

INVESTMENT SERVICES

MANAGEMENT AND

AT U.S. BANCORP

"TODAY'S

THE TEPPER SCHOOL HAS
BEEN AT THE FOREFRONT
OF ANALYTICS AND
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I THINK WE'VE ALSO TAKEN
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SERIOUSLY, EARLIER THAN
OTHER BUSINESS SCHOOLS.

SRIDHAR TAYUR, FORD DISTINGUISHED RESEARCH CHAIR, PROFESSOR OF OPERATIONS MANAGEMENT

Between June 2012 and April 2017, he rose from CFO to CEO of biotech startup CymaBay Therapeutics. "Some of the most effective C-level executives these days tend to be the people who were once in the trenches solving day-to-day technical challenges," he explains. "In tech, they're often former programmers. In biopharma, they're former researchers. It gives them credibility, both internally and externally, and the understanding of what it truly takes to set and accomplish goals."

Continuous learning

Showing that you're pursuing opportunities to learn and grow on the way to the top is also key. "For me, it was working in manufacturing and logistics, in positions that married finance with operations," Olsavsky says. "I didn't know Amazon would be looking for operational finance skills, but in 2002, they were, and they hired me."

"You have to be aware of external trends and how they impact your work and your career prospects," he adds. "For my generation, it was computers, automation and global competition. Now it's also machine learning, artificial intelligence, and sustainability and renewable energy."

Empathy, not ego

The experience of working on the front lines has to be paired with a willingness to return there as needed. Shah praises people who will roll up their sleeves and help their direct reports instead of feeling entitled to opt out because they've been promoted, while Lofberg pointedly criticizes "freshly anointed MBAs" who think they're superior to employees who lack advanced degrees but have valuable skills and experience.

Attention to cultural diversity

The bigger your potential customer base, the more important it is to have leadership that resembles and relates to it, which flings the door wide open to C-level executives who don't fit the traditional mold. It's also a reminder that companies now expect even those who do reflect the stereotype to remember that the world is large and wide. Your best customers might come not from Europe or North America, but from China, India, Africa and the Middle East — and the more you know about them, the more you'll be perceived as an asset. "If you're going to be successful in a global economy, you need to have exposure to other parts of the world and other cultures, so take the chance to work internationally if you get one," Lofberg advises.

Gender equity

Companies are more avid than ever to recruit women for leadership positions, Meyer says, but the pipeline often breaks down at the middle management level because the recruiting systems themselves are inherently biased. Even organizations that know they need fairer processes for recruitment, interviewing and performance review also need C-level executives who can advocate for those processes and explain to the rest of the company why they're important — for example, placing women in high-level operational roles in an industry with a largely female customer base.

"You can't just say that your entire male board of directors recognizes that gender doesn't matter," Shah says. "Companies have to make a conscious effort to promote diversity, and it's hard to get there until you force yourself to bring in and evaluate more qualified candidates who are women. Even we still have work to do on this front."

An ethical compass

Companies can no longer ignore socially impactful issues or pretend that their daily operations have no larger context. In fact, Meyer says, employees and customers alike are starting to think of business leaders as having an obligation, by virtue of both their individual influence and their authority over a company, to act for the greater good where others can't or won't. This is true even in complicated situations where the ethical choice isn't clear — which makes some kind of formal training in ethics a highly sought-after trait among C-suite prospects.

C-SUITE SURVIVAL

In a smaller, less insular world where markets are global, communication is instant and minor decisions can have major impact, companies need to think strategically across both literal and metaphorical boundaries.

"If the C-level doesn't get it, the company doesn't survive," Kelley points out. "And with the rise of private equity firms and activist investors who are willing to say, 'We can run this business better than you can,' companies are looking for C-level leaders who can reply, 'Actually, no, you can't.""





At Carnegie Mellon, Quarles played basketball, ran cross-country, worked as a research assistant in the business school, participated in a sorority, added a second major in German and graduated first among her fellow economics majors. That ability to advance multiple objectives while maintaining a commitment to excellence has been a hallmark of her career, first on Wall Street and later at technology companies.

At OpenTable, Quarles oversees more than 1,100 employees at 11 offices around the world. She travels frequently to visit member restaurants, attend board meetings and participate in conferences, and she makes it a priority to encourage fellow women in technology. For her, it's just the pace of life.

CARNEGIE MELLON UNIVERSITY

I grew up southwest of Pittsburgh as one of seven kids. I graduated from Greensburg Central Catholic High School, and I came to Carnegie Mellon University in the early 1990s to play basketball and run cross-country. I wanted to study architecture, but one of my older sisters talked to me about the housing recession and said, "Do you really want to be part of that?" She was probably right, so I changed course.

I was good at math, so I made the transition to economics. There was something inherently interesting about the lack of precision of economics. I was interested in how business worked, how people made decisions and learning to explain how those things are connected.

One thing I learned at Carnegie Mellon was extreme time management. Carnegie Mellon was a tough school. You had to work really, really hard to get good grades. I had a part-time job. I was playing two sports. I was in a

sorority. I was paying my way through school. You had to learn to prioritize in order to get the right outcome, because you couldn't possibly do everything. You had to set goals and figure out what was important and not important.

GETTING STARTED ON WALL STREET

During college, I interned at Merrill Lynch, and my first job was in the fixed income research department there. I helped large financial institutions look at their portfolio of bonds and recommended which bonds they should hold and which they should shed.

The fixed-income desk was a thing of legend. It was male-dominated, intense and pressure-filled, and it taught me how to maneuver in high-pressure environments. As a young woman working on Wall Street, I learned to have thick skin and to ask for what you want.

My first boss told me you always want a profit and loss statement underneath you because it's an objective measure of your success. It made it easy to demonstrate what I had delivered, so there was no ambiguity as to whether I was successful. Subjective measures of success have the potential to become political and a matter of opinion.

I went to Harvard Business School and returned to Wall Street to work as a research analyst for internet stocks for 10 years before I left. I saw which companies went public, were successful after going public, and what their metrics were going in and afterward. I learned what the market did and did not value. If you come up working at one company, you have one anecdote, but I had hundreds of companies whose experiences I could draw from.

By that point, though, I felt like Wall Street had taught me everything I needed to learn. I understood how to ask a good question and the metrics of success and failure at a company. I didn't love the punishing hours, especially on the West Coast, where I was working from 4:15 a.m. to 10 p.m. and was often on the road visiting investors. I realized I wasn't enjoying the job as much as I used to, and I knew I needed to make a change.

JOINING OPENTABLE

OpenTable was part of the original dot-com boom of 1998. Chuck Templeton founded it when he saw how frustrated his wife was with making a restaurant reservation on the phone. The company solves the very real needs of each restaurant. We put software inside the restaurant to help manage the number of diners coming through the restaurant, and we maximize the number of customers who can be seated. Historically you had somebody trying to hold all that information in their head. Consumers, too, naturally gravitated toward it, and that's only accelerating. Millennials don't want to talk to anybody on the phone.

I joined OpenTable in 2015 after working for a social games company that was bought by the Walt Disney Company and for a website called Nextdoor that serves as a private social network for neighborhoods. OpenTable represented an extraordinary opportunity with a two-sided marketplace where you cultivate both suppliers (restaurants) and consumers (diners). It had incredible scale, but there were opportunities it hadn't yet attacked. The people who work at OpenTable have that same hospitality gene that I saw at Disney, where it's all about creating delightful moments for people. They're a group of people who love coming to work.

"WHEN I WAS A STOCK ANALYST, IT WAS OBVIOUS WHETHER MY CALL WAS RIGHT OR NOT. YOU EITHER DELIVERED A RESULT OR YOU DIDN'T."

Much of my job involves helping these smallto medium-sized businesses understand the data we provide about what's going on with their business. I travel frequently to visit restaurants and learn how OpenTable can serve as a partner for them. Each market has its own challenges. In New York, the real estate market is one of the biggest challenges, and rent is the highest percentage of each restaurant's costs. In California, the higher minimum wage and health care requirements have changed the economics of the labor market.

The Priceline Group acquired OpenTable in 2014, not long before I was hired, and as part of that we're working toward becoming a more global company. We have more than 1,100 employees and 11 offices, including six that are outside the U.S. You can open the app in London, Melbourne, Tokyo, Barcelona, Mexico City or Toronto and get a set of recommendations.

Originally, OpenTable was seen as a tool for upscale restaurants, but we would like to become a go-to for everyday, casual dining. We currently have more than 43,000 member restaurants, and we're growing all the time. We want to make sure joining OpenTable is as important for a new restaurant as signing its lease.

My favorite feature of the OpenTable app is called "near me now." You hit the button and see what's available around you right now. In San Francisco, for example, when my husband finished his meeting early and wanted to meet for dinner, he could click "near me now" and filter through nearby options. I travel all the time, so being able to get those local recommendations is hugely beneficial. It's not really a reservation anymore but a way to tell the restaurant, "Hold my seat; I'm coming."

NETWORKING

I had several mentors along the way. At Carnegie Mellon, Richard Tucker, a longtime professor and administrator who retired a couple of years ago, saw a lot in me. He made suggestions about studying abroad and pushed me beyond what I thought I was capable of. Barbara Lazarus, the associate provost for academic affairs who

has since passed away, pushed me to apply for scholarships and surround myself with people who had a broader perspective and more experience.

My first boss after business school introduced me to Sue Decker, who had been a research analyst at the investment bank Donaldson, Lufkin & Jenrette and had just started at Yahoo! when I was starting my career as a research analyst. She graciously suggested which industry made more sense for me to cover and continues to provide helpful career advice.

I take time to give advice to men and women I work with, but I am especially mindful of the challenges women face to get ahead in business. I am always giving advice on aspects even beyond business, such as how to manage a new baby and how to respond when you feel your boss isn't seeing your potential.

I do a lot of speaking and trying to share my own experience as reference points for others' careers. I try to be a facilitator of connections. There is this very embedded, often male network in business. How do we include women in the network? Now that I sit on the board at Kimberly-Clark, I get a lot of board inquiries, so I pass them on to other women in my network.

ADVICE FOR STUDENTS

For someone who wants to become a CEO, it's really about building a skill set for yourself. My time on Wall Street was valuable because I had an extraordinary amount of pattern recognition and understood value ascribed based on investments made. Product management, engineering and a desire to lead are all good things to have.

For someone who wants to go into the technology industry, a strong technology and analytical background is always helpful. Even though I don't have a computer science background, I learned a lot about technology at Carnegie Mellon. I remember taking a machine translation class in 1994. Carnegie Mellon always seemed to be ahead of the curve of what was happening technologically. — A



"AM I SEEING" MY ABILITY TO REALLY LOVE MY JOB EVERY SINGLE DAY? IF THE SIGNS GO AWAY FROM THAT, IT'S TIME TO CHANGE."



18

NOTHING VENTURED, NOTHING GRINED



JAY JOVICK, MBA '15 PRESIDENT AND CO-FOUNDER. IITTERBUG TRAVEL CHARLOTTE, NORTH CAROLINA

ost people love the idea of travel; very few people love the idea of flying. That was the dichotomy that Jay Jovick noticed when he met Joshua Blum. Together they came up with the idea for Jitterbug, a door-todoor luxury coach service that caters to groups hoping to avoid the hassle of the airport.

Growing up in a family of five, Jovick knew the problem well: Getting there is never fun, especially when corralling several children who punctuate their boredom with a constant refrain of "Are we there yet?"

So he decided to tackle the pain points head-on, applying what he'd learned at the Tepper School to create a company — and a luxury coach — designed from scratch. Jovick came from a technology background, working in software with web developers to push projects forward. But he'd always wanted to reach outside his comfort zone. He started working on Jitterbug in January 2016, spending over a year working with a manufacturer on the custom-made vehicle and performing due diligence before officially booking trips in mid-2017.

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LIKE FOR JITTERBUG'S FIRST CUSTOMERS -

A FAMILY HEADED TO DISNEY WORLD?

TEPPER.CMU.EDU/JOVICKVENTURED

✓ WHAT WAS THE LUXURY VAN EXPERIENCE

Creating a company based on hardware was "mind-blowing," he says. —



ALISON ALVAREZ, MBA '16 CHIEF EXECUTIVE OFFICER AND CO-FOUNDER, BLASTPOINT PITTSBURGH, PENNSYLVANIA

hen Alison Alvarez was younger, her father bought screen printing equipment in hopes of encouraging her to start a T-shirt business. After seeing the family business lost to the government in his native Cuba, he was eager to see his daughter pursue entrepreneurship in the United States.

But Alvarez wasn't convinced that this was the path she wanted. After earning a master's degree in computer science from Carnegie Mellon, she became an expert in wrangling large data sets. She applied to business school thinking she would wind up in a large company, putting her analytical brain to work for someone else.

When Alvarez experienced a taste of entrepreneurship in some case competitions and classes, she realized that she might be destined to follow her father's dream after all.

A James R. Swartz Entrepreneurial Fellow, she cofounded BlastPoint in 2016 to make big data accessible to everyone. The company is the grand prize winner of the 2017 UpPrize competition and also won first place in the McGinnis Venture Competition.

Alvarez's daughter, Ada — named for the world's first computer programmer, Ada Lovelace — has helped test BlastPoint's software to ensure that it's user-friendly. Today, still in its infancy, BlastPoint serves 70 customers and offers three tiers of products. —

→ HOW IS BLASTPOINT CAPITALIZING ON UNTAPPED OPPORTUNITIES IN MACHINE LEARNING TO LEAD IN THE MARKET? TEPPER.CMU.EDU/ALVAREZVENTURED



ALUMNI STARTUPS // BEGINNINGS AND BACKSTORIES

ARI RABBAN, MSIA'97 CHIEF EXECUTIVE OFFICER, PHONE.COM NEWARK, NEW JERSEY

ong before the era of Skype or Vonage, Ari Rabban was reimagining what it meant to be on the phone. After earning a law degree in his native Israel, he practiced in Tel Aviv for two years before coming to the United States to earn his master's degree. The entrepreneurship-focused courses were his favorites

While serving in the Israeli military, Rabban spent four years in the signaling corps, working with engineers on a new phone system that represented cutting-edge technology for the time. When a Tepper School classmate attempted to call a contact in Argentina over the internet, Rabban's interest was piqued. Within two years, Rabban was working for what was then known as AT&T Network Systems — now Avaya — and then for the pioneer company of the voice-over-IP industry as head of business development before striking out on his own to pilot startups at the dawn of the VoIP era.

"We did a lot of evangelism," he recalls, traveling around the world to explain the service in India, Europe and Thailand.

In 2007, he founded Phone.com, a cloud-based phone service designed to give small businesses — typically 10 employees or fewer — the same commercial telephone capabilities that a large corporation might have, for a fraction of the price.

Today, more than a decade after its inception, the company has close to 80 employees and about 30,000 customers, and remains on the hunt for more. —

→ HOW DID PHONE.COM TURN A TERRIBLE EXPERIENCE INTO A GROWTH OPPORTUNITY? TEPPER.CMU.EDU/RABBANVENTURED



KALPESH KAPADIA, MSIA '99 CHIEF EXECUTIVE OFFICER AND CO-FOUNDER, DESERVE MENLO PARK, CALIFORNIA



hen Kalpesh Kapadia arrived in the United States in 1995, a lesson in the harsh realities of the American credit system left him determined to make a difference.

An overachiever in his native India, he found that getting credit in the U.S. was nearly impossible. "I was considered credit invisible by the financial system. And that stuck with me," he says. Kapadia's sister arrived in 2012 at the top of her class to study in California, but she couldn't lease a car or get a credit card.

After graduating from the Tepper School in 1999, Kapadia worked as a highly regarded research analyst on Wall Street for six years before founding his own company, a hedge fund that invested in public equities in the U.S. and Asia. He did that for another seven years before founding Deserve in 2014.

Kapadia saw millions of international students or new workers who were in the U.S. And when he looked at the entire demographic of 18- to 29-year-olds — not just limiting his scope to immigrants — he realized he was looking at a potential market of 40 million people. He founded Deserve with a mission of creating a more equitable playing field.

In addition to providing credit, Deserve also strives to educate its customers about the monetary value of a good credit score and provides incentives for sound credit practices: movie tickets for a history of on-time payments, for instance. —

✓ WHY DID KAPADIA FIND MORE SUCCESS COLLABORATING WITH MARKETERS AT BANKS THAN THEIR CREDIT REPRESENTATIVES?



The founder of Management Science Associates Inc. (MSA), one of the world's premier data and market analysis research firms, Kuehn helped transform how companies run their businesses. He founded MSA — then known as Market Science Associates Inc. — in a small office at the business school (then GSIA) and in a student's cellar. Today MSA has 900 employees and contractors working in the U.S., Asia and the U.K.

A pioneer in applying analytical methods to study consumer behavior and dynamic marketing processes, Kuehn was one of the founders of the disruptive concept of "management science," a quantitative approach to decision-making and business analytics that now forms the foundation of a Tepper School of Business education.

advertising, promotions, price and other factors — analogous to the way crude oil is impacted by heat, pressure and mixing within a refinery.

"We were then pioneering and introducing operations research and numerical methods," Simon told the Pittsburgh Business Journal. "He got fascinated by that. The thing he could do best was not provide people with marketing information by being a pollster but by having sophisticated ways of analyzing the data."

Kuehn's consumer behavior modeling generated interest at Lever Brothers
— a Unilever subsidiary — and its data suppliers, MRCA and the Chicago Tribune.
He developed a simulation of the detergent

Cooper had become aware of the model and had recommended that it be developed as the Carnegie Tech Management Game, which would differentiate GSIA from business schools whose models did not provide students with the opportunity to test their skills analyzing data from realistic detailed models of actual consumer products.

"GSIA was trying to bring analytics into management courses," Kuehn remembered. "Case studies in marketing were always about the past, but the world keeps changing. You don't want to learn how to solve last year's problems — you want to learn how to solve current and next year's problems."

FROM OIL TO DETERGENT

The son of Austrian and German immigrants, Kuehn was born and raised near steel smokestacks in North Braddock, Pennsylvania. His father, a tool and die maker, often invited young engineers to his house to work on their problems or patent applications. "My mother told me they 'got it made,'" Kuehn remembered. "They were all grads from Carnegie Tech."

Few of his school classmates went directly to college, but Kuehn carried newspapers and saved for years to become a chemical engineering major in 1948 at the Carnegie Institute of Technology, now Carnegie Mellon University. His study of hydrocarbons helped him get a summer pilot plant research job at Gulf Oil research and development, where he identified operational changes to improve its end product. He continued working with Gulf Oil through his undergraduate career.

Kuehn made a connection with the business school's founding dean, George Leland Bach, who encouraged Kuehn to pursue business education. During the second year of his master's program, Kuehn took a Ph.D. course with Herbert Simon, Nobel laureate and founding GSIA faculty member. Part of the course included modeling behavior. Kuehn was intrigued by consumer brand-choice marketing behavior, which he saw as being a continuous flow over time impacted by

MSA WAS GEEK CHIC This FROM THE BEGINNING, Tall LONG BEFORE IT BECAME To all ie FASHIONABLE."

market and later developed his Ph.D. thesis on a similar analysis of frozen orange juice, incorporating how elements like product characteristics, price and advertising would influence consumer behavior, brand switching and repeat buying. This was the first — and a highly sophisticated — marketing mix/attribution model, although not so named at the time.

MANAGEMENT GAME

Kuehn's detergent model was a hit not just at Lever Brothers, which had several uses, including as an executive training tool for marketing managers, but also at the business school. Former faculty member William

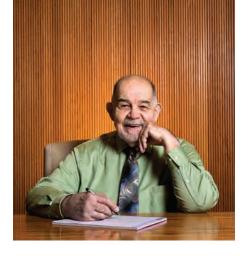
Kuehn noted that Lever Brothers used the marketing version of Management Game to explain how different consumer tests (repeat vs. single tests) provided different levels of confidence regarding consumer preferences. The game was perfect as a teaching tool for that purpose. It also provided students with an opportunity to learn analysis that would support decisions and the interactive nature of marketing factors.

"When our business school was created, every business program in the world was teaching business more as an art, and using case studies as a primary tool," DAVE LELAND LAMONT, associate



teaching professor, explained. "The philosophy here was fundamentally different. We emphasized a quantitative evidence-based approach to making business decisions, as opposed to an intuitive one. It was a fundamental shift in the way that business education was taught. Al was a part of that. All of the business programs in the world started moving in that direction."

66 ONE OF THE THINGS I THINK IS REALLY UNIQUE **ABOUT MSA:** I DON'T KNOW ANY OTHER ORGANIZATION THAT HANDLES ALL COMPANIES IN AN INDUSTRY."

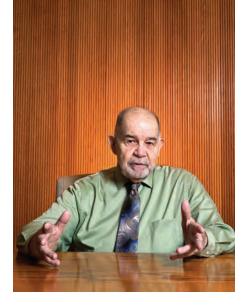


Today, some form of GSIA's original academic model — appropriately referred to as "management science" — is taught at every leading business school. "The difference is that management science tries to take a more proactive perspective and a more quantitative perspective," said WILLEM-JAN VAN HOEVE, Carnegie **Bosch Associate Professor of Operations** Research, who serves as the faculty head for the new Master of Science in Business Analytics and coordinator of the business analytics track in the MBA program at the Tepper School. "The quantitative approach allows you to objectively measure the impact of certain decisions, and then act accordingly."

BUSINESS CONTINUITY

As part of a landmark \$246 billion settlement between six big tobacco companies and 46 states' attorneys general, MSA's technology has been used to determine the annual amount each tobacco company pays, and how much each state receives, for the past 20 years. Kuehn says many individuals in the industry over the years expressed surprise that no one ever challenged the accuracy of MSA systems or work MSA has done during those years. Kuehn hopes the care that MSA has given to developing and maintaining that system, which served the tobacco industry and states so well, may enable it to perhaps also provide similar benefits to states now trying to develop appropriate rules and procedures for such diverse industries as medical cannabis, casinos and internet gaming.

When a firm like MSA handles confidential data for every competitor in an industry, data security becomes paramount. "A tremendous amount of care and some redundancy are required to handle, store and analyze



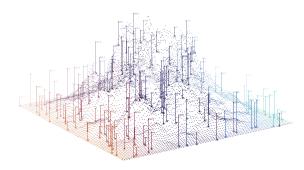
such confidential information." Kuehn said. When MSA first found itself working with participating companies in the same industry, a significant amount of distrust existed. Companies were willing to guarantee accuracy of their information but wanted significant checks built in the system to check on others.

To store, retrieve and analyze that sensitive information, MSA operates several secure data centers in southwestern Pennsylvania connected by a closed fiber-optic redundant network managed completely by MSA. These data centers include a sprawling state-ofthe-art facility at RockPointe in Tarentum, a newer facility in Ross Township, and a third facility at MSA's headquarters in Pittsburgh, which MSA built in 1987 when it set out to build what MSA's clients considered to be state-of-the-art. The three facilities have personnel available 24 hours per day for 365 days a year.

"Few companies define 'business continuity' like MSA, where our goal is to never have our top service ever go down," Kuehn said. "Data centers often provide assurance that systems won't be down for more than a specified short period and that clients won't lose what is needed to recover from a disaster. Some of our clients are surprised every five years at renewal time to learn their systems have not failed or perhaps even shut down for maintenance. We may have the most secure system for protecting data. We're not merely lucky that we haven't gone down; we developed technology to try to assure we can handle it."



WE HAVE MANY CLIENTS WHO SAY THEY HAVE NO PROBLEM FINDING SOMEONE THAT WILL DO WHAT WE DID FOR THEM LAST YEAR. WHAT THEY'RE INTERESTED IN IS WHAT WE DO THIS YEAR."



Kuehn said MSA's mission is to help companies enhance their capabilities and effectiveness through data analysis. "People must be incentivized to continue to improve capabilities," Kuehn said. "Continuing growth is needed to compensate for unexpected business losses. Innovation has been key to enable MSA to continue growing, and we must constantly create better information that is more relevant for today's marketplace. MSA's continuing innovations for its Industry Services have led clients to say that they want to maintain our working relationships because we're likely to come up with something new and significant each year." That's the approach that has kept MSA at the forefront of analytics and informatics decades after its inception in Kuehn's GSIA office. —

MANAGEMENT GAME AT GSIA

From 1960 to 1995, thousands of business school students played a Management Game. An evolution of the mathematical model **ALFRED KUEHN**, E'52, Ph.D. '58, developed for Lever Brothers, Management Game was the first in the world to use real-world data. As the only capstone to the master's program for 35 years, its goal was to help students connect the dots between things like financing, accounting, advertising and production as they ran a business.

"It was a fabulous learning opportunity for the students — it forced you to think like an owner," said **DAVE LELAND LAMONT,** associate teaching professor and the current director of Management Game, who played it as a student.

Three teams of students competed against each other in a simulation of the detergent industry. They represented the three largest companies in the industry in 1960: Lever Brothers (now Unilever), Proctor & Gamble, and Colgate (now Colgate-Palmolive).

From meeting multiple times with their board of directors (played by alumni) to making hundreds of decisions about things like product characteristics, advertising, pricing and distribution, the teams played out three years in the business over the course of one semester.

In terms of product characteristics, for instance, teams could create a detergent with varying degrees of gentleness, cleaning power and sudsiness by mixing seven different ingredients. "All of the seven components had different lead times and shipping cost as well," Lamont said.

"It was way ahead of its time," Kuehn remembered. "It had you make real business decisions." He also made every employee at MSA, including its executives, play the game.

In 1996, the game was altered to make the simulation more strategic and international, but the original game lives on in the minds and hearts of those who played for over three decades. "Kuehn's model was 50 years ahead of its time," and business analytics has only grown in importance, Lamont said. "If anything, MSA's work has become even more valuable and relevant."





DOKYUN LEE, ASSISTANT PROFESSOR OF BUSINESS ANALYTICS, XEROX JUNIOR FACULTY CHAIR AY 2017-2018

PRODUCT RECOMMENDATIONS IN ONLINE STOREFRONTS PRIMARILY BENEFIT ALREADY POPULAR ITEMS

"Customers who viewed this

item also viewed" appears on product pages all across the internet. For e-retailers, this represents an opportunity to get more and different products before customers' eyes. "These recommender systems are put in place to help niche items that usually have a smaller market share," said **DOKYUN LEE**, assistant professor of business analytics, Xerox Junior Faculty Chair AY 2017-2018. "The systems highlight these kinds of niche items so that they can be more easily found by users who would not normally search for them or see them in brick-andmortar stores, and so the intent is to increase sales of those items."

However, research that Lee coauthored with Kartik Hosanagar at the University of Pennsylvania's Wharton School demonstrates that while implementing recommender systems does increase overall sales figures, it does not generally improve the relative sales for niche items.

In the paper, titled "How Do Recommender Systems Affect Sales Diversity? A Cross-Category Investigation Via Randomized Field Experiment," Lee shows that the typical software used in recommender systems collaborative filters — generally prioritizes considerably popular items. What this means is that individual diversity increases as consumers purchase more items they would not otherwise have seen, but that aggregate diversity decreases as the filters reinforce the success of already popular products.

For example, a customer on a product page for a blockbuster comedy film would be likely to have other major films recommended to them, even in other genres. That customer's purchase diversity would increase when buying an action film based on such a filter, but less popular films — such as an indie comedy the consumer might also have considered would not benefit.

"Traditional recommender systems carry the unintended consequence of increasing concentration bias," Lee said. Instead, he notes that contentbased recommender systems, in which items are tagged to prioritize similarity over popularity, actually can improve aggregate diversity. —

tepper.cmu.edu/leerecommenders



TAE WAN KIM, ASSISTANT PROFESSOR OF BUSINESS ETHICS JOHN HOOKER, T. JEROME HOLLERAN PROFESSOR OF BUSINESS ETHICS AND SOCIAL RESPONSIBILITY

HUMAN MORAL INTUITIONS CANNOT **RELIABLY GUIDE** ETHICAL DECISIONS OF AUTONOMOUS MACHINES

Machine ethics is "a fast-growing field in which researchers develop appropriate ethical models for autonomous machines," according to TAE WAN KIM, assistant professor of business ethics. This field of study is becoming increasingly important as artificial intelligence (AI) continues to find new applications in business and retail environments.

In a paper titled "Toward Non-

Intuition-Based Machine Ethics," Kim and JOHN HOOKER, T. Jerome Holleran Professor of Business Ethics and Social Responsibility, professor of operations research, argue that the dominating "intuitionbased" model of machine ethics — for which training data for Al is based on ethical decisions made by humans — is a poor standard for decision-making by autonomous machines. The paper points to evidence that ethicists' decisions are susceptible to situational cues and are not significantly different from those of ordinary people.

"A prime motivation for developing autonomous vehicles is that human error is a leading cause of accidents, and autonomous vehicles minimize human involvement," Kim said. "Thus if human moral intuitions are not reliable, machine ethics should be developed so as to avoid human moral intuition."

Instead, Kim said, a deontological — or principles-based approach would remove human biases inherent to intuitionbased models. Moreover, the processes and outcomes can be rigorously expressed via computational language, which is more consistent and transparent. "Once humans identify the logic of action plans, the machine can perform rigorous ethical reasoning," Kim said.

The model that Kim and Hooker express in the paper uses quantified modal logic to precisely state ethical principles: whether an action is rationally generalizable, whether an action violates joint autonomy and whether an action is sufficiently utilitarian. "By doing so, we clarified the aspects of the principles that were traditionally regarded as ambiguous," Kim said. —

tepper.cmu.edu/kimmachines



NICHOLAS MULLER, LESTER AND JUDITH LAVE ASSOCIATE PROFESSOR OF ECONOMICS, ENGINEERING AND PUBLIC POLICY

ELECTRIC VEHICLES CAUSE GREATER AIR POLLUTION THROUGH **POWER PLANT EMISSIONS**

The U.S. government currently offers subsidies to individuals for the purchase of electric vehicles, in an effort to reduce emissions caused by traditional gasoline vehicles. However, ongoing research by NICHOLAS **MULLER**, Lester and Judith Lave Associate Professor of Economics, Engineering and Public Policy, demonstrates that the environmental benefits of electric vehicles often are outweighed by the damages caused by the increased emissions from power plants.

In one study, Muller and colleagues found that an electric vehicle can cause up to \$5,000 more damage than an equivalent gasoline vehicle when driven in the Midwest, where coal-fired power plants are common. Conversely, in California, where the power grid is much cleaner, electric vehicles yield nearly \$5,000 in environmental benefits.

In another study, Muller and co-authors analyzed the environmental impact from all U.S. electric vehicles in 2014.

They found that while urban counties saw \$2.9 million less in air pollution damages from electric vehicles, rural counties had almost \$3 million more. This is in part because an overwhelming majority — 98 percent — of electric vehicles are registered in urban counties.

"The benefits of charging, in terms of air quality, accrue where air quality would have been most adversely affected by the gas engine car — and that's going to be in cities," Muller said. "Our power plants tend to be in rural locations. As a result, when you charge that car, emissions disproportionately affect lowerincome folks."

In a study focusing on the distribution of air pollution damages, Muller and co-authors found that the damages act as a regressive tax: Households in the bottom 20 percent of income levels saw their market share of income decreased by exposure to pollutants, while households in the top 20 percent saw an increase.

Muller noted one positive trend appearing in his research: "As we transition to a grid more dominated by natural gas at the expense of coal, electric vehicles are going to look increasingly advantageous." —

tepper.cmu.edu/mulleremissions





KARAM KANG, ASSISTANT PROFESSOR OF ECONOMICS ROBERT MILLER, RICHARD M. CYERT AND MORRIS DEGROOT PROFESSOR OF **ECONOMICS AND STATISTICS**

COMPETITIVE **BIDDING NOT ESPECIALLY EFFECTIVE** FOR REDUCING CONTRACT COSTS

Competitive bids among potential suppliers is supposed to reduce costs and minimize collusion. However, new research demonstrates that such benefits of increasing competition are smaller when a buyer has the opportunity to negotiate contract terms with suppliers.

"Winning by Default: Why Is There So Little Competition in Government Procurement?" coauthored by KARAM KANG, assistant professor of economics, and **ROBERT** MILLER, Richard M. Cyert and Morris DeGroot Professor of Economics and Statistics — analyzes 2,203 contracts awarded by the federal government between 2004 and 2012.

Of these contracts, just 26 percent were awarded following a competitive process. The study revealed that while mandating competitive bids to select a supplier with the lowest bid without negotiations would increase the number of bids by 0.6 to 2, it would also increase the average price per contract

by about \$35,800, or 3 percent of the average price. "Our results indicate that allowing discretion to procurement agencies is valuable, especially when increasing competition is costly," Kang said.

During a bidding process, potential suppliers and a buyer negotiate contract terms, which determines the final price of the contract, after accounting for contract outcomes such as delays. This negotiation helps the buyer lower the contract price even with one supplier bidding. The study finds that negotiations effectively reduce the average price by about the same amount as one extra bidder, which is important because each additional bid increases the administrative costs for the buyer.

To best reduce procurement costs, the faculty members recommend allowing buyers discretion during the procurement process, rather than requiring competitive bidding in all cases. —

tepper.cmu.edu/kangcontracts

KEEPING UP WITH THE

This summer marks the completion of the major construction on the Tepper Quad — on time and on budget. Over the next several months, the Tepper School community will move into its new home and launch a new phase of business education.



85% vs. 65%

Hall and GSIA.

The fitness center features locker and shower facilities, an exercise room, and Approximately 85 percent of the building has access to an outdoor terrace encompassing a total of 7,500 square feet. natural light, compared to around 65 percent in Posner

KEEPING UP WITH THE QUAD

Fitness Center

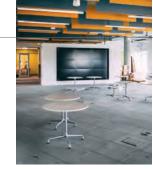
South & North Egg

instruction styles.

Two innovation classrooms on the third floor, referred to

as South Egg and North Egg based on their unique shape,

feature a flexible layout to accommodate a variety of





Swartz Center for Entrepreneurship

The Swartz Center for Entrepreneurship comprises 15,000 square feet, including 10 "maker spaces" supporting startup development.



Fifth Floor

Executive Education programs will take place in a dedicated space on the fifth floor that includes two classrooms, five breakout rooms and a large event space and that will allow the center to expand its offerings and include more of the Carnegie Mellon community.

Simmons Auditorium

The Simmons Auditorium can accommodate up to 600 people and features a media wall and recording capabilities.

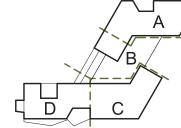


Maximizing Space

The building is designed to maximize usable space, converting hallways into gathering spaces with seating and tables — including the new Undergraduate Commons and Masters Commons spanning open spaces on the second and third floors.

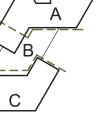
More Than An Acre

Every floor spans more than an acre, from 52,520 square feet on floor 5 to 64,740 square feet on floor 2.



2,825 Sq. Ft.

The new café is 2,825 square feet of space — more than twice the size of Posner Hall's café, The Exchange.



Breakout Spaces

On floors 2 and 3 are six breakout spaces dedicated to undergraduate students and 12 dedicated to master's students, eliminating the need for students to reserve mixed-use conference rooms or work in well-traveled corridors.





19 Classrooms

There are a total of 19 classrooms — 11 more than in Posner Hall including eight dedicated to master's programs and eight dedicated to undergraduate programs.

GET A SNEAK PEEK OF THE NEW BUILDING AT TEPPER.CMU.EDU/TEPPERQUAD

2018 REUNION RECAP

83 alumni from the Class of 1993 returned for their 25th Reunion — the largest class representation ever at Reunion!



Tepper School/CMU alumni couples, from the Class of 1968 to the Class of 2017





RECORD SETTING CLASSES

ATTENDEES FROM CLASS OF 2017

ATTENDEES FROM CLASS OF 2003

ATTENDEES FROM CLASS OF 1993

ATTENDEES FROM CLASS OF 1988

ATTENDEES FROM CLASS OF 1968 (TIED WITH CLASS OF

1961 FROM 2011)

This year, many Reunion classes celebrated by increasing their alumni giving participation. Results were highlighted by Dean Dammon at Heinz Field.

- The classes of 1988, 1993, 1998, 2008, 2013 and 2017 all met or exceeded their participation goals before the end of Reunion Weekend.
- The class of 1988 reached 126 percent of its giving goal, more than any other class.

Alumni made 515 gifts in honor of their Reunion year, reflecting an increase of nearly 20% over last year's Reunion giving.



NATIONAL AND **GLOBAL ATTENDANCE**

STATES

COUNTRIES



Largest Attendance Reunion Ever

"Reunion gives me an opportunity to reconnect with friends in a place where we once shared numerous hours and created many memories together. It's a great reminder of one of the many things that drew me to Tepper initially — the tight-knit community, from which we established many relationships that have since evolved into lifelong friendships." **JUSTINA LEE, MBA 2013**

"The thing that struck me was how it seemed that the clock had stopped ticking in the interim. You picked up right where you left off with all these wonderful people you shared an intense experience with, even though most of them you hadn't seen or talked to in all that time." **KURT LAMMON, MSIA '93**

SAVE THE DATE FOR REUNION 2019! APRIL 12-13

Tepper School of Business alumni recognized at Reunion Weekend for *professional excellence and impact* on the Tepper School community





Alumni Lifetime Achievement Award

David Coulter, MSIA/BSIM '71

In recognition for his longtime service and generosity to the Tepper School and Carnegie Mellon University, David Coulter was presented the Lifetime Achievement Award. Among his many roles at the university, he is currently serving a second term on its Board of Trustees and is a co-chair of the Tepper Quad Fundraising Campaign.

In honor of a \$5 million gift from Coulter and his wife, Susan Weeks, Carnegie Mellon has dedicated the University Welcome Center in the Tepper Quad in Coulter's name. Coulter has been a loyal donor and volunteer for the university and serves on the Tepper School's Business Board of Advisors. He serves as an ex-officio member of the President's Global Advisory Council and participated in the business school's Council on Finance.

Coulter is a special limited partner of Warburg Pincus LLC, a private equity firm with an active portfolio of more than 150 companies. In his time at Warburg Pincus, he has served as vice chairman and as managing director and senior adviser for financial services investment activities. His distinguished career in financial services also included positions at JPMorgan Chase and BankAmerica Corporation. —



Alumni Achievement Award

Gunjan Kedia, MSIA '94

Gunjan Kedia was recognized with the Alumni Achievement Award in honor of the significant contributions she has made in the banking industry. She is vice chairman of the Wealth Management and Securities Services at U.S. Bank, the fifth-largest commercial bank in the United States.

Along with her husband, Sridhar Tayur, Ford Distinguished Research Chair, professor of operations management, Kedia named the faculty event space in the Tepper Quad with a \$1 million gift. She is a committed volunteer for the school, participating in and hosting several events and serving on the Business Board of Advisors.

Kedia has more than 20 years of experience in the financial services industry. After graduating from the business school, she was an associate with PricewaterhouseCoopers before joining McKinsey & Company, where she was the youngest consultant in company history to make partner. She later joined Bank of New York Mellon, serving in several leadership roles, including executive vice president. Before U.S. Bank, she was an executive vice president and a member of the Management Committee at State Street, where she led its U.S. investment servicing business. —



An influential link between the Tepper School and Deutsche Bank, where he serves as managing director of Equity Derivative Sales, Devin Anderson has been presented with the Alumni Service Award. He has spent many years as the Tepper School's primary recruiting contact for Deutsche Bank and has launched the financial careers of many MBA, MSCF and undergraduate alumni.

Anderson joined Deutsche
Bank upon receiving his MBA
at the Tepper School in 2005,
and he has swiftly built a strong
career in financial markets
and derivatives.

Alumni Service Award
Devin Anderson, MBA '05

A key recruiter for Deutsche

Bank at the Tepper School,
Anderson frequently meets
with students one-on-one
to help them prepare for
interviews. He champions
for alumni at Deutsche Bank
and established a mentoring
program that links Carnegie
Mellon alumni at the bank with
interns from the university.
Additionally, he serves as a
mentor for students completing
Wall Street internships.

Anderson maintains a strong relationship with Tepper School faculty as well, often meeting with them to discuss the finance industry or traveling to campus to present in classes. —



The Tepper School honored Michael "Mike" Miller with the Recent Alumni Service Award, which recognizes the service and accomplishments of an individual who graduated from the Tepper School within the past 10 years.

Upon his graduation in 2011, Miller was hired at Amazon. Within just a few years, Miller launched two successful business ventures at Amazon, creating the handmade and wine categories. He was quickly promoted twice, first to senior manager and now director. In addition to handmade and wine, he oversees the collectibles and fine arts divisions and continues to pursue new ventures.

Recent Alumni Service Award Michael Miller, MBA '11

Miller is highly engaged in alumni activities. He has cosponsored alumni events in Seattle and serves as a Tepper Alumni Philanthropy volunteer — a class representative committed to connecting with fellow alumni to foster philanthropic engagement.

Beyond connecting with fellow alumni, Miller continues to give his time to benefit the school, serving as both an admissions volunteer and a recruiting volunteer. He has been a key recruiting contact at Amazon and conducts a corporate presentation each fall at the Tepper School. —

make you even prouder of your alma mater. In April, we celebrated our last Alumni Reunion Weekend in the original GSIA building and Posner Hall. Alumni who attended had the opportunity to tour the new building. Next year, on April 12-13, 2019, we will celebrate 70 years since the founding of the school in our new home. We invite you to join us for this celebration of our first Alumni Reunion weekend in the new quad. All this would not be happening Fund, scholarships and academic without engaged and supportive programs have all strengthened the alumni like you who have invested in school and positioned us to accompl your alma mater and its mission to great things in the years ahead. train business leaders for the future. On behalf of the Tepper School Your ongoing involvement and supp community of students, faculty, are vital to our future. We challenge staff and alumni, we thank you. Your you to become engaged as we begin countless hours as volunteers serving this new era for the school that has on boards and leading our regional made an indelible mark on us all. chapters; your support in being admission ambassadors and recruiting students to your companies; and your John M. Sengenberger Sr. **Executive Director of Alumni Relations** contributions to the school's Annual

CLASS NOTES

Dear Alumni,

A new era is upon us as a Tepper

School alumni community. This

summer we will be leaving our current

buildings to prepare for the incoming

classes to begin in August in the new

Tepper Quad. The new Tepper Schoo

building is an incredible architectura

achievement. Filled with natural light

and state-of-the art learning and

interaction spaces, it is the largest

campus and will be at the center of ou

expanding university. We hope you will

all come back to see it in person. It will

building on the Carnegie Mellon



MARATHON OIL CORPORATION ELECTS M. ELISE HYLAND TO BOARD OF DIRECTORS

Marathon Oil Corporation elected M. ELISE "LISA" HYLAND, MSIA '00; E '88, '81, to the company's board of directors. She most recently served as senior vice president of EQT Corporation and senior vice president and chief operating officer of EQT Midstream Services LLC until her retirement in 2018. During her career at EQT, she also served as executive vice president of midstream operations and engineering,

president of commercial operations, and president of Equitable Gas Company. Hyland previously served as secretary and member of the board of directors of the Manchester Bidwell Corporation. —



HIROYUKI YOSHIMOTO PROMOTED TO PRESIDENT AND COO OF NIDEC CORPORATION

The world's No.1 electric motor maker, Nidec Corporation, announced that HIROYUKI

YOSHIMOTO, MBA '02, will become its new president and chief operating officer. Nidec is one of the largest companies in Japan and has more than \$14 billion sales revenue worldwide. Yoshimoto joined Nidec in 2015

Massachusetts Institute of Technology. —

and has been serving as president of Nidec Tosok, then became executive vice president and global head of the automotive business unit. Prior to joining Nidec, he was president at Nissan Motor (Thailand) Co. Ltd. After beginning his career at Japanese trading house Nissho Iwai, now Sojitz, Yoshimoto moved to General Electric Company in Japan, then moved to Nissan Group. —



TRAVEL BOOK FROM MIKE HOWARD PUBLISHED BY NATIONAL GEOGRAPHIC

Drawing from their around-the-world honeymoon and five years of traveling across more than 50 countries, MIKE HOWARD, BSIM '99, and his wife, Anne, co-authored National Geographic's first book on couples adventure travel, "Ultimate Journeys for Two." In this 272-page, 325-photograph travel guide-meets-memoir, they curate the globe and offer tested-and-approved recommendations for intrepid couples, bringing culture, adventure and romance to any pair — no matter their age or budget. A serial entrepreneur since the age of 8, Howard went from starting a button business in his basement to launching one of the world's first social networks. After growing Kiwibox to 2.6 million members, he took the company public in 2009 and left to become a digital marketing consultant working with Fortune 500 companies. In 2011, Mike and Anne started their new life together with a honeymoon around the globe. HoneyTrek.com was created to share their adventures with family and friends, but as the years went on and stories of the "World's Longest Honeymoon" spread to international news outlets, they've grown their HoneyTrek family to over 80,000. HoneyTrek.com is an inspirational travel hub for hundreds of the world's most spectacular destinations across seven continents and an acclaimed resource for insider recommendations, practical tips and inspiring stories. "Ultimate Journeys for Two" takes their five years on the road and pares it down to their favorite 75 destinations and best advice for traveling with the one you love. —

PATCHARA SAMALAPA RISES TO PRESIDENT OF KASIKORNBANK

Kasikornbank's board of directors has appointed **PATCHARA** SAMALAPA, BSIM '92, as KBank's new president, effective April 4, giving the bank four presidents at once. Samalapa started his career at Deutsche Morgan Grenfell Securities in Britain before working at Phatra Securities, Merrill Lynch Australia and Merrill Lynch Thailand. He was managing director of Kasikorn Asset Management Co. Ltd. and joined KBank in 2012 as executive vice president overseeing SME business and acting head of corporate business. He was later named senior executive vice president for SME, corporate and retail business. After earning his bachelor's degree in industrial management from Carnegie Mellon, Samalapa earned an MBA from the

PAUL WELLENER ENTERS NEW ROLE AT DELOITTE

Deloitte appointed PAUL WELLENER, MSIA '86, as vice chairman of Deloitte LLP and leader of the industrial products and services practice in the United States. In his new role, Wellener is responsible for driving key industrial products and services sector initiatives, growing the practice across all businesses and working closely with senior leaders of the organization and their clients, which include over 95 percent of the industry's Fortune 500 companies. Based

in Cleveland, Wellener also serves as Deloitte's managing principal of northeast Ohio. "The industrial products industry is experiencing a time of rapid change and uncertainty as globalization, advanced technologies, the skills gap and the evolution of Industry 4.0 reshape the industry," Wellener said. "This is an exciting time to lead the industrial products practice as we work with our clients to navigate the changing landscape." A principal in Deloitte Consulting LLP, Wellener has 28 years of experience in the industrial products and automotive sectors and has focused on helping organizations address major transformations. His global experience spans work with teams in Asia, Europe and South America. Wellener served on the Tepper School Alumni Board from 2010 to 2016 and was president from 2012 to 2014. —



HUDSON BAY COMPANY NAMES EDWARD RECORD CFO

The Hudson Bay Company (HBC) named EDWARD RECORD, MSIA '96, as chief financial officer. He reports to the CEO and

serves as a member of the company's operating committee. The oldest company in North America, HBC boasts a portfolio including Hudson's Bay; Lord & Taylor; Saks Fifth Avenue; Gilt; Saks Off Fifth; Galeria Kaufhof, the largest department store group in Germany; and Belgium's only department store group, Galeria Inno.

With more than 25 years of experience, Record has overseen financial and operational performance for several large national retailers. He joined HBC after more than three years as chief financial officer for J.C. Penney Co. (JCP). During his time with JCP, Record helped dramatically improve the company's capital structure, reduce its debt leverage and significantly improve its credit rating through multiple upgrades. Prior to JCP, Record served as executive vice president and chief operating officer of Stage Stores, and previously as its chief financial officer. Record has also held executive leadership positions in finance at Kohl's and Belk. Record began his extensive career in retail at Kaufmann's, a division of May Department Stores, holding various roles across the finance department, ultimately working his way up to vice president of finance and controller. —



PAMELA BARNHILL HONORED AS AN INFLUENCER IN THE HOSPITALITY INDUSTRY

PAMELA BARNHILL, MBA '01, the president and COO of InnSuites Hospitality Trust, IBC Hospitality Technologies and IVH Travel, was recognized in the hospitality industry by two separate top industry publications. In the September 2017 Lodging Magazine, Barnhill was recognized as one of the top 20 female leaders in its article "Making Their Mark in Hospitality." On Oct. 3, 2017, Hotel Management magazine recognized Barnhill as one of the "30 Influential Women in Hospitality." These two industry publications recognize Barnhill's substantial influence in the fast-changing hospitality technology and services industry. She is married to SHANE BARNHILL, MBA '03, and is the daughter of JAMES WIRTH, MSIA '69. —



DONOR SPOTLIGHT

Cynthia Padnos, MSIA '80, has enjoyed a storied career in tech, from consultant to serial high-tech entrepreneur to founder and current managing partner of Illuminate Ventures. Her firm invests in early-stage enterprise software startups, while "intentionally expanding our deal flow to be inclusive of diverse teams," she noted.

This high-tech success story came to the Tepper School with a liberal arts degree, attracted by the small, personal class size and eager to expand her talents "I was specifically seeking to augment my skills on the quantitative and analytic side of the equation, and Carnegie Mellon was clearly one of the best schools to help me to do that," Padnos said.

She gained the capabilities she sought, "but something else perhaps more important: the self-confidence that I didn't need to be intimidated by new techniques or technologies. I learned how exciting and rewarding it was to leverage them."

Padnos has given generously of both her time and support. She believes the two should go hand in glove. Seeking to ensure that more women were attracted to the program, she became involved early with the Tepper School Business Board of Advisors. She has also, among numerous other activities, served as an adviser to Project Olympus and participated in countless panels and student treks,

and recently initiated an internship/student-in-residence program for her firm on campus.

In more than three decades she hasn't missed a single year of giving. "I have a great deal to be grateful for in my life, and Carnegie Mellon is a very significant piece of that," she explained.

Padnos and her husband have made two additional and notable gifts.

She established the Cynth Padnos Scholarship for Women in Business, which gives preference to women with liberal arts backgrounds.

"It's a myth that you need a technical degree to be an entrepreneur, to be successful in technology — or to be successful in the MBA program at Carnegie Mellon," she pointed out.

More recently, Padnos named the director's office of the Swartz Center for Entrepreneurship in the new Tepper Quad.

"I'm a big believer that we live in a world where technological innovation can enrich lives and democratize opportunity," she said. "Pittsburgh is approaching a tipping point to becoming an entrepreneurial powerhouse, and both the new quad and entrepreneurship center will help the community achieve that. It's fantastic to have the opportunity to be a part of enabling that."

Tepper Alumni Chapter Roundup

The Tepper School of Business has alumni groups around the United States and abroad to provide social, networking and professional development opportunities for current and future alumni. A few chapter leaders share the latest happenings in their area of the Tepper School Network.

✓ Visit alumnihub.tepper.cmu.edu/alumnimap to see a global representation of the entire community.

Alumni Board Ambassador JIM OSTRY, MSIA '94, hosted the annual summer reception at his home in the Lake View East neighborhood, welcoming Tepper School interns and new admits to the CHICAGO alumni community.

In October, Dean Dammon came to Chicago to update us on the new Tepper Quad. The reception was held at the offices of Kirkland & Ellis LLP, thanks to our host, Russell Levine, father of DANIEL LEVINE, BSBA '19, a current Tepper School undergraduate student and outstanding member of the CMU tennis team. Later in October, we welcomed two Tepper MBA clubs — the Graduate Finance Association and the Consulting Club — at happy hours to network with local alumni. JOHN DISCHNER, MSIA '94, again sponsored the aspiring consultants. The chapter is planning to provide special weekend events, including an informal happy hour and bowling in January at Pinstripes in the River East neighborhood and a spring Sunday brunch. We are eager to have more alumni volunteers join our team and bring fresh ideas for alumni engagement. —

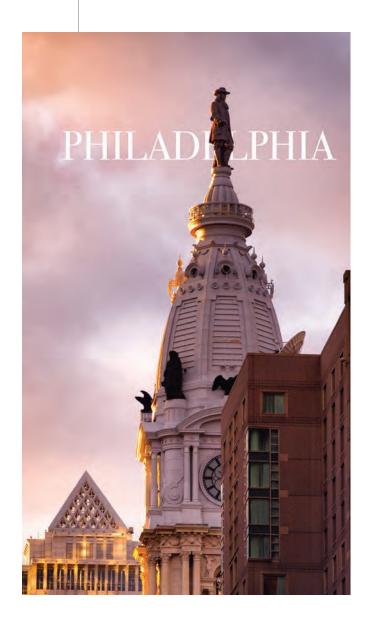
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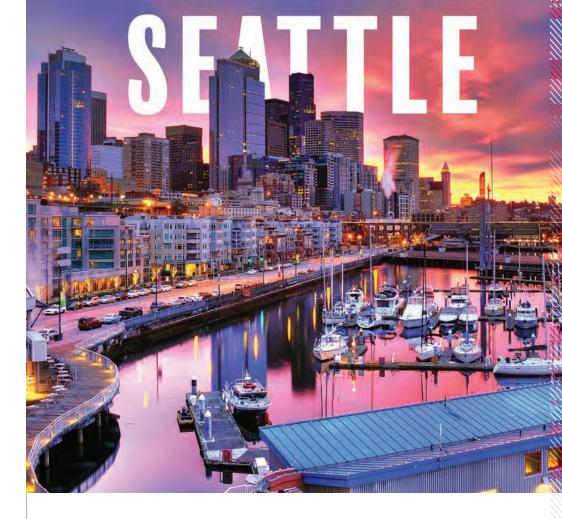
DAN WOLFF, MBA '11



The PHILADELPHIA alumni community gathered in the summer to welcome interns and new admits at the Newtown Square home of CHRIS ALBANI, MSIA '95. In November, we organized a happy hour at the Conshohocken Brewing Company for a relaxing time of networking. Alumni were inspired by the vision for the new Tepper Quad as we listened to Dean Dammon at a reception held at Comcast University thanks to alumnus BRYAN HAUPTFUHRER, MSIA '98. We are eager to hold more events in the coming year and are always happy to welcome new alumni to the area. —

Submitted by ARIEL EMMETT LICHTENSTEIN, MBA '09



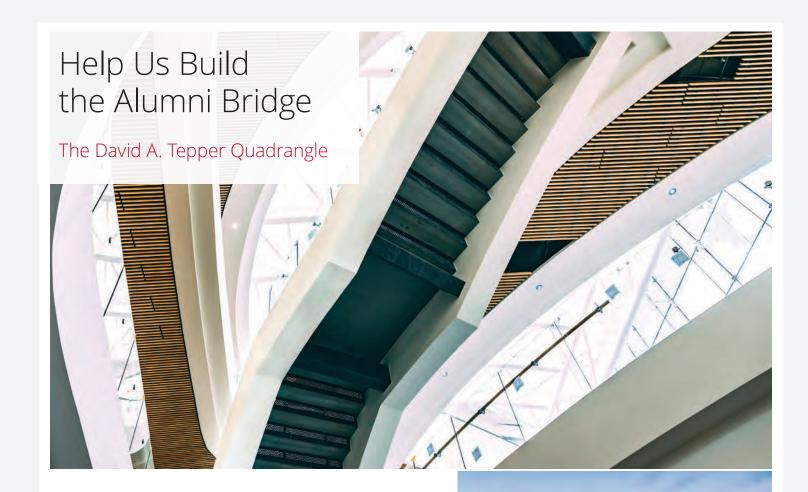


SEATTLE continues to be one of the most rapidly growing and vibrant alumni chapters. It achieved the highest percentage of any chapter in annual giving in 2017. The annual summer welcome reception hosted by alumni leaders at the Seattle Yacht Club set a new attendance record with over 100 students and alumni, making it the largest reception of the summer. Other annual events included the summer picnic at Gas Works Park; the October student trek dinner on Bainbridge Island hosted by **GEOFF** ENTRESS, MSIA '88; networking happy hours in Seattle; and the holiday party in December. For the chapter speaker series, we welcomed Laura Maxwell, a leadership coach and founder of the

Tepper School of Business Accelerate Leadership Center. She led a lively, interactive discussion on "Leadership in a Multi-Gen Workforce."

In November, we hosted Dean Dammon for the Seattle Cut to the Quad reception at Amazon's Van Vorst Building with the Tepper School Business Board of Advisors, **BRIAN OLSAVSKY, MSIA '89, and MARC ONETTO, MSIA '75.** We are looking ahead to another active year and invite you to join us as a chapter volunteer. —

Submitted by BRITTANY WILLIAMS MITHRA, MBA '13 and BRIGID JOHNSON, MBA'14



- A \$10,000 gift payable over two years will support the construction of the Level 3 bridge that connects the undergraduate and graduate wings of the Tepper School.
- Accelerate Leadership Center, the Swartz Center for Entrepreneurship, Student Services, and a variety of team study and collaboration spaces.
- of the donor's name in this highly visible location.

new Alumni Bridge, which will serve as a focal point in the new building and connect all constituents of the Tepper School community to one another and to Carnegie Mellon — symbolically and literally.



Since his graduation, Michael Tam, MBA '11, has been a dedicated supporter of the Tepper School, with both his time and his financial support. His most recent contribution — a gift to support the new Tepper Quad Alumni Bridge — was made to help build "a place students will call home for many years to come."

When exploring a graduate business degree, the Ohio native was drawn to the Tepper School's small class size, flexible curriculum and opportunities for real-world application. His decision was cemented during Welcome Weekend, when he met highly intelligent future classmates with the "best values."

"Being at Tepper was a transformational, invaluable experience that opened up a world of opportunities," Tam stressed. "Because of it, I'm a better leader, more prepared to solve problems. It brought me into a career that could only be described as a dream come true."

Today, as the senior director of planning and analytics at Major League Soccer, Tam is responsible for strategy development and project execution of the growing enterprise. He continues to seek opportunities to strengthen the Tepper School community, from advising students and speaking on campus to hosting events and donating.

"Hopefully, we continue inspiring others to give and show how the top-class graduates from our program can make a real difference in the world."

Tepper School Degree and Program Codes Bachelor of Science in Industrial Management

International Wealth Management IWM MBA Master of Business Administration

> Master of Science in Computational Finance

Master of Science in **Electronic Commerce**

MSCF

MSEC

HNZ

MSIA Master of Science in Industrial Administration

> Master of Science in **Quantitative Economics Program for Executives** (Executive Education)

Doctor of Philosophy

W.L. Mellon Society Members tepper.cmu.edu/wlms

Carnegie Mellon College Codes

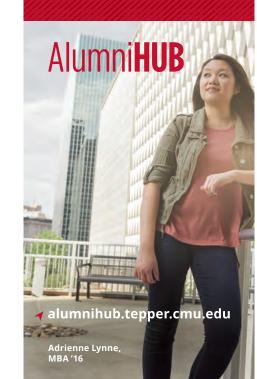
College of Fine Arts Computer Science

> **Dietrich College of Humanities** and Social Sciences

College of Engineering

H. John Heinz III College (Public Policy & Information Systems)

Mellon College of Science



CLASS OF 1961

GEORGE A. SUMMERHILL JR., MSIA,

of Reno, Nevada, received the 2017 Distinguished Alumni Award from Thiel College in Greenville, Pennsylvania, at the fall homecoming awards ceremony in October. It was based on career accomplishments and volunteer work in his communities, for Rotary International and as a charter officer with a Nevada nonprofit housing developer, Silver Sage Manor Inc.

CLASS OF 1963

ROBERT SHAW, MSIA, was delighted to spend time in recent months with GSIA classmates **BOYD HARMAN, MSIA; TED** ROJAHN, MSIA; and ION ZOLER, MSIA, BSIM '62, and spouses. They had great conversations about the early GSIA days (professors, curriculum, staff, etc.) as well as the remarkable growth of CMU and the Tepper School. Shaw and classmates all feel that GSIA was a fantastic building block for their professional careers. It is Shaw's personal privilege to remain engaged with the Tepper School and CMU through stimulating webinars, other internet connections, live lectures, receptions and personal contact.

CLASS OF 1966

STAN ZIONTS, PH.D., E'58, has now retired as a ski instructor from Park City Mountain Resort after more than 30 years of teaching skiing. Zionts retired from his faculty position at SUNY Buffalo about 12 years ago, and his wife, Terri, retired as a lawyer about three years ago. The Ziontses continue to live in Boynton Beach, Florida, during the spring and fall, and in Park City, Utah, in the winter and part of the summer. They would enjoy hearing from friends and colleagues.

CLASS OF 1968

JAY AVNER, MSIA, recently retired after 14 years as director of contracting with Centene Corp., a health insurer specializing in government programs.

CLASS OF 1969

STEPHEN NAVRAN, BSIM, currently the chief scientific officer of Synthecon Inc., a biotechnology spinoff from NASA's Johnson Space Center, is the co-founder and CEO of Animatus Biosciences LLC, a startup focused on regenerative medical therapeutics based in Houston, Texas.

CLASS OF 1970

KEN DEROW, MSIA, BSIM '69, recently completed writing a book about a radical new diet lifestyle based on brain science and psychological principles, in collaboration with Harvard neuroscientist Dr. Rudy Tanzi.

CLASS OF 1971

The American Marketing Association has inducted V. SRINIVASAN, PH.D., as a Fellow. It has also created the "Srinivasan Young Scholar Award" to be awarded annually. He is already a fellow of The Institute for Operations Research and Management Sciences (INFORMS) and the INFORMS Society for Marketing Science.

CLASS OF 1974

ROBERT FRIEDMAN, MSIA, is now five years into retirement and living in Florida with his wife, Susan, while spending the summers in Connecticut. He serves as the Board Chair of Hazon, a New York-based national nonprofit, and still has an interest in NexGenAlpha, a Europe-based fund organizer. His golf and tennis games are both improving now that he is no longer traveling 30 percent of the time. Robert and Susan still enjoy some personal travel, both to see new places and to visit their children and grandchildren.

CLASS OF 1975



Retired from IBM in 2013 after nearly 40 years in the software business, JOHN SCHILLER, MSIA, is now busier than ever. Happily living in Pittsburgh with his wife of 37 years, he serves on the board of a local software company. He has been doing a lot of traveling to feed his expanding photography passion and to visit his children and grandchild in Boston. He is keeping in touch with a number of GSIA classmates and looking forward to his next reunion.

CLASS OF 1977

ALBERT IP, MSIA, was appointed to the board of trustees at Washington University in St. Louis. He was also appointed adjunct professor of finance at Hong Kong University of Science and Technology.

CLASS OF 1978

JEFF BRANMAN, MSIA, has joined Authentic Brands Group in New York City as executive vice president of mergers and acquisitions. He recently signed up the acquisition of the Nautica brand from VF Corp. Branman and his wife Liz's twins, Alexandra (attending Wesleyan University) and Matthew (attending Harvard College), recently turned 21, and Jeff wonders how he got so old.

CLASS OF 1979

MARK SCHAEFER, MSIA, retired from ExxonMobil in March after nearly 38 years, the last five managing the payment and loyalty card processing operations

supporting 13,000 Exxon, Mobil and Esso retail fuel stations in the U.S. and Canada. Schaefer and his wife, Kathy, will remain in Houston, Texas, where their daughter will be married in October.

CLASS OF 1980

JANINE ELYSE ARONSON, PH.D.; E'75, '76,

started playing the bagpipes two years ago. Having spent three weeks in the CMU Pipe and Drum Band, Janine developed a love for the pipes and finally decided it was time to learn to play them. She started playing the ukulele last summer and has played guitar for decades. In addition, she is a professor of management information systems in the Terry College of Business at the University of Georgia.

CLASS OF 1983

MARCY TRENT LONG, BSIM, founding director of Sustainable Asia, highlights the podcast series "Eight Million" about the 8,000,000 metric tons of plastic entering the ocean every year and what China is doing about it. The five-part audio documentary runs through the ins and outs of plastic waste, taking a critical look at potential solutions coming out of the Middle Kingdom.

CLASS OF 1984

AURORA LYNN (STALEY) VIOLI, BSIM, and WILLIAM KERNS, HNZ '92, will be celebrating their first wedding anniversary. They were married in Florida on a Gulf Coast island in May 2017 and currently reside in Mars, Pennsylvania.

KIM STROHM, BSIM, vice president of transactions, counsel and chief privacy officer at DCEH in Pittsburgh, moderated a peer-to-peer roundtable discussion at the International Association of Privacy Professionals Global Privacy Summit in Washington, D.C., this March.

CLASS OF 1985

Since 2017 SHANTHA MOHAN, PH.D., has been mentoring individuals who want to become entrepreneurs and those considering career transitions. In 2018, she joined Carnegie Mellon University in Silicon Valley as an executive in residence, formalizing her role there. When gender equality became a hot topic in 2017, Mohan decided to work on creating a strong mental image of female engineer role models. She has written more than 25 life stories with the eventual goal of publishing them as a book.

CLASS OF 1989

KOICHI KIYOHARA, MSIA, is a partner at Weber Associates, a boutique marketing and sales agency based out of Columbus, Ohio. When not working, he spends his time in Chicago, Illinois, and in Asheville, North Carolina.

CLASS OF 1991

PATRICK THACKER, MSIA, and Renee Thacker recently adopted Lucille Grace Thacker. She is truly a blessing.

CLASS OF 1992

In addition to being an associate professor at the Quinlan School of Business at Loyola University Chicago and running Hidding J. HIDDING, PH.D., has been involved in the online rental industry, and now owns rCommerce®, a registered trademark for online rental commerce, with the aim to develop an interesting business concept around it.

Class of 1992 (continued)

ALEX GALATIC, MSIA, is publishing a podcast with his teenage son called "My Kid Wants To Be a Pro Gamer." The podcast explores the growing business of esports from the perspective of teens and parents through interviews with sociologists, friends, video game enthusiasts and people who have made a career out of a new type of professional sports where the playing field is on computer screens. Galatic and his son are hoping that by sharing their journey, they may help other parents and kids make informed decisions.

MARCELO ROSENHEK, MSIA, worked for 23 years in the banking industry in Brazil and left in mid-2015 to run the family business (gifts and decoration products retailer). The business was sold at the end of 2017. He is looking to invest and work in a new venture in Brazil linked to new technology.

CLASS OF 1994

KEVIN S. BOYLE SR., BSIM, was appointed CFO of Cell Medica, a leader in cellular immunotherapy for the treatment of cancer.



COL. STEPHEN LIGHTFOOT, BSIM, is

presently on a one-year combat deployment with the Special Operations Joint Task Force in Afghanistan. Upon completion of the deployment, he will assume command of Marine Aircraft Group 24, located at Marine Corps Air Station Kaneohe Bay in Hawaii. MAG-24 is composed of seven subordinate units with more than 2,000 personnel who fly and maintain the AH-1Z Cobra, UH-1Y Huey, CH-53E Super Stallion, MV-22B Osprey, RQ-7 Shadow and RQ-21 Blackjack.

CLASS OF 1995

ERICK EIDUS, MSIA, is CEO and co-founder of PupPod, a company building dog toys for the internet age. The company was founded on the belief that we can build better products for the dogs we love by leveraging technology to provide dogs with mental stimulation and fun. Eidus says pet tech will become the next billion-dollar-plus segment of the pet industry. Dog-loving alumni should check out PupPod.com.

MICHEL ROBE, PH.D., recently joined the University of Illinois (Urbana-Champaign), where he is the Clearing Corporation Foundation Professor in Derivatives Trading.

CLASS OF 1996

Following a nearly 30-year career in the investment management industry, through which he's weathered multiple boom and bust cycles, RUSSELL EWING, MSIA, decided to embark upon a new adventure and join his wife, Vani, and son, Rohan, as a professional husband and father in Wiesbaden, Germany. He looks forward to keeping in touch with his beloved Tepper School community, exploring his birth country, traveling, playing and teaching tennis, and continuing to serve on the Alumni Board.

CLASS OF 1997

The REV. NICK FROLLINI, BSIM, celebrated the fifth anniversary of his ordination in the Universal Life Church in 2017. He continues to serve as the deputy director of Carnegie Mellon's Institute for Software Research, where he has worked since 2007.

JON HOUGLAND, MSIA, left California last year and is now the CFO for Lower Valley Energy, a co-op utility that serves northwest Wyoming.

CLASS OF 1998

ADAM PERL, MSIA, became a co-founder and board member at Arrangr Inc.

CLASS OF 2000

MIKE ONDA, BSBA, has been promoted to vice president of corporate strategy for J.D. Byrider. His team is responsible for facilitating the annual strategic planning process and driving execution of the strategic plan. J.D. Byrider is America's largest used car franchise and finance operation, with over 165 locations nationwide, more than \$1 billion in receivables and more than 2,500 employees.

ALAN THOMAS, MSIA, was sworn in as Commissioner, Federal Acquisition Service, U.S. General Services Administration.



CLASS OF 2001

On a trip to visit the U.K. office of Logi Analytics, **AUSEH BRITT, MBA**, took in some of the sights in London. Britt joined Logi Analytics, an embedded analytics software company, last November as their head of demand generation.

ERIC EVANS, MBA, was appointed CFO of Big Ass Fans in Lexington, Kentucky, in January, following its recent acquisition by a New York private equity firm. He will be relocating to New York from Chicago, Illinois, with his family in the summer.

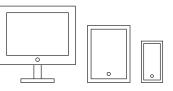
KRISTEN HEIMERL, MSEC, innovation designer, joined forces with Sprocket, a small team of fun-loving strategists who think if you mix customer-centric design with data science and behavioral economics, magic and business results happen.



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Sheila Brown, MSIA

'84, and W. David

Brown, MSIA '85,

came to the Tepper

School to enhance

with cutting-edge

a leading graduate

business school. They

made the right move.

"It was a life-changer,"

managing director of

Red Hawk Associates.

"It completely changed

my business prospects

and my earning ability.

and was able to make

changed my life. It

was fantastic."

The connections I made

investment banking firm

said David, now

economics backgrounds

quantitative skills from

their liberal arts

CLASS OF 2002

MATT SANEHOLTZ, BSBA, was featured in "NexGen Acquisition Success: Partnership, Patience and Teamwork," printed in the September 2017 issue of the Journal of Financial Planning. The article outlined the steps he took to become a co-owner of Tobias Financial Advisors, a successful feeonly financial planning firm in the greater Fort Lauderdale, Florida, area.

CLASS OF 2003

KATIE KLABER, MBA, was appointed to the Federal Reserve Board, Pittsburgh branch, in early 2018.

TOBY PERKINS, MBA, recently moved from division controller for Chlor-Alkali and Derivatives (\$4 billion in sales) at Westlake Chemicals to finance integration director, responsible for the financial integration of Axiall Corp. (\$3 billion acquisition).

ELLEN VAYNER, MBA, has successfully implemented Concur as the travel and expense management system for her U.S./ Canada region clients. She is now managing the second phase of the implementation, which involves the U.K. and Asia. As a part of this endeavor, Vayner initiated, sourced and finished the bidding process for the travel agency partner selection.

NEIL WALTER, MBA, is CEO of ERA Brokers Consolidated and of commercial real estate firm NAI Excel. ERA Brokers Consolidated has eight residential real estate brokerage locations from Las Vegas to Salt Lake City and was named the top overall company in the ERA Franchise Systems network of over 2,300 offices at the annual International Business Conference.

CLASS 2004

MEG BEROL, BSBA, was promoted to manager of project management within the engineering organization at Groupon. Berol has been leading Groupon's corporate data privacy and security updates for the European Union's General Data Protection Regulation. In this new role, Berol will also be responsible for the Palo Alto, California, PMO team.

CLASS OF 2005

DEVANG MEHTA, MBA, is now a partner at Anthill Ventures, an early-stage venture capital fund. He is actively involved in LP relationships, fund operations and the evaluation of early-stage companies.

CLASS OF 2006

WILBUR BRIONES, MBA, HNZ '06,

has recently started a new role as an organizational effectiveness lead at Vanguard. If anyone is passing through the Philadelphia, Pennsylvania, area, please reach out! He would love to reconnect.

BRYAN OVALLE, BSE, has been promoted to vice president of customer success for Romeo Power Technology. He will oversee and be responsible for the entire customerfacing value chain. Formerly, Bryan was the senior program manager and head of PMO. Romeo Power Technology specializes in evolving energy technology through the design, validation and manufacturing of lithium ion battery packs for electric vehicles and energy storage applications in Vernon, California



"THERE ARE SO MANY WONDERFUL

THINGS HAPPENING THROUGHOUT

THE UNIVERSITY TO PROMOTE

ENTREPRENEURSHIP, AND TO BE

ABLE TO BRIDGE BUSINESS EDUCATION

SHEILA BROWN, MSIA '84 SENIOR MANAGER, RISK MANAGEMENT PROGRESSIVE INSURANCE CLEVELAND, OHIO

DAVID BROWN, MSIA '85 MANAGING DIRECTOR **RED HAWK ASSOCIATES** CLEVELAND, OHIO

Sheila, now senior manager of risk management at Progressive Insurance, agrees. "My MBA really provided the tools for both my early McKinsey consulting career and the many roles that I've had at Progressive since then. It's all been enabled by my Tepper MBA."

The couple has remained active with their Cleveland-area alumni association continuously since their graduations. however, they've given a special and particularly meaningful construction of the Tepper Quad with an Alumni Bridge donation.

"This physical bridge in the new business school is literally and figuratively bridging my earlier academic life with my professional passion, which is promoting innovation at work and in the community," Sheila explained. David, who also maintains strong career ties with the entrepreneurial community, concurs.



MOM was RIGHT

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CLASS OF 2007

MIKE KUENTZ, MBA, Monica and Matthew moved to Washington, D.C., in 2017. Mike is still with Amazon Web Services and loving it!

CLASS OF 2009

VICTORIA GUSCOFF, MBA, was recognized as one of Pittsburgh's 50 Finest. Each year, the Cystic Fibrosis Foundation recognizes a group of the area's most accomplished women and men for their career success and their involvement in the community.

VISHWA KOLLA, MBA, is humbled and fortunate to be recognized as one of the top 50 data and analytics professionals in the U.S. and Canada.

NATHAN WARD, MBA, has recently received his certification as chief project control officer from the Earned Value Management Institute. Through his business, NJW Associates, Ward works closely with companies, primarily in the manufacturing and heavy civil construction markets, to develop programs for collecting and interpreting project financial data and to quickly identify and correct deviations from the as-planned project schedule and budget.

CLASS OF 2010

MICAH PAUL KEITH, MBA, pounced on an exciting opportunity to lead the No. 1 almond milk brand in the U.S., Blue Diamond's Almond Breeze. He left a great team at Nestle but is excited to join a privately held company with tremendous current and future growth opportunities in the food industry. If you need any almonds or almond milk, you now "know a guy."

CHRISTINE (MORGAN) KORBER, MBA,

has been promoted to senior director of procurement for Arconic's Global Rolled Products and Transportation and Construction Solutions businesses. She currently resides in Pittsburgh, Pennsylvania. GORDON VANSCOY, BSBA, became engaged to Alyse Leben. They met while living in Naples, Florida, and have since moved to the Dallas-Fort Worth area. They wed on May 12, 2018, in Harbour Island in the Bahamas. Gordon recently joined American Airlines as a member of the Fleet Planning team, a division of the company's Financial Planning and Analysis group.

CLASS OF 2011

CAROLYN (MADDEN) DUNCAN, MBA,

recently joined Wells Fargo's Innovation Group as a senior product leader, focused on AI Enterprise Solutions — particularly conversational apps and virtual assistants for the bank and its customers — and is building a team to drive those areas. Duncan is very excited for this latest career chapter and will continue to be based in the New York City area with her family.



RAUL HENDERSON'S, MBA, recent consulting work almost immediately led him to take a role with one of his clients. In August, he joined Grupo Flor as CEO. Grupo Flor is the parent organization that owns and operates five distinct businesses in the California cannabis industry: real estate, cultivation, manufacturing, distribution and retail.

BAHATI MUTISYA, BSBA, is an attorney at Parker Poe Adams & Bernstein LLP, where she represents businesses, governments and health care providers in regulatory matters and civil litigation. Previously, she clerked on the District of Columbia Court of Appeals. She earned her Juris Doctor from Wake Forest University School of Law in 2015, where she served as editor-in-chief of the Wake Forest Journal of Law and Policy.

After five years of teaching economics at West Point upon graduation from the Tepper School, TODD SCHULTZ, MBA, retired from the military and is now the owner/operator of the first Chick-fil-A in the state of Maine. Chick-fil-A Bangor has now been open for over a year.



CLASS OF 2012

CHRIS GASSMAN, MBA/JD, kicked off 2018 with a book deal and the development of a podcast series. Along with MATT FLORES, MBA, Gassman had five glacier sightings and three glacial summits, hiked on and under one glacier, and saw zero snakes. These were all milestones they hit on their trek through the third-largest glacial field in the world, and all inspired by other alumni and plotted over Reunion meetups. They are accepting teammates for the next adventure.

Freshly moved to Philadelphia, Pennsylvania, JONO MATUSKY, MBA, E '11, serves as an independent adviser to startups based in Havana, Cuba. These include Cuba's first clothing label and online shop, Clandestina; the indie video game Savior; Guampara, a hip-hop-focused record label; and silver jewelry maker Rox 950. He's adding U.S.-based startups to his roster as well, but he's excited to get back down to Havana.

ELLIOT WOLF, MBA, and Vanessa Sutherland were recently engaged among family and friends during a surprise birthday party for her at the National Harbor. Wolf is responsible for process safety and risk management at Syngenta and is an adjunct professor of chemical engineering at the North Carolina A&T State University. This year, they are looking forward to launching a pre-college STEM scholarship program.

POLYMATHS

READ HOW FIVE RECENT MBA ALUMNI ARE INFUSING LEFT-BRAINED THINKING WITH RIGHT-BRAINED INSPIRATIONS IN OUR DIGITAL EDITION













LIFE LIVED LEFT | RIGHT | HARD | SOFT | ART | SCIENCE

✓ tepper.cmu.edu/polymaths

CLASS OF 2013

JUSTIN BORNTRAEGER, MBA, moved from GE's digital business to an ed-tech startup in San Francisco, California, in November 2017 — quite the adjustment! He is looking forward to attending his fifth Reunion to catch up with friends and see the campus.

CLASS OF 2014



TIMOTHY ALTMAN, MBA, and his wife, Renee, had a baby in October. Amaya Suk Altman is now close to 8 months old. Timothy has been spending his paternity leave teaching her to build financial models to help her invest her allowance to save for college.



DIVYESH PATEL, MBA, and his wife, Nisha, would like to announce the birth of their beautiful baby girl, Anaya Patel, born on Jan. 25 at 4:41 p.m. at 6 pounds, 14 ounces and 19.75 inches, in the great state of Texas!

CLASS OF 2016



ANDREY SHATNIY, MBA, and Anna are excited to announce the birth of their son, Andrew Anatoliy Shatniy, on Dec. 28, 2017.

In December 2017, DAN SZEWCZYK, MBA, esteemed Robber Barons column writer, proposed to BETH HARGRAVE-THOMAS, MBA '17, future CEO. They are extremely thankful for professor Brent Glover's decision to make Szewczyk a finance teaching assistant, which is where he met Hargrave-Thomas while helping her understand DCF analysis. After a few months of knowing each other, the couple spontaneously decided to backpack through Asia during the summer of 2016, and the rest is history. They intend to marry in the Midwest in the summer of 2018.

CARNEGIE TECH NEWS SERVICE Thomas E. Morgan, Editor

FOR IMMEDIATE RELEASE:

ARCHITECT'S MODEL OF THE ONE-MILLION DOLLAR BUILDING FOR THE NATION'S
FIRST GRADUATE SCHOOL OF INDUSTRIAL ADMINISTRATION, WHICH IS BEING BUILT
ON THE CARNEGIE INSTITUTE OF TECHNOLOGY CAMPUS. THE SCHOOL, FOUNDED BY
A SIX-MILLION DOLLAR GIFT TO CARNEGIE FROM THE W.L. AND MAY T. MELLON
FOUNDATION, OPENED ON AN EXPERIMENTAL BASIS IN SEPTEMBER 1949. ACCORDING
TO PLANS, THE BUILDING WILL INCLUDE, BESIDES CLASSROOMS AND OFFICES, A
6,000 VOLUME LIBRARY, A LECTURE HALL, ACCOMODATING 150 STUDENTS, LABORATORIES, AND A STUDENT LOUNGE FOR INFORMAL DISCUSSION GROUPS AND RELAXATION.
THE BUILDING WILL BE READY FOR OCCUPANCY IN FEBRUARY 1952.

AS THE TEPPER SCHOOL OF
BUSINESS MOVES ACROSS
CAMPUS TO THE NEW TEPPER
QUAD, TAKE A LOOK BACK AT
THE IMPRESSIVE GROWTH THE
SCHOOL HAS SEEN.

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1949

The School of Industrial
Administration was founded with a
\$6 million gift from William
Larimer Mellon, founder of Gulf
Oil. \$1 million of the gift was
designated for the construction of
a new building.

1952

The School of Industrial Administration building was completed. The 42,613-square-foot building included seven classrooms; four seminar rooms; laboratories for statistics, time and motion, and accounting; a 150-seat lecture hall; a library; a student lounge; and 19 offices for faculty in industrial administration, economics, psychology, law and political science.

-1977

The Graduate School of Industrial Administration building was expanded to include space for the school's new undergraduate programs. The addition included a garden (where the courtyard currently sits) and two large classrooms — the Cooper and Simon auditoriums.

Posner Hall, named for Carnegie Mellon University Lifetime Trustee Henry Posner Jr., was completed with \$13.5 million in gifts from Posner's family, from descendants of William Larimer Mellon and from the Vira I. Heinz Foundation. The 39,000-square-foot addition vastly expanded classroom

space and faculty offices.

Following a \$2 million gift from Robert Bosch GmbH, a third floor was added on Posner Hall, accommodating expanded Executive Education offerings and the Carnegie Bosch Institute.

2000

The most recent expansion to the GSIA building was a three-story, 4,675-square-foot addition on the west side of the building. It added a new entrance at Frew Street, a student lounge, office space currently occupied by the Donald H. Jones Center for Entrepreneurial Studies, and the Faculty Conference Center.

Photos courtesy of the Carnegie Mellon University Archiv

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Delivery of G-20 computer to

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