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LETTER to the EDITOR

I had the distinct privilege and honor to work with professors Lester and Judy Lave in the early 1970s on what I believe to be the first foray of CMU into health care operational research. I was a graduate student at Tepper (then GSIA) and we were working with the CEO at Presbyterian University Hospital which is now part of UPMC. As a result of that work with Lester and Judy I was hired by Presbyterian and spent the last 40 odd years in the health care business. It is with that background that I was fascinated, but not surprised, at the "Road to Wellville" article in the recent Tepper Magazine.

While it is true that the health care industry is now swimming in big data and for the first time a great deal of clinical analysis is now available to clinicians, I'm afraid I have to disagree with the notion that the data will lead to large structural changes in the industry. Yes, there will be some improvements and yes, some clinicians will change their practice, mostly in academic medical centers in the near future. But the problems endemic to the health care industry are structural and tied to the bureaucracies in Washington and in the 50 states. They are the "elephant in the room" with a virtual stranglehold on the industry.

Analyzing clinical data to "solve" the health care problem in the U.S. is similar to the astronomers of the Middle Ages working to develop a mathematics to describe the motion

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of the planets around the Earth. They didn't succeed because, clearly, the planets don't revolve around the Earth. Analyzing data assumes that the insights gained will change the policies of the bureaucracies mentioned above. That assumption has been proven false over the decades; data doesn't change their behavior.

Until the formidable brain power of organizations like CMU is organized to measure the impact, positive but mostly negative, by these organizations on the industry, little progress will be made. Let me provide one example that should be studied and reported:

Since the inception of Medicare and Medicaid, their payment policies have resulted in shifting the burden of the financial viability of the industry onto private insurance companies. This in turn has led to unaffordable premiums first by individuals, then by small companies and, in the not-toodistant future, by large employers. Organizations like Tepper and CMU can make a major impact through policy research such as I've suggested here. There are many other areas too numerous to mention in this letter. Here is where the immense talents and skills of the CMU students and faculty should be working; here is where large differences can be made. I challenge you to take up the gauntlet!

LEE LAMPIRIS (E 1966, MSIA 1972)

COVER FEATURE **6** SUSTAINING THE NEXT CENTURY: PROSPERITY

FOR PEOPLE, PROFITS, AND PLANET

Business leaders have long argued environmental responsibility makes little financial sense. Business education challenges that idea.

HAVE A COMMENT ON TEPPER MAGAZINE? Send us your feedback at teppermagazine@andrew.cmu.edu.



Dean's Letter

August, I announced my decision to step down as dean of the Tepper School at the end of this academic year and return to the faculty full time. Serving as dean has been one of the most rewarding and meaningful experiences of my life, and I am grateful for all the support you have given me and the school during my tenure. I am also proud of all that we have accomplished as a school and the impact that our students, faculty, and alumni are having in their careers. This is truly a special place, with very special people.

The Tepper School continues to be a leader and innovator in business education, with our undergraduate and graduate programs ranked among the best in the country. At the undergraduate level, we have nearly doubled the size of our business program, developed a university-wide minor in Entrepreneurship, and launched a new major in Economics and Politics. At the graduate level, we have introduced two new master's degree programs - one in Business Analytics and the other in Product Management (in partnership with the School of Computer Science) — and developed a new Ph.D. program in Behavioral Economics (in partnership with the Dietrich College of Humanities and Social Sciences). In executive education, our portfolio of programs has expanded in the areas of Strategic Leadership, Technology, Innovation, and Advanced Analytics. At the same time, we continue to work on developing our Lifelong Learning Initiative to provide valuable learning opportunities for our alumni throughout their careers.

In the research domain, our faculty continue to provide intellectual leadership and develop new knowledge that is having significant impact on business and society. The Tepper School has launched four new research initiatives to highlight the work our faculty are doing in the areas of Blockchain, Health Care, Sustainability, and Inclusive Growth and Prosperity. (I invite you to read about some of our recent

research initiatives in the following pages, including our cover story on sustainability practices.) This past September, the Tepper School hosted the second annual Intersect@CMU conference, which brought together CMU faculty and alumni, along with industry and government leaders, to discuss and debate the promise of health care innovation. We should all take great pride in the fact that Tepper School faculty continue to receive recognition, awards, and honors for their important research contributions and lifetime achievements.

As I enter my final year as dean, I remain committed to advancing the global impact and reputation of the Tepper School. We will continue our efforts to innovate and grow our world-class educational programs, expand our interdisciplinary research initiatives, and launch a major university-wide capital campaign in support of our people and programs. Your support of these important initiatives will help solidify the Tepper School's reputation as a leader in business education and research.

Thank you for all that you do in support of the Tepper School. I look forward to making this year a memorable one.

With appreciation.

Robert M. Dammon

Robert M. Dammon Dean

TEPPER DIGEST

BEST COLLEGES U.S. News & World Report

BUSINESS PROGRAM RANKINGS



Undergraduate Business Administration Program

SPECIALTY RANKINGS



Information Systems



Quantitative Analysis



Production and **Operations Management**





Supply Chain Management and Logistics

NEWS FROM THE TEPPER SCHOOL OF BUSINESS

Tepper Faculty Distinguished for Teaching Excellence



Richard M. Cvert Excellence in Teaching Award

Selman Erol, Assistant Professor of Economics



Gerald L. Thompson Excellence in Teaching Award

V. Emily Stark, Assistant Teaching Professor of Business Communication



George Leland Bach Excellence in Teaching Award

Brandy Aven, **Assistant Professor** of Organizational Behavior



Linda Argote, David M. Kirr and Barbara A. Kirr Professor of Organizational Behavior and Theory, received honorary doctorate from Aarhus University.

Christopher Sleet, Professor of Economics, awarded H.J. Heinz Professorship.



Zachary Lipton, Assistant Professor of Business Technologies and Machine Learning, earned Amazon and Facebook research awards.

The foundation's goals in investing in educating and mentoring entrepreneurs and innovators align with those of Carnegie Mellon. **)**

Gabe Fenton, the Robert and Kathleen Dobkin Intuitive Foundation President, speaking on behalf of the organization making a \$1.5 million gift this past summer to support startup development at the Swartz Center for Entrepreneurship.



Rhonda D. Fischer Steps Into New Chief **Operating Officer Role**

The newly created position of Chief Operating Officer at the Tepper School has been filled by Rhonda D. Fischer. In this position, Fischer will oversee the overall operations of the business school, including administrative functions in finance, facilities, IT services, and human resources.

TEPPER DIGEST

NEWS FROM THE TEPPER SCHOOL OF BUSINESS



Chris Telmer. Associate Professor of Economics, named Head of Economics.





PENNSYL





See the Commencement Weekend graduating student honors in the digital magazine.







Violet Zinying Chen

Egon Balas

Award



Elizabeth L. Campbell

Award

Gerald R. Salancik Doctoral Dissertation Fellowship Award

John Gasper, Associate

Teaching Professor of

Economics, named Assistant

Dean of Strategic Initiatives.

Paul S. Goodman

PNC Presidential Doctoral Dissertation Fellowship Award

Erina Ytsma, Assistant

Professor of Accounting,

received Sloan

Foundation grant.

Siyu (Eric) Lu

Vitaly Meursault Eungsik Kim Fellowship Award Alexander Henderson Award

Benjamin Moseley,

Assistant Professor of

Operations Research,

Carnegie Bosch Junior

Faculty Chair, chosen

for Google Faculty

Research Award.

PNC Presidential

Yijin Kim

Dipankar and Sharmila Chakravarty Doctoral Fellowship Award



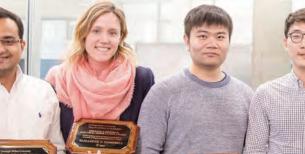
lockchain technology, the latest Next Big Thing in the world of finance, is something like a sci-fi series with a cliffhanger ending: We don't know what happens next, but it's destined to be exciting.

The good news for those of us in academia - especially on a campus like Carnegie Mellon, which boasts top-notch schools in business, computer science, engineering, and public policy — is that we get to help write that ending. In fact, that's one of the design principles behind the Tepper Quad: to create a magnet for the kind of crosscampus collaboration that we experienced in our inaugural course, Developing Blockchain Use Cases, designed to develop practical implementations for blockchain as envisioned by interdisciplinary student teams.

Co-taught by Ariel Zetlin-Jones, Associate Professor of Economics; Vipul Goyal, Associate Professor at the School of Computer Science; and Michael McCarthy, Associate Teaching Professor of Information Systems at Heinz College, the half-semester course attracted students from throughout the campus. As usual, they didn't disappoint. The winning project creates a novel method for monetizing blockchain while incentivizing student performance by linking lower student loan rates to high grades in certain courses.

Tepper Sch 4







This spring, seven doctoral students at the Tepper School were recognized for research awards during a special Tepper Tea Ceremony at the end of the academic year.

TRENDING TOPICS

BLOCKCHAIN IN THE REAL WORLD

The premise behind the project is simple: Existing research shows that students who excel in these courses are statistically more likely to pay back student loans. Lenders are well aware of this fact; what they lack is the data that would allow them to reward highperforming students.

Though platform-based businesses such as Google and Amazon have been monetizing customer data for years, privacy concerns particularly about information as sensitive as a student's grades — have heightened public awareness, and access to such data has been limited. The beauty of the capstone project is that it places students in charge of controlling their own access, and instead of the third-party company solely benefiting from the information, the user (in this case, the student) can profit, too.

With student loan rates skyrocketing, giving people a way to reduce costs while incentivizing them to achieve and driving a better real-world test of blockchain technology creates multiple wins in this emerging field. It also satisfies the demands of the technology by making the information both secure and verifiable.

I've long suspected that blockchain will serve as a game-changer for intermediary financial institutions, much the way the internet has revolutionized retail. While we won't see the exit of intermediaries such as banks, we may see parts of the process replaced or made more efficient.

Already, many companies are using their own blockchain models to understand what can be done in this space.

What we don't yet know, but are determining through projects like this course, is what blockchain does best and what its limitations are. For example, we do know that current technology is too slow to process financial transactions that our society expects to happen instantly. Customers are unlikely to use cryptocurrency to buy a cup of coffee when it could take 15 minutes to process the sale. Similarly, one of our experiments used blockchain to process live option trades. We managed a whopping total of two trades in two hours, so we probably won't see a blockchain option revolution anytime soon.

But courses such as this encourage scientific inquiry that quickly leads to real-world, problem-driven applications. Teaching concepts like Bitcoin or blockchain involves deep exploration of two highly complex disciplines: economics and technology. The only way to truly understand them is to pull them apart and see how they work under the stresses of the real world. That is our sweet spot: when our students and faculty work together on a project that pushes the boundaries of knowledge beyond what is expected. —



BY PARAM VIR SINGH Carnegie Bosch Professor of Business Technologies and Marketing

SUSTAINT REVERSE

COVER FEATURE



PROSPERITY FOR PEOPLE. PROFITS. AND PLANET

Current Tepper School MBA student **GIOVANNA CHABOT** always envisioned a career in science or engineering. Growing up, her father, who worked in the labs helping ensure New York City's water supply remained clean, and her mathematical grandmother inspired her. Then, in spring 2013, she and 19 other engineers traveled to Chulalongkorn University in Thailand and partnered with a nonprofit to help off-the-grid farmers develop electricity projects. Chabot's job was teaching locals - sometimes elderly women - how to use solar panels and other technologies. The work felt life-changing, she says. "I hadn't realized renewables were a viable electricity option nor realized this was an active industry."

Now, studying within the Tepper School Energy Business Track, Chabot feels even more focused — more convinced the energy sector is her home and her path. She interned this summer with Pittsburghbased Oriden Power, a clean power startup existing as a wholly owned subsidiary of Mitsubishi Hitachi Power Systems — a global leader in the power sector. "We're small and nimble as a startup. But our goal is huge: to provide a path forward into the next generation of energy technology," Chabot says.

BUSINESS LEADERS HAVE LONG ARGUED ENVIRONMENTAL RESPONSIBILITY MAKES LITTLE FINANCIAL SENSE, BUT BIG MOVES IN BUSINESS AND BUSINESS EDUCATION, PARTICULARLY AT THE TEPPER SCHOOL, CONTINUE TO CHALLENGE THAT IDEA. Chabot's passion and drive for the renewable energy sector becomes part of a growing trend in America at a time when the desire to combat climate change has never felt stronger. National Oceanic and Atmospheric Administration data show July 2019's global temperatures averaged 62 F — 1.7 degrees over the 20th century average.

THE TRUE STORY OF ENVIRONMENTAL IMPACT

Chabot feels pained when skeptics deny the science showing global warming and its threats. Nor does she see media highlighting enough of the scientific facts. "In the Maldives, building a sea wall to protect the coast cost \$2.2 billion. Even after 10 years of maintenance costs, it remains four times cheaper to preserve the natural reef," she notes. "Poignant facts like this become vital when wanting to improve operations and lower costs."

NICHOLAS MULLER, Associate Professor of Economics, Engineering, and Public Policy; Lester and Judith Lave Development Chair in Economics, Engineering, and Public Policy, worries too few of us stay attuned to troubling patterns, such as rising levels of fine particulate matter, an air pollutant also known as PM2.5, which had been steadily decreasing in the U.S. for 10 years. In one well-publicized study, Muller found

"IT'S UNLIKELY THE COSTS FOR LOW-POLLUTION COAL WILL COMPETE WITH THE COSTS OF NUCLEAR, SOLAR, AND WIND."

JAY APT PROFESSOR AND CO-DIRECTOR OF CARNEGIE MELLON ELECTRICITY INDUSTRY CENTER

that although poor air quality constitutes the largest environmental health risk in the U.S., black and Hispanic Americans bear a larger burden from air pollution. Also, the air pollution (causing more than 100,000 deaths annually from heart attacks, strokes, and lung cancer) comes predominantly from white Americans.

Muller and co-authors have also examined the unequal impact of the increased use of electric vehicles. In a 2016 study, Muller and colleagues found an EV can cause up to \$5,000 more damage than a gas vehicle would when driven in the Midwest. That's because coal-fired power plants proliferate there. In California, where the grid is cleaner, EVs can yield the same figure in environmental benefits.

In another study, Muller and co-authors found urban counties — where most EVs are registered — saw considerably lower air pollution damage from electric vehicles. Rural counties experienced significantly more. "Our power plants tend to exist in rural locations. So when you charge that car, emissions disproportionately impact lowerincome folks," Muller says.

LISA HALEY (MSIA 1985), Director of Supply Chain and Logistics at Nacero, anticipates a transition period before we see widespread EV use. "Let's clean up our processes for making gasoline while we're reducing our dependence on fossil fuels." Nacero is the first company in the U.S. planning to make gasoline from natural gas. The process becomes cleaner, and the pump-ready end product doesn't contain sulfur, she explains. "As a society and planet, we are going to continue to need gasoline for some time, so why not make it cleaner and from a cleaner process?" she asks.

THE VIABILITY OF CLEAN FOSSIL FUELS

Haley grew up in the small Pennsylvania town of Springdale, famously home to environmentalist and writer Rachel Carson. Two coal-fired power plants sat within its borders. "As a child, my job was to wipe the fly ash off the windowsills, which accumulated even when the windows were closed," she recalls.

Decades later, Haley worked on building an off-shore wind farm in the North Sea. "The monopoles alone required over 100,000

"IF THOSE BUYING YOUR PRODUCTS DEMAND SUSTAINABILITY, YOU MUST PROVIDE THAT. THAT DEMAND WILL GET MORE AMPLIFIED AS MY GENERATION GETS OLDER.

GIOVANNA CHABOT. MBA STUDENT

tons of steel which likely used electricity from coal-fired plants," she says. That wind farm now generates enough carbon-free electricity for a half-million households. Haley's learning becomes: We must use what we have (steel from coal, abundant domestic natural gas) to get to the next platform (power from wind, cleaner gasoline), and then use that to go even further.

Muller finds coal "fading in relevance" as an energy source, at least in the developed world, due to fighting market forces such as cheap natural gas and cheaper renewables disadvantaging it. Also, firms relying on coal face policy constraints related to extraction and the environment, and both present obstacles to its future competitiveness in the energy landscape.

"The use of coal generates costs not fully captured in market prices up and down the supply chain, from mining safety to the water quality impacts from mining, all the way up to combustion and greenhouse gases," Muller notes. "It paints a difficult picture to imagine it presents a viable option to us in the future."

JAY APT, Professor and Co-Director of the Carnegie Mellon Electricity Industry Center, says though technically feasible, economically, clean coal doesn't currently make sense. We can feasibly capture carbon dioxide and conventional pollutants when in a coal plant. But without a price on carbon dioxide, those plants become economically unviable. "It's unlikely the costs for lowpollution coal will compete with the costs of nuclear, solar, and wind."

Muller notes that with the current nuclear generation fleet aging, if we replace that capacity with natural gas, we'll see big increases in emissions. If we replace that fleet with renewables, we must invest in battery tech. Storage remains expensive. Muller worries if we hang our hat on those energy sources to displace traditional fossil fuels, we must work toward reliability and think more on material needs for batteries. "I'm not sure about global supply to develop those technologies at a scale needed to displace fossil fuels," he says.

THE WORRY ABOUT MOVING AWAY FROM FOSSIL FUELS

Worries exist around the reliability and intermittency of renewables, whether it's wind, solar, or hydro. NICOLA SECOMANDI, Professor of Operations Management, Head of the Ph.D. Program, points to recent research that suggests that (in some regions) climate changes may negatively impact hydro power production and may limit opportunities to integrate it with wind energy. The paper foresees that changing weather will make hydro power operations more erratic.

"You need a baseload of generation you can rely on 24/7, yet renewables are intermittent. The grid doesn't like that big drop in production when a cloud bank moves over or the wind dies," says JON HOUGLAND (MSIA 1997), Chief Financial Officer for Lower Valley Energy in Wyoming, northwest Wyoming's utility supplier. His utility doesn't deal in fossil fuels; it provides customers with hydro and nuclear energy.

Technology companies providing battery storage to store solar or wind energy have become increasingly important. Battery storage helps cut carbon emissions and slow climate change by providing vessels large enough to store enough solar or wind energy to power a city. But adding batteries to wind energy farms means that managing these systems becomes more complex. And it may negatively impact the environment in some cases, according to research coauthored by Secomandi. "These issues also become relevant for solar energy generation facilities," Secomandi said.



The Petroleum Equipment and Services Association reports that only 15% of the current gas and oil workforce is female, and even fewer women hold technical roles. Tepper School MBA student Giovanna Chabot knows why those numbers remain sparse, starting with the energy sector's focus on STEM and finance — two fields that men dominate. She admits that for many women, working as "the only" woman on a team might not appeal.

And yet, the energy sector provides work others describe as challenging, exciting, and often well paid. To help budge those numbers, Chabot suggests the following:

> "Support women — and girls — to not shy away from math, science, and curiosity," urges Chabot. "My school kids in math right until her final years. I had a pretty solid example of a strong STEM-focused female in my life. Ensure other girls and women know of role models around them."

Resist letting the "only woman" status turn you off. For six years, Chabot worked comfortably in maledominated roles. "Being the only woman doesn't prevent me pursuing something I want to do. Also, you become an ally and mentor for the next woman. Take

Seek out support and know what career options exist. Chabot describes the Women of Renewable Industries and Sustainable Energy conference she included Midwestern solar projects and how to ask for promotions. "I felt hugely encouraged and supported."

Chabot's father's current work helping design the capital plan for the sea walls around Manhattan reinforces for her that it's often cheaper to save nature. "That fact feels particularly close to my heart because of him."

Students in the Energy Business MBA Track completed a recent capstone project with Fluence, an energy storage and services technology company headquartered in Arlington, Virginia. With Apt and CHRIS TELMER. Associate Professor of Financial Economics, Head of Economics, as advisers, the students explored the economic viability of solar-plus-storage power plant as viable alternatives to natural gas peaking plants.

After analyzing data from hundreds of natural gas plants nationwide, the students determined whether solar-plus-storage facilities could provide the same grid services as so-called "shoulder plants," existing gas plants that live somewhere between baseload and peaking power generation. "Nobody had asked this question before," Telmer says. When the students and Fluence published their white paper showing that solar and storage may have already become cost-competitive with mid-merit gas plants on wholesale electricity markets, leading publications (including Energy Storage News and PV Magazine) highlighted the significant work. Telmer notes MBA student research getting published in leading industry magazines is "really striking" and has "huge implications" for them as job seekers.

But not all consumers embrace renewable energy — at least not in close proximity. Chabot recalls working for a renewable energy company where affluent neighborhood residents resisted the look of solar panels the company provided. She has also encountered consumers wanting TVs on 24/7, yet objecting to generation facilities nearby. "We really need to get over this 'not in my backyard' attitude," Chabot says.

THE BUSINESS CASE FOR MORE **RENEWABLE ENERGY**

Consumer appetites and trends are growing and changing. From Whole Foods customers seeking organic products to fashion consumers rejecting manufacturers that source rayon from endangered rain forests, consumers now demand more from the businesses they gravitate to, notes Chabot. "If those buying your products demand sustainability, you must provide that. That demand will get more amplified as my generation gets older."

Hougland finds consumers driving the demand for renewables, and in his experience, consumers typically absorb any additional cost. While sunny Hawaii remains conducive for rooftop solar, local

"YOU NEED A BASELOAD OF GENERATION YOU CAN RELY ON 24/7, YETRENEWABLES ARE INTERMITTENT. THE GRID DOESN'T LIKE THAT BIG DROP IN **PRODUCTION WHEN** A CLOUD BANK MOVES OVER OR 11 77 THE WIND DIES.

JON HOUGLAND (MSIA 1997)

utilities wouldn't provide cost-effective panels nor ease restrictive rules. Therefore, the utilities lost business when consumers installed their own solar panels. In 2016, Hawaii had the nation's highest residential electricity prices — more than twice the national average, according to the U.S. Energy Information Administration — but its electricity sales per customer became the nation's lowest. "At the end of the day, you serve a market and market demand; if you don't meet that, your consumers will switch product," Hougland says.

And while 15 years ago, renewables remained cost-prohibitive — as high as 10 times more expensive — costs now have dropped. Hougland sees pricing parity in some states; in others it's close or equivalent. He says improved technology lowers those costs. When it comes to wind power, the power generation industry economies of scale really do work. "Today, wind turbines are considerably larger versus eight years ago. We've moved from the kilowatt size up to the megawatt size. The larger the turbine, the more economical it

is. That's technology," he says. He adds the chemistry and manufacturing behind the solar panels has also improved from 200- to 400-watt panels today.

Businesses play a huge role in improving our environment, and that starts with businesses adopting a more expansive view of value — including things happening outside the traditional view of financial flows, Muller says. When examining profits, he suggests including the costs that their activities impart on others. "That idea may sound crazy to businesses. But I've seen that the significant reductions of pollution emissions coming from manufacturing, transportation, and other sectors are not adequately reflected in how we view the value of businesses and products," he says.

He adds he's long argued we need to redefine value to include financial flows within the market boundary and then market services valuable to other firms and the market. "The goal becomes: When we think of producing and consuming goods and services, we're thinking of the full range of benefits and costs associated with those activities."

Researchers at the Tepper School are helping push these conversations forward. The new Sustainability Research Initiative, led by Muller, offers scholarship and coursework around environmental issues. As Apt said in an Andy Talk titled "Renewables: Are They the Answer?" Carnegie Mellon remains a vital player in helping to mitigate the risks of climate change. "We can see around corners, and that's necessary when we see these wholesale changes in the energy sector," Apt says. —

"YOU CAN'T DO GREAT WORK WITHOUT A FULL LIFE — AND THAT INCLUDES FAMILY AND TRUE, PERSONAL FRIENDSHIPS."

ANN MARIE PETACH (MSIA 1984)

CARNEGIE ITES SHOWS LASTING CONNECTIONS THAT HAVE BEEN FORGED OR STRENGTHENED BY SHARED EXPERIENCES AT CARNEGIE MELLON. "NEITHER OF US THOUGHT WE'D BE HERE — AND BE ENJOYING SUCH A COMFORTABLE LIFE."

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MAGAZINE

PATRICIA LITTLE (MSIA 198-

Carnegie Ties

— and friends?

ow can graduate school include meeting people, working hard, and a life beyond study? As incoming students, that holistic goal felt vital to Ann Marie Petach (MSIA 1984) and Patricia Little (MSIA 1984). This question occupied their walk through autumnal Pittsburgh streets back to their Shadyside apartments, post-orientation. As those walks became routine, and their friendship grew, the question extended: How do we secure a thriving career, a supportive, amazing family

And yet both leaders achieved this deceptively tricky goal. When asked (in a joint interview) what makes them feel proudest today, both echoed the same response.

"I got to have it all," says Petach, now Senior Advisor to Google. "I feel very fortunate that this myth that you and I both feared at the beginning (that women had to give up something) did not come true for me — for either of us," she says.

The corporate America into which they graduated wasn't easy. And yet, both women rose to senior financial roles; Petach's include Chief Financial Officer for BlackRock and Treasurer at Ford Motor Company. (Her financing helped keep the company from bankruptcy — which also makes her proud.)

Little recently retired as The Hershey Company's Chief Financial Officer following a six-year career at Kelly Services, the staff and recruiting company, as CFO and Executive Vice President. Little also had a 24-year career at Ford, as did Petach. Both women serve as Directors and Audit Committee Chairs at public companies. In the '80s, they encountered few women leaders (or managers) and felt compelled to look and sound — and even dress — like men. (Petach devoted an entire dresser drawer to different colored bow ties.) And when attending 500-people events as managers, only a handful of women existed. "We joked of no line at the ladies' room. But there were biases; you had to be aware of them," Little says.

A FRIENDSHIP AND RECIPE TO SUCCEED

Success came from their upbringings, their friendship, their Carnegie Mellon training, their hard work — and their mindset: how they viewed and defined themselves as women.

Neither can recall any "feminist" ideals growing up, but both learned of gender equality from their families. Little's mother held a principal role at a leading insurance company. Her father often supported the family from home; her parents viewed themselves as equal partners. The Petachs encouraged women (especially) to become independent and educated, and to work. "It took me many decades to appreciate that ideal wasn't the norm," she says.

The camaraderie they provided one another began at the Graduate School of Industrial Administration (now the Tepper School), where teamwork, one computer lab, and a smaller class brought everyone close. Their parents welcomed them each as an "extra daughter," and once work began, they remained close, confiding personal worries and feelings, but also brainstorming on business strategy. Email prevailed over costly phone calls — sometimes three correspondences daily. (Later, Little gifted to Petach printouts of all the email messages they had exchanged.)

That contact helped them navigate struggles and situations they mightn't have handled so well solo. They also pondered life's



bigger questions. Several emails, which Petach read for the interview, illustrate. When Petach worked as assistant treasurer at AutoLatina in Brazil in 1993, she asked Little (philosophically) if the rules of life and relationships differ for men and women. "I tried for years to believe the same rules should apply to both. But I'm accepting or conceding that isn't true. Not just because of society, but because of emotional differences between the sexes."

Little responded she wasn't sure whether fundamental differences exist versus cultural and hormonal ones. If it's cultural, men and women are just accepting their different gender roles. "Yet, you and I weren't raised this way."

ENCOURAGING STRATEGY IN BUSINESS

Even before entering leadership roles, the friends knew they might go places and must do things they loved to succeed — but how? Their emails reveal careful plans to resist comfort — to build themselves out with rotations and more training, and to notice and navigate unequal pay. "We led each other through those moments and through difficult work decisions," Petach recalls.

Selecting the best possible bosses became vital, too. When Little had multiple, wonderful options before her, she defined to Petach her best future boss as a "nonworkaholic whose values align to help her succeed." This selectiveness meant both women can now recall fabulous bosses who advocated for women, like Malcolm MacDonald, the Treasurer of Ford. Operating in organizations large enough to "avoid the negative" became an additional, consistent theme.

Succeeding meant hard work, often into the night and the weekends — on site, before working from home became the norm. The women also advocated for one another and established other advocates who gave them opportunities. (The emails provided tangible examples. Little's CFO role with Kelly Services came when Petach referred a recruiter her way. Little referred Petach for a Treasury role with Ford.) Additionally, both Petach and Little maintained (and enjoyed discussing) a shared mindset — that men and

women essentially are equal. They remained focused and determined but not overly hopeful. "Because we were often hard on ourselves, we believed anything short of zero defects is failure," Little recalls. So when they both did indeed succeed, that shared success (and victory) uplifted them both. "Neither of us thought we'd be here — and be enjoying such a comfortable life," Little says.

NOMEN OF SUBSTANCE

Success also required unique, ahead-of-itstime training. Little appreciates the datadriven, quantitative focus she gathered at Carnegie Mellon and looking at the data versus going only on anecdote. The games, projects, and inevitable teamwork gave her "a leg up" when she started working, she said.

Petach finds the core takeaways still working for her, even now when advising Google. "If you go in as a team member respecting one another (and Carnegie was a place of little hierarchy) and if you are data-based versus opinionated, people are very influenced and welcoming. You get into such great conversations."

A LEGACY OF EQUALITY AND LEADERSHIP

With Little now retired from Hershey and Petach consulting, neither sees true gender equality in America, yet. And both feel less patient than before for change. The statistics aren't where they should be. Teams don't look diverse enough and naivety still exists on the impact diversity brings, they agree.

Also, numbers must change at the senior level. Little's former employer has a woman CEO, but she finds that unusual. "We're in a small circle and know a lot of success stories, but there aren't enough success stories relevant to the talent and skills out there."

What feels vital to success? Both women value maintaining friendships, advocating for one another, and staying strategic as key. That balance Little and Petach strove for on their return to Shadyside still feels authentic, too. "You can't do great work without a full life — and that includes family and true, personal friendships," Petach says. "Our success and emotional resilience depended on that." —

Recent data shows a total 33 women CEOs lead Fortune 500 companies versus 24 from last year. And yet, that number still represents only 6.6% of CEOs.

In their 35 years in business, Patricia Little and Ann Marie Petach have tried — and tested — strategies that helped them secure their place as business leaders. These women developed (and refined) these tips together, throughout their 37-year friendship.

Resist viewing yourself as a victim when a minority — even when inequality exists. "This mentality won't help you or convey confidence to others," says Little, "You still have to live in the world and achieve. Instead, ask yourself: What are you going to do about it?"

Speak up about inequality. When needed, Little and Petach challenged pay inequity. "It might feel awful. But, it's brave. And once you do it once, you can do it again," Petach says

Challenge teams to show diversity. When Petach sits in meetings where others bid services, she'll call teams out where no women exist. "What confidence can I have that you have the best ideas with no diversity on the team?" she'll ask. Little suggests clarifying to your teams what diversity you expect to see.

Avoid feeling negative: Provide light and hope for one another. "One of the biggest contributions of our friendship is the voice that says: Hey, that's not the truth," Little says of her friendship with Petach. "The truth is you're fabulous and you're being negative. We'd say that to each other all the time.

Note that gender becomes an immediate paradigm or filter we all apply. "Until you hear and see it in your own inner voice, it's very hard to combat," Little says. Yet, once we accept we're all wired a certain way, we can then focus on what we can do about that.

Your plans today benefit the next generation of Tepper Schoo business leaders tomorrow. By listing the Tepper School as the beneficiary of your estate plan or current donor-advised fund, you ensure the future of business education at the intersection of business, technology, and analytics.

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The Ph.D. program is an important component of the Tepper School. I give every year to help ensure that wellqualified Ph.D. students can study at Tepper, regardless of ability to pay, just like it helped **me.** I've chosen to continue my contributions with a bequest so that a remaining portion goes to Tepper as well.

Gezinus Hidding (Ph.D. 1992) Associate Professor of Information Systems Loyola University Chicago Quinlan School of Business

ENTERPRISING LEADERS



J XU (MBA 2018) FOUNDER AND CEO, TALKMEUP PITTSBURGH, PENNSYLVANIA

s a Tepper MBA student, JJ Xu (MBA 2018) took every entrepreneurial course she could find, hoping to fulfill a lifelong dream of being an entrepreneur. She excelled as a James R. Swartz Entrepreneurial Fellow, collecting academic and professional accolades and earning second place at the 2018 McGinnis Venture Competition.

Xu is building her competition-winning company, TalkMeUp — an AI-based web app designed to help build communication skills — from a maker space in the Swartz Center for Entrepreneurship at the Tepper Quad. -

What is your elevator pitch?

A TalkMeUp is an AI based software-as-a-service platform that provides individuals and enterprises with on-demand, personalized and cost-efficient communications training experiences.

Why CMU?

 ${\rm A}$ CMU is a relatively smaller and more collaborative campus with a smaller MBA program, which means you get more focus from the advisers and professors, and you have the chance to work with other brilliant students from other schools.

ENTREPRENEURIAL MINDSET

MIMIC THE CLASSICAL

SCIENTIFIC PROCESS?

HOW DOES THE



JOHN LEVINSON (MSIA 1980) FOUNDER AND CEO, WESTWAY CAPITAL LLC WESTPORT, CONNECTICUT

hroughout his career, John Levinson (MSIA 1980) has been identifying and investing in applied technology companies. He was a technology analyst at Goldman Sachs for 13 years and founded TechVantage Partners, a tech fund at Westway Capital.

Since 2002, Levinson has been a seed-stage venture capital investor and adviser to young companies. He has invested in more than 50 early-stage technology services and health care companies. He says he doesn't invest in products; he invests in ideas. —

Q What is your elevator pitch?

 ${\rm A}$ I invest in startup health care companies that use information technology to improve care. Most are applying IT and data analytics to facilitate better health outcomes — via modernizing the diagnosis of disease or streamlining the delivery of care — at much better prices.

O Why CMU?

 ${\rm A}$ Back in the late 1970s, CMU was one of the very few business schools — and the highest rated committed to using quantitative techniques in business and management science. CMU's business school was indeed a pioneer. I was thrilled to be accepted and come to Pittsburgh.



HOW HAVE RELATIONSHIPS CHANGED BETWEEN INVESTORS AND MANAGEMENT AT THE **COMPANIES THEY FINANCE?**



BRUCE GEBHARDT (MSIA 1984) PARTNER, PATHFINDER CAPITAL ADVISORS LLC NEW YORK CITY

t a Tepper School alumni event in New York City, Dean Robert Dammon told Wall Street banker Bruce Gebhardt (MSIA 1984) that he should return to Pittsburgh and get involved in local startups. Gebhardt found an opportunity in 2016 when he met with Fifth Season CEO and co-founder Austin Webb (MBA 2017) at a Swartz Center for Entrepreneurship event and told Webb he was fascinated with their indoor vertical farming concept. From there, Gebhardt has continued seed funding organizations he believes in. -

What is your elevator pitch?

 ${\rm A}$ I want to deal with organizations that provide a societal good. So I like to pick people who I think are going to be giving back in addition to just making money, because if you're not, then you're not part of the bigger social network to make sure that things are being done right.

O Why CMU?

 ${\rm A}$ I don't know that the analytical methodology was totally appreciated in my time, but certainly it has come into its own now. And there are more people doing quantitative analysis, so Carnegie Mellon was and is a trendsetter. Without that, I don't know that I'd be here today or be able to do what I'm doing.





ALUMNI STARTUPS // BEGINNINGS AND BACKSTORIES





DAPHNE CARMELI (MSIA 1991)

CEO AND FOUNDER, DELIV PALO ALTO, CALIFORNIA

s CEO of Deliv, a same-day crowdsourced last mile delivery platform, Daphne Carmeli (MSIA 1991) considers herself a "unicorn" among the twenty something male tech entrepreneur founders of Silicon Valley. She estimates that she has raised more than \$350 million for companies in her career — including Deliv and Metreo, a pricing software company she started in the early 2000s, as well as several companies for which she serves on advisory boards and boards of directors. —

What is your elevator pitch?

 ${
m A}\,$ Deliv is a leading crowdsourced last mile logistics company that powers scheduled same-day, one-day, or two-day deliveries and returns, for about 5,000 or so businesses across the country. We power most of the national top channel retailers, leading e-commerce companies, local small and medium-sized businesses, and also traditional parcel carriers.

Q Why CMU?

 ${\rm A}$ The mini system is brutal. It says mini, but it's really the same content in half the time, and I think that just sets a cadence that matches work in Silicon Valley and work in startups. That's just standard. The cadence that I was working at since 1989 hasn't really changed.



HOW DID FOCUSING ON JUST THE SUPPLY SIDE OF THE **E-COMMERCE EQUATION LEAD** TO DELIV'S SUCCESS?

VP



Neal Rajdev had never heard of the "AgTech" sector before his former client David Perry reached out to him with a proposal in 2015. That's because the "AgTech sector" — shorthand to describe companies that harness technology for use in agriculture — was nascent and undergoing significant change with the applications of modern technology.

Fast-forward just five years, and AgTech is now a \$17 billion industry that counts Rajdev, Senior Vice President of Corporate Development for industry pioneer Indigo, among its greatest innovators. This year, CNBC named Indigo the world's most innovative company — a spot held previously by SpaceX, Airbnb, and Uber and Forbes named Indigo one of "The 25 Most Innovative AgTech Startups in 2018."

Rajdev (MBA 2009) shepherded the company's growth from zero clients and 15 employees working out of a former Polaroid laboratory in Boston to a multibillion-dollar valuation, with over 10,000 customers and more than a thousand employees across the globe. Like a well-watered crop, Indigo and Rajdev have no plans to stop until the company meets its goal: to harness nature to help farmers sustainably feed the planet. Just five years in, Indigo has raised over \$650 million in capital and aspires to transform the modern agricultural system.

A VISION OF A HEALTHY PLANET

Indigo's central tenet and aspirations can be expressed in just 10 words: "What if a healthier planet began with a healthier farm?" It's a question Indigo answers by using technology to revolutionize the agriculture industry. From Indigo Marketplace, a digital platform that connects growers and buyers, to Indigo Transport — think Uber for grain transportation to Indigo Research Partners, the world's largest agriculture lab, Indigo's businesses are far-reaching and complex. Indigo's goals are similarly ambitious: transform how food gets from growers' farms to your table, increase the profitability of global farmers all over the world, and combat climate change by capturing and storing a trillion tons of atmospheric carbon dioxide in agri<mark>cu</mark>ltural soils.

Like most big ideas, it began with a small one: Around 2015, Indigo's CEO, David Perry — a successful entrepreneur with three multibillion-dollar companies in his rearview mirror — and his researchers developed a way to use technology to coat seeds in natural microbes that could improve crop yields and protect against environmental stress. Indigo's microbial technology allows for food and fiber production that requires less water and less synthetic fertilizer. Using Indigo's microbes, farmers can simultaneously and sustainably improve crop health and productivity.

Perry put a call in to Rajdev, whom he had met several years prior. Though Rajdev didn't have any specific agriculture experience, he had helped dozens of clients in multiple sectors transition through growth phases including initial public offerings, merger and acquisition transactions, and other equity and debt financings. That resume included Rajdev's time at Citigroup, where the two met in 2010 when Rajdev helped Perry take his health care company public. "It was an extremely challenging public offering, but it ended up being successful. The company was later sold to Pfizer for over \$5 billion. We realized we should continue to work together," recalls Rajdev.

Once Perry explained Indigo's breakthrough, Rajdev immediately recognized the opportunity: "We wanted to be the leader and the pioneer. There was no way we could live with second place given the size of the opportunity."

17

QUARTERBACKING TOWARD GROWTH

Rajdev jumped on board and got to work — a six-month sprint of hundred-hour weeks that involved weekly red-eye flights from his San Francisco home to Indigo's Boston headquarters. Above all, Indigo needed basic infrastructure. "We needed to set some goals, find a new office space, and write a business plan." Rajdev says that while he was new to agriculture, his analytical background — honed at Tepper — was invaluable in its flexibility. "I had developed analytical and quantitative skills over time. I just had to figure out how to apply that background to general business problems."

Once Indigo's business plan was in place, it was time to finance and capitalize, drawing upon the general finance education Rajdev gained at Tepper and honed in his investment banking career.

Rajdev was charged with raising Indigo's first \$25 million, and while the enormousness of the business opportunity for investors was clear to him, one of Indigo's main early challenges was simply explaining what sector Indigo was working in. "Back then, there wasn't a thriving AgTech ecosystem," remembers Rajdev. "We spent a lot of time explaining what it is to be a tech company within agriculture, and educating banks, partners, and suppliers — every single constituent." Rajdev exceeded his target by raising over \$31 million in Indigo's B round. Today, Indigo boasts over \$650 million of total investment. "My finance education ended up being the most important thing in getting me to where I am today," says Rajdev.

Rajdev achieved each of these very complex goals by way of what he calls "quarterbacking." It's been the fundamental skill he's brought to the offices of each of his corporate stops — from working in business analytics in industrial automation to health care investment banking to agriculture. "Everything can be broken down into a step-by-step plan. Of course, nothing really goes according to plan, but you can't be successful without having a plan." Part of what makes the company so revolutionary is that its profits are tied to its farmers' profits. "We work directly with growers in a partnership capacity. We say, 'Let's work together. You tell us what's valuable. Let's build that future together." Like a crop treated with Indigo microbes, their strategy yields several positives: Because Indigo is developing its strategy and new technology directly in response to growers' needs, the company can constantly innovate. "We envision what the future will be, and then we build that," explains Rajdev.

INITIATIVES WITH IMPACT

"At Tepper, I learned to be methodical and analytical about planning things, and I apply that today." Rajdev is still a quarterback, but as the company has launched initiatives like Indigo Marketplace, his challenges leading corporate development have changed as well. "The good news is we don't have to invent new business models. We have existing businesses that are generating significant revenue, and we have a clear view of what these businesses can be and the profound impact they can make. Now it's about scaling them and executing really well at the same time." —





Tepper Executive Education Welcomes New Executive Director Nicholas Hamilton-Archer

Q Where would you like to take Executive Education at CMU in the future?

There is a strong sense of purpose that drive ideas with impact at CMU and at Tepper. By extending the dynamic research and applications on campus to our partners in industry, we can help them find answers to the challenges they face navigating an evolving business landscape. Our faculty have deep expertise in topics such as emerging technology, advanced modeling, and optimization. We design and deliver programming that lives at the intersection of business, engineering, computer science, humanities, and public policy — offering our partners a unique blend of research and business tools to drive change within their organizations.

Q What experience do you bring from previous roles?

I've worked within executive education for over 15 years, and I understand the dynamic needs of our partners. As business models evolve, I am eager to help our partners develop programming that meets their challenges and leverages the full strength of CMU. As those challenges become increasingly global, I hope to leverage my experience working in global settings for the past decade to deliver unique insights and connections for our partners. We welcome our alumni to join us as we partner with our colleagues in the city to build a hub for engaging and enriching content for western Pennsylvania and beyond.

Q How do you see alumni engaging with Executive Education?

Alumni are important members of our community and we invite alumni to participate in our Open Enrollment and certificate programs. As our alumni progress within their careers, Executive Education offers an opportunity for them to stay current with the latest research and applications that can help advance their professional development and/or the teams they lead. Additionally, we are building a core of alumni subject matter experts that can deliver industry focused workshops and sessions within our programs. Lastly, our team can help our alumni bring their Carnegie Mellon experience to their organizations and design custom tailored programming to train and develop their teams.

Q What is the value of being located in Pittsburgh?

Pittsburgh has maintained its position as a dynamic, innovative, and resilient city. That mindset flows through our campus, and the research developed at CMU reflects a deep desire to bring about meaningful change within our world. I am excited about the opportunities ahead and welcome our alumni to join us as we partner with our colleagues in the city to build a hub for engaging and enriching content for western Pennsylvania and beyond. There has never been a better time to discuss your Executive Development needs.

Contact Us

Exec-director@andrew.cmu.edu 412-268-2304



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COMPANIES MAY TAKE MORE RISKS WHEN CAPITAL CAN BE TRANSFERRED ABROAD

The U.S. corporate income tax rate is higher than those of many other countries where multinational companies conduct business, so firms are incentivized to maximize their profits abroad as compared to their U.S. income. This remains true even after the Tax Cuts and Jobs Act lowered the corporate tax rate, particularly given the availability of tax havens.

Foreign subsidiaries of U.S. companies typically operate as distinct legal entities from their parent firms. This means that any property or capital must legally be sold between the parties rather than given freely. Under IRS regulations, the sale must be conducted at market value, unless the entities shared in the costs of development.

As a result, companies often engage in cost-sharing agreements between U.S. parents and foreign subsidiaries, which allows transfer of capital to take place below market value.

In "Heads I Win, Tails You Lose: Asymmetric Taxes, Risk Taking, and Innovation," published in the Journal of Monetary Economics, Tepper School faculty members JAMES ALBERTUS, Assistant Professor of Finance, and **BRENT GLOVER**, Associate Professor of Finance — along with University of Wisconsin-Madison professor Oliver Levine — investigate how these transfers affect decisionmaking with regard to risk at multinational companies.

The researchers find that firms are more willing to take on larger, riskier projects in the U.S. when the difference between tax rates in the U.S. and the country of the foreign subsidiary is larger, so long as the income from such projects can be transferred abroad below market price.

The models predict that when the domestic tax rate rises, companies will invest more in projects than even in an alternative case of zero taxes. In terms of policy decisions, the researchers suggest that a lower corporate tax rate on multinational firms may discourage them from investing in larger or riskier endeavors. —



HOW WILL TECHNOLOGICAL ADVANCES IMPACT WORKERS? IT DEPENDS

Although technological change can affect workers adversely, how much impact it has — and on whom — depends on the nature of both the technology and the job description.

In their paper "Not All Technological Change Is Equal: Disentangling Labor Demand Effects of Automation and Parts Consolidation," LAURENCE ALES, Associate Professor of Economics, and his co-authors offer a detailed picture of how changes in design and production affect labor.

The research seeks to peek behind fears about automation. asking who is affected and what broader implications are at play. Ales and his co-authors — Christophe Combemale and Erica Fuchs from the Department of Engineering and Public Policy at the College of Engineering and Kate Whitefoot from the College of Engineering as well as Heinz College — studied production methods at companies that manufacture optical electronic transceivers used in telecommunications.

They chose this industry because while the final product is the same, it is made in different ways, using different machines, types of automation, internal designs, and organizational processes. This allowed the team to ask questions such as: If the machine changes, what skills will be needed to operate it, and what skills will become obsolete?

What they found was that automation is most detrimental for middle-level workers, but doesn't affect low- and highlevel labor. Consolidating parts, however, has the opposite effect: It benefits mid-level workers at the expense of those with high and low skills.

Overall, someone who loses their job to a machine is much less likely to find another position in the same company, but when the company consolidates by reducing the number of parts it uses to make a product, those workers may find new positions within the same workplace. The co-authors found that both consolidation and automation are cost-competitive, implying that companies might have a choice about how they'll impact their workers. —





EBAY BUYER PROTECTION **IMPROVES CONSUMER** EXPERIENCE BUT MAY UNDERMINE **REPUTATION SIGNALS**

The eBay Top Rated Seller program evaluates vendors on eBay based on how much they sell and how buyers rate them. Sellers who achieve high performance metrics are rewarded with a profile badge and earn more prominent placement in search results.

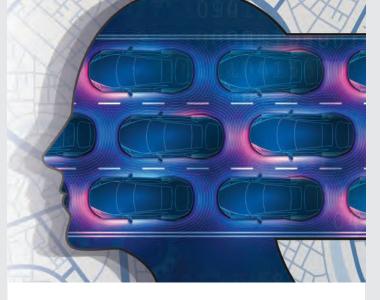
In "Reputation and Regulations: Evidence from eBay" published in Management Science — MARYAM SAEEDI, Assistant Professor of Economics, and co-authors Xiang Hui, Zeqian Shen, and Neel Sudaresan study whether the addition of a purchase guarantee undermines this reputation boost.

When a buyer has an issue with an eBay sale, such as receiving an item that doesn't match the description, and they are not able to resolve the issue directly with the seller, they may appeal to eBay. Under eBay Buyer Protection, if the vendor is deemed at fault, they are required to refund the buyer the cost of their purchase and both the original and the return shipping fees.

The researchers found that this buyer protection incentivizes all sellers to provide better service or to leave the marketplace if they are unable or unwilling to improve their service. Buyers are therefore more willing to risk making a purchase with any vendor, because the overall service on the site is improved and because they will receive a refund for unsatisfactory service.

This means there is less value for a seller to invest in building their reputation, as experienced buyers know their purchases will be protected even if the seller has not proven reliable. However, novice buyers who are not familiar with eBay's policies rely more on the reputation signal, and sellers with the badge on their profile see a slight increase in average sale price over those without the badge. —





AUTONOMOUS VEHICLES MAY **REDUCE COMMUTE** TIME SPENT IN HIGHWAY TRAFFIC

Autonomous vehicles are able to travel more closely together on highways than those operated by human drivers, since the vehicles communicate with one another and use sensors to move and brake more smoothly. As a result, several studies have investigated their ability to reduce highway congestion.

In "A Queuing Model and Analysis for Autonomous Vehicles on Highways," Tepper School researchers apply a queuing model along with highway data to compare the effects of two kinds of autonomous vehicle deployment on multilane highways: one in which autonomous vehicles and human-driven vehicles travel together on all lanes and one in which autonomous vehicles travel exclusively in a dedicated lane

NEDA MIRZAEIAN, a Ph.D. student in operations management: SOO-HAENG CHO, Associate Professor of Operations Management; and ALAN SCHELLER-WOLF,

Richard M. Cyert Professor of Operations Management, Senior Associate Dean of Faculty and Research, applied a Markov Arrival Process to model the "platooning process" - the phenomenon of vehicles tending to travel in clusters on highways. Autonomous vehicles are able to form larger clusters, allowing more vehicles to travel faster along a given stretch of highway.

The researchers found that the effects depended on the proportion of autonomous vehicles relative to the number of human-driven vehicles. In all cases, an integrated model in which autonomous vehicles shared all lanes with humandriven ones allows more vehicles through and reduces average travel time for all drivers versus a model without any autonomous vehicles.

When autonomous vehicles comprise about one-quarter to just over one-half of traffic, a designated lane for autonomous vehicles performs better. At more than half, integrating autonomous vehicles in all lanes increases throughput and decreases average travel time more effectively than a dedicated lane. -



W.L. MELLON SOCIETY REPORT

2018–19 was another great year!

he generosity and engagement of our alumni, students, faculty, staff, and friends is remarkable. Without our donors and volunteers, the Tepper School could not continue to attract its top-notch students and enhance the extraordinary educational experience they receive or support its faculty in their groundbreaking teaching and research.

On behalf of the Tepper School, I want to thank the more than 4,000 donors who supported us this past year. I also extend our gratitude to the hundreds of volunteers who speak to prospective and current students about career paths, as well as contacting friends, classmates, and colleagues as part of our annual giving program.



Having successfully surpassed our building campaign goal last year, we look ahead to the next phase in our fundraising efforts. In conjunction with the university, the Tepper School is entering a comprehensive campaign that will further bolster support of our people and programs. We have dual goals of providing much needed annual operating funds for the school as well as building our endowment.

Please invest in the people and programs that make Tepper a worldclass business school.

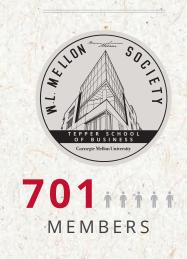
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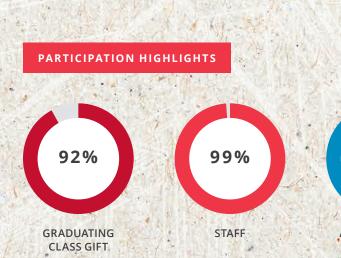
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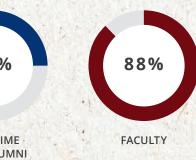
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YEAR GIVING

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Highest Participation for Alumni at a Company

ExonMobil

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CLASS OF 1989 Fellowship increased to \$150,000

TOTAL PARTICIPATION

TOTAL PARTICIPATION

23

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DONORS TO THE **TEPPER SCHOOL** CONTRIBUTED **OVER \$260K**

on #giving**CMU**day



CHALLENGE MATCH **UNLOCKED!** by surpassing our goal of 750 donors



William Lariner Mellon

Alumni, faculty, staff, parents, students, and friends who have contributed at a leadership level to the Tepper School of Business during fiscal year 2019.

The incoming MBA Class of 2021 participated in their BaseCamp orientation.



W.L. MELLON SOCIETY

DEAN'S CIRCLE AND FOUNDERS | \$50,000 and ABOVE

DEAN'S CIRCLE

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Brigitte J. and Jack McGrath (T, BBA, MSIA 1961) The Nicely Ridge Foundation Susan and Brian T. Olsavsky (BBA, MSIA 1989) Sally and Marc Onetto (BBA, MSIA 1975) James C. Robertson Jr. (BS 1956) Diane M. Ronningen and Alan C. Shapiro (MSIA 1969, Ph.D. 1971) David S. Simmons (P, BBA, BS/MCS 1986) Virginia M. and Richard P. Simmons (H/CMU 2012)

Susan L. and James R. Swartz (BBA, MSIA 1966, H/CMU 2016) Takehisa Takamatsu (MSIA 1989) David A. Tepper (T, BBA, MBA 1982, H/CMU 2018) Kevin D. Willsey (BBA, MSIA 1989)

FOUNDERS

\$50,000 to \$99,999 David H. Ahl (MSIA 1963) Connie and Edward R. Engler (BS/MCS 1986) Stephanie E. Ercegovic (BBA, BS 1982, MSIA 1983) and Brian K. Foster Claudia P. (BS/MM 1968) and Ted L. Fetterman (BS/CIT 1968, MSIA 1974) Jon Robert Kinol (BBA, MSIA 1992) John C. Levinson (MSIA 1980) The Litzenberger Family Foundation Cynthia B. Padnos (BBA, MSIA 1980) Mary L. (BS/MM 1957) and Wilson W. Sick Jr. (BS/CIT 1955, MSIA 1957)

Nita (P) and Sunil T. Wadhwani (P. T. MSIA 1976)

W.L. MELLON SOCIETY PRINCIPALS | \$25,000 to \$49,999

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Key

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AMS	Administration and Management Science
CFA	College of Fine Arts
СІТ	Carnegie Institute of Technology
CS	School of Computer Science
ЕМВА	Executive MBA in Asset and Wealth Management
ЕМР	Entrepreneurial Management Program
DC	Marianna Brown Dietrich College of Humanities and Social Sciences
нс	Heinz College
IWM	International Wealth Management Program
MCS	Mellon College of Science
ММ	Margaret Morrison Carnegie College
MSCF	Master of Science in Computational Finance
MSEC	Master of Science in Electronic Commerce
MSEQ	Master of Science in Quantitative Economics
PFE	Program for Executives
РМ	Printing Management
AB	Tepper School Alumni Board
BBA	Tepper School Business Board of Advisors
F	Faculty
н	Honorary Degree
P	Parent of a current or former Carnegie Mellon student
S	Staff
т	Carnegie Mellon Board of Trustees
*	Deceased

Degrees and schools are listed following the name of each alumnus. If a school is not listed, the degree was received from the Tepper School of Business.

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Professor Laurence Ales was named Director of Undergraduate Research in Economics.



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(F, BS/DC 2000, MS/DC 2004, Ph.D./DC 2008)	Heather (MBA 2010) and Nathan A. Lazur	
udith Birken Gertler (P, BS 1967, MSIA 1968)	(BS/CIT 2005, MBA 2010)	
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(MSIA 1984)	Soonyi (P) and Christopher Lee (P)	
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Kelly McMahon and James W. Ostry (MSIA 1994) Lefterije Paljevic (S) Wenjun Pan (MSCF 2009) Peter Papagianakis (BS/DC 1991) Woo Kyu Park (MSIA 1983, Ph.D. 1986) Randy Pearson (BS/CIT 1977, MSIA 1984) Kenneth R. Pitzer (MSIA 1989) Patricia and Gregory P. Polansky (BS/MCS 1974, MSIA 1976) Peter D. Rapp (BS/CIT 1973, ME/CIT 1976, MSIA 1976) Jennie and Matthew S. Raubacher (BS 1996, MSIA 1997) Charleeda Redman Adria and William Reutzel (MBA 2009) Robert J. Ronan (MSIA 1981) Mei Xu (P) and Joe Rong (P) John T. Rooney (MSIA 1999) Marie R. and Bryan R. Routledge (F) Michelle and David Saletta (MSIA 1993) Brent A. Schimke (MSIA 1992) Danielle Schmitt (AB, MBA 2011) Jerome E. Schnee (MSIA 1963) Subrata Kumar Sen (MSIA 1966, Ph.D. 1974) Gary L. Sender (MSIA 1987) Christopher Shoemaker (MBA 2016) Theodore C. Showalter (MSIA 1976) Lester P. Silverman (P, BS 1969, MSIA 1969, Ph.D. 1973) Louis M. Singer (MSIA 1989) Mary L. Swoboda (MSIA 1999) and Ranjit Singh (AB, MSIA 1999) Tinku Basu (P) and Michael A. Smith (P, AB, BS/DC 1989, MSIA 1995) Michelle and Robert M. Sparling (MSIA 1995) A. William Stein (MSIA 1988) Frances (MSIA 1999) and Kirk D. Stephen (MSIA 1999)

Rodney S. Tanner (MSIA 1996) Nina A. Thanjan (BS/DC 1985)

Victoria Paz and Eduardo Tobon (AB, MSIA 2000)

Teodor Tocan (MBA 2010) Mary Edward Toland (MSIA 1985) Kath and Jim Tragakis (MSIA 1998) Joseph C. Tyrrell (BS 1961) Angel Hollis (MBA 2004) and Damon John Vaccaro (MBA 2004) Tam and Jonathan Daniel Valenti (MBA 2004) John J. Villarreal (MSIA 1963) James M. Walters (BS 1979, BS/MCS 1979) Elizabeth Urish (MBA 2008) and Michael Walton (MBA 2007) Xiao Wan (MSCF 2009) Cynthia N. Wang (MSCF 1997, MSIA 1997) Xueli Wang (MBA 2006) Maureen and Glenn D. Weber (MSIA 1983) Wendy W. Liau (MS/CIT 1994) and Kang-Lin S. Wei (MSIA 1995) Matthew E. White (MBA 2012) Sam C. Wildeman (BS 1994) James F. Wirth (P, MSIA 1969) Jared Worful (MBA 2015) and Matthew Meisel Ching-Fen Lin (MSIA 1998) and Peter C. Wu (MSIA 1997) Marykay Yarchak (MSIA 1984) John Yeung (MSIA 1994) Linda (P) and Joseph T. Yew Jr. (P, MSIA 1992) Ji-Woong Yoon (Ph.D./HC 2005) Catherine L. Young (MSIA 1992) Mark P. Zacur (MSIA 1997) Allan E. Zendel (BS/CIT 1969, MSIA 1971)



Homaira Akbari (MSIA 1996) spoke as part of the W.L. Mellon Speaker Series.

W.L. MELLON SOCIETY RECENT ALUMNI, CLASS OF 2019 and CURRENT STUDENTS

GRADUATES within THE PAST FIVE YEARS

\$1,000 to \$2,499 Brenda and Alejandro Aceves (MBA 2014) Cheng Chen (MSCF 2018) Daniel Dallala (MBA 2014) Ivan De La Torre (MBA 2017) Tyler J. Deschamps (MBA 2015, MS/HC 2015) Thomas Gaffney (MBA 2018) Aaron F. Gonzalez (MBA 2018) Sonia P. Hingorany (MBA 2015) O'Brian Hunter (MBA 2016) Arthi Manivasakam (MBA 2018) Zacharry F. Minei (MBA 2016) Onyinye A. Okeh (MBA 2016) Chandani Patel (MBA 2015) Matthew Plunkett (MBA 2015) Yoga S. Rajan (MBA 2018) Philip Spencer (MBA 2014, MS/HC 2015) Michael Spina (MBA 2015) Zachary J. Talmadge (MBA 2017) Ken Wang (MSCF 2015) Jess Prom (MBA 2014) and Gregory C. Zorbas (BS/DC 2012, MBA 2014, MS/HC 2014)

Bill James (BSIM 1978), and Paul Wellener (MSIA 1986).





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Carlos Morales Paulín (MSIA 1997) spoke as part of the W.L. Mellon Speaker Series.

The MBA Class of 2019 presented their class gift at the May Family and Friends Reception during graduation weekend.



WD NINE HUNDRED ... NINETY SIX 2019 CLASS GIFT MEA CLASS = 2019

During graduation weekend, Dean Robert Dammon spent time with CMU Alumni Award honorees (from left to right) Eric Butler (E 1981, MSIA 1986),

The MBA Class of 2014 named the MBA Commons stairs with their class gift.



CORPORATIONS and **FOUNDATIONS**

William Lariner Mellon

DEAN'S CIRCLE

\$100,000 and ABOVE Amazon **BNY** Mellon Deloitte Ewing Marion Kauffman Foundation Infor, Inc. The PNC Financial Services Group, Inc. **Richard King Mellon Foundation**

DIRECTOR ASSOCIATES

\$50,000 to \$99,999 Alcoa American Electric Power Service Corporation Google LLC Optum Philips Sleep and Respiratory Care Principal Financial Group Robert Bosch LLC Salesforce.com, Inc. Verizon William G. McGowan Charitable Fund, Inc

PRINCIPAL ASSOCIATES

\$25,000 to \$49,999 ABB Corporate Research Alfred P. Sloan Foundation Ameren Corporation Boeing Duquesne Light Company Environmental Defense Fund The Heinz Endowments The Home Depot, Inc. King Baudouin Foundation

EXECUTIVE ASSOCIATES

\$15,000 to \$24,999 Honeywell Latham & Watkins LLP National Rural Electric Cooperative Association North American Electric Reliability Corporation PwC

SENIOR ASSOCIATES

\$10,000 to \$14,999 A.T. Kearney, Inc. Eaton Corporation Fluence IEX Group, Inc. Net Health Systems, Inc. **Tippins Foundation** Union Pacific Corporation **UPMC** Enterprises

ASSOCIATES

\$5,000 to \$9,999 AlixPartners American Water Choolaah Donald & Sylvia Robinson Foundation Emerson FedEx Ground General Motors Corporation Highmark Health Millie's Homemade Ice Cream Phone.com, Inc. Target Corporation VMware, Inc.

The following corporations and foundations supported the Tepper School during fiscal year 2019.



Eric Butler (E 1981, MSIA 1986) spoke at the 2019 Tepper School graduate diploma ceremony.



Michael Hsu (BSIM 1986) spoke as part of the W.L. Mellon Speaker Series.

The Class of 1984 endowed a fellowship in honor of professor Ilker Baybars.





C R I S I S M A N A G E M E N T

in Qian (MSIA 1998) is grateful — for career opportunities, for learning experiences, for personal growth. Because of this, he and his wife support the Tepper School, which helped make these things possible.

Today, Qian and his wife, Jeanette Lam, own and operate Struxtur Inc., one of the leading importers of hardwood flooring in the U.S., selling through major distributors that include Home Depot, Lowe's, and more.

Qian originally came to Pittsburgh from his native China to pursue a Ph.D., but quickly realized that he preferred a business career to one in research. Deciding an MBA would best help him make the switch, he took the GMAT and promptly received an application invitation from the Tepper School. It was an institution he knew was top-notch. Excited and encouraged, he applied and was accepted — and entered an environment that took him by surprise.

"One of the main things I learned at Tepper was not in a textbook," Qian explained. "It was teamwork. In this business setting I had to rely on all my teammates, and they had different opinions and personalities and were from different cultures or different countries. I really struggled going through this and made a lot of mistakes, but I learned a lot that was very valuable."

He also learned from the friendships he made and life lessons he gathered from other distinguished CMU programs. A primary example was his enrolling in an elective drama class. "It was totally new for me and really pushed my comfort zone to the limit," Qian said. "And I'm still able to use those skills in the business settings I encounter today."

Qian believes that these "soft" skills provided a perfect complement to his more technical talents. "Like many students at Tepper then, I was more technically oriented," he said, "and the school not only provided training and techniques, but also helped us to work on our people skills and grow in that dimension."

It all paid off when he landed his "dream job" with McKinsey in Shanghai - right after graduation and in the middle of the Asian financial crisis. Qian knew the timing was actually a great opportunity. "The exposure for me was totally different from the opportunities in the McKinsey offices in the U.S. We were able to work directly with government ministers to CEOs of big corporations. It was the right move," he said.

While there, he also met and married Lam, an advertising agency owner who encouraged him to consider the entrepreneurial route — a direction he'd never contemplated. By 2004, the pair was headed back to the U.S. to seek their newest venture. Merging Lam's marketing and design skills with his manufacturing and business know-how, they acquired a small import business. Through sourcing and development of hardwood flooring, the company took off in 2008 — smack in the middle of the U.S. financial crisis.

"I'd like to make a point in hindsight," Qian said with a knowing laugh. "Crisis may present opportunity for you!"

Aside from their continuing financial support, Qian and his wife have stayed connected to his Tepper School classmates, hosted events, and recently returned for Reunion. —

32

DONOR SPOTLIGHT

"We give back because we're appreciative."

> JIN QIAN VICE PRESIDENT STRUXTUR INC. SAN FRANCISCO, CALIFORNIA

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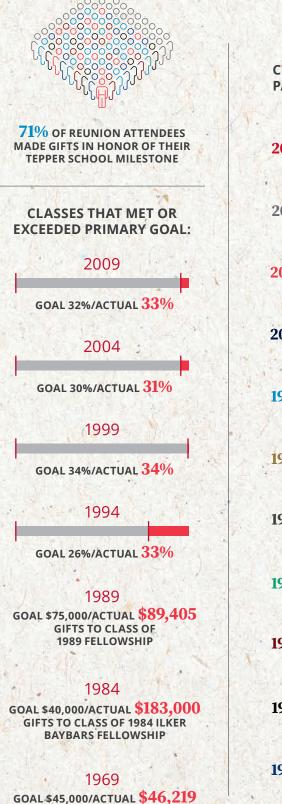
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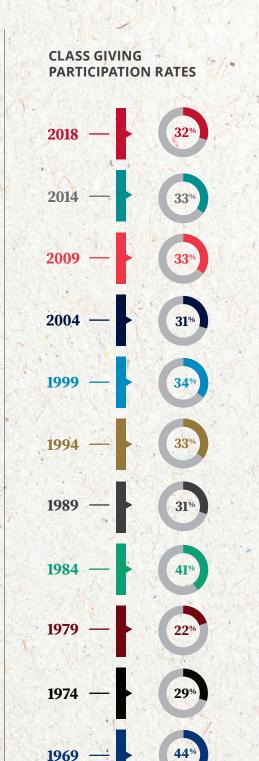




VOLUNTEERS



GIFTS TO THE TEPPER SCHOOL





DOLLAR OR PARTICIPATION GOAL.

IN TOTAL, **\$200,000** IN MATCHING FUNDS INCENTIVIZED FELLOW CLASSMATES TO SET NEW RECORDS AND SUPPORT TEPPER FELLOWSHIPS.



CLASS OF 2014 RIBBON CUTTING

The Class of 2014 celebrated a successful and record-breaking five-year graduating MBA class gift campaign with a ribbon cutting during Reunion Weekend. The MBA Class of 2014 succeeded at raising \$100,000 in less than five years to name the MBA Commons stairs between the second and third floors of the Tepper Quad.

THREE REUNION CLASSES – 1984, 1989, AND 1994 – USED MATCHING **CHALLENGES TO ENCOURAGE THEIR CLASS TO REACH EITHER A**

1984

The Class of 1984 reunion campaign established a fellowship in honor of Ilker Baybars, Deputy Dean Emeritus, George Leland Bach Chair, Professor of Operations Management, Dean and CEO Emeritus of Carnegie Mellon University in Qatar. Robert Byrne (MSIA 1984) pledged \$100,000 if the Class of 1984 and others in the Tepper community rose to the challenge of raising \$40,000 for the fellowship. The campaign was a success; the class saw a 95% increase in donors, and the fellowship was endowed at more than \$183,000 (including support from the Tepper community). The 1984 Reunion Giving Committee recognized Baybars and the establishment of this fellowship in a room full of Baybars' former students and colleagues.

1989

The Class of 1989 Reunion Gift Committee used their 30th Reunion as the impetus to grow the Class of 1989 Endowed Fellowship, originally created during their 25th reunion year. The committee challenged the class to raise an additional \$75,000 toward the fellowship in honor of this reunion. To motivate the class, two anonymous classmates matched every gift of \$1,000 or more to the fellowship. The Class of 1989 exceeded their campaign goals, increasing the total Fellowship to more than \$148,000. Further, this initiative spurred a 122% increase in donors to the Tepper School compared with 2018.

1994

The Class of 1994 Reunion Gift Committee focused their Reunion campaign on Tepper General Fellowship as a way to give back while also directly supporting current and future students. The 1994 Reunion Gift Committee pledged \$65,000 to the Tepper School, \$50,000 of which was directed to Tepper General Fellowships if 70 classmates contributed to the Tepper School during their 25th Reunion year. The class far exceeded this goal, reaching 75 total donors, more than doubling their giving participation from 2018.



110 VOLUNTEERS ACROSS 11 CLASSES

54 **REUNION COMMITTEE** PLANNING CONFERENCE CALLS

> 16 ALUMNI PANELISTS ON SATURDAY

8 FACULTY MEMBERS SPOKE AND MODERATED AT **REUNION EVENTS**





THE CLASS OF 1984 BROKE THE ATTENDANCE RECORD FOR A 35TH **REUNION WITH 28 ATTENDEES.**



THE CLASS OF 1989 HAS BROKEN ITS **RESPECTIVE CLASS RECORD FOR** THE LAST THREE REUNIONS!

> ATTENDEES THIS YEAR FOR THEIR 30TH REUNION.

32 ATTENDEES IN 2014 FOR THEIR 25TH REUNION.

18 ATTENDEES IN 2009 FOR

THEIR 20TH REUNION.



55 CHILDREN AGES 0 TO 17 ATTENDED — A NEW RECORD!



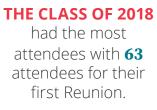
THE CLASS OF 1999 HAS BROKEN ITS **RESPECTIVE CLASS RECORD FOR THE** LAST THREE RELINIONS!

> **5**9 ATTENDEES THIS YEAR FOR THEIR 20TH REUNION.

36 ATTENDEES IN 2014 FOR THEIR 15TH REUNION.



ATTENDEES IN 2009 FOR THEIR 10TH REUNION.



ALUMNI CAME FROM

STATES COUNTRIES



34%

OF SURVEY RESPONDENTS ALSO ATTENDED CMU CARNIVAL ACTIVITIES.



TOTAL ATTENDANCE: 413 MBA AND MSIA ALUMNI, REPRESENTING 24 **CLASSES BETWEEN 1969** AND 2018, PLUS **127** GUESTS







OVER **800** PHOTOS SHARED IN THE **ONLINE REUNION PHOTO ALBUM.**



WELCOME BACK ATTENDEES FROM THE CLASS OF 1969 - THE EARLIEST **CLASS AT REUNION!**

ALUMNI



Attending my 20th Tepper Reunion this spring, the first time I'd returned to campus since graduating, was more than just a chance to connect with old friends I hadn't seen in two decades, but a reminder of what made my time at Tepper so special and why it was and still remains such a formative experience in my career and my life.

11

KEITH LAW (MSIA 1999)

11

This is more than just a reunion — it is a celebration of the Tepper community and a look at the bright, bold future of our business school.

11

ANTHONY LIM (MSIA 1989)

11

Reunion was a perfect combination of reacquainting with classmates, being updated on current facilities and research, and **seeing the vision for the future of Tepper.**

11

DAVID STREHLOW (MSIA 1989)









REUNION 2020 APRIL 17-18



DEAR ALUMNI,

Autumn has always been my favorite time of year. I was one of those rare kids who actually liked school. I usually had to hide my enthusiasm on the first day. But at Tepper I never felt isolated, because everyone else was as passionate about learning as me. Each of us is part of this spirit and community, so please get involved with the school, visit the Tepper Quad, and take advantage of the uniqueness that is Tepper.

In September, the Tepper Quad hosted the second annual INTERSECT@CMU, focused on Health Care Innovation. Mark your calendar for next year's exciting conference.

Tepper has hosted 12 webinars over the past two years with topics ranging from cutting-edge research to insightful leadership behavior. Watch your email for new events or visit the Alumni Hub to view past webinars.

Keep your eye out for a trek coming to a city near you. If you are in Boston, Seattle, Austin, Silicon Valley, or New York City, reach out, forge a new connection with a Tepper student, and strengthen your alumni network.

Also, I've got to put a plug in for my fellow 0s and 5s. It's Reunion time! Come back to campus April 17-18, 2020, for class socials, lifelong learning opportunities, and a memorable all-class celebration. I have even heard the class of 2000 is preparing to crush the attendance record set by the class of 1999.

Finally, a heartfelt and profound thank-you to Bob Dammon for serving as our dean the past nine years. Bob has been a force not only within Tepper but throughout the CMU community. Much like Herb Simon pioneered management science at CMU, Bob led us into the next chapter of management education by creating an environment for faculty, students, and alumni across Carnegie Mellon to collaborate and innovate together. The Tepper Quad is where business, technology, and analytics intersect. We are the vanguard once again, and can all thank Bob for his leadership and insight that will be felt for decades across CMU and the business world. —

ROB RICE (MSIA 2000)

Alumni Board President Affiliate Finance Manager, ExxonMobil Corporation



CLAUDIA JURY NEW GLOBAL HEAD AT I.P. MORGAN

CLAUDIA JURY (BSIM 1988, BBA) is now Global Head of Investor Client Management at J.P. Morgan with primary responsibility for the firm's coverage of over 250 asset managers, insurers, banks, hedge funds, and sovereign wealth funds across markets and securities services. She is also Global Head of Platform Sales, managing the team that delivers J.P. Morgan's best-in-class

capabilities across clearing, securities services, prime finance, and capital advisory services.

She is a member of the Corporate and Investment Bank's Global Sales and Marketing management committee. Prior to holding her current position, Jury was co-head of the CIB's Currencies and Emerging Markets business, where she was the most senior female trader at the firm.

lury is a member of the Federal Reserve Bank of New York's Foreign Exchange Committee and previously was Chair of the Global Foreign Exchange Division of the Global Financial Markets Association, an industry group that provides a form for systemically important banks to develop policies and strategies on issues related to the global regulatory environment. She is a member of the Tepper Business Board of Advisors. —



CATHY OH NAMED GLOBAL HEAD OF MARKETING AND ANALYTICS FOR SAMSUNG ADS

CATHY OH (BSBA 2004) was named Global Head of Marketing and Analytics for Samsung Ads, capitalizing on over 15 years of integrated marketing experience with

Fortune 100 companies. In her new role she is responsible for the U.S., Canada, Latin America, European Union, and Asia-Pacific regions across five core divisions: strategic marketing, product marketing, analytics and insights, creative services, and marketing operations. Her team focuses on driving revenue through partnerships with advertisers across over 35 million smart TVs and connected devices in the U.S. alone, as well as the global expansion of Samsung Ads into these new markets.

As one of the first employees of Samsung Ads, she was integral to building the Samsung Ads brand from the ground up, and under her leadership, the organization is redefining the advanced TV landscape. Throughout her career, Oh has built a record of accomplishment in developing global brands, large-scale marketing strategies and activations, sales initiatives, and marketing programs for global sales teams.

Prior to joining Samsung Ads, Oh served as Head of Marketing for iAd, Global Brands, and Agencies (a division of Apple), where she developed multi-platform marketing programs that yielded more than \$20 million in revenue, and successfully drove relationship management for global advertisers such as Procter & Gamble, Pepsi, Unilever, American Express, and Macy's. In addition to Apple, where she managed a global team, she has held marketing positions at companies that include WebMD and NBC Universal. —

CLASS NOTES



BENJAMIN J. GARBER NAMED VICE PRESIDENT AT 7 MILE ADVISORS PITTSBURGH OFFICE

7 Mile Advisors named **BEN GARBER** (MBA 2011) Vice President and Head of its Healthcare Delivery and Provider Services practice based in Pittsburgh. 7 Mile Advisors is headquartered in Charlotte, North Carolina, with offices in Chicago, Houston, and West Palm Beach. The industry-focused investment bank is expanding its footprint in Pittsburgh and the Northeast region. Garber's Tepper School classmate **NEIL CHURMAN** (MBA 2011) directs the Houston office for 7 Mile Advisors, where he focuses on mergers and acquisitions advisory and raising private capital for the infrastructure, energy, and technology services industries.



DAN STARTA

(E 1982, MSIA 1995) was elected to A.T. Kearney's Board of Directors for a threeyear term beginning in 2019. The board focuses on

the strategic direction, drivers of success, and oversight of the consulting firm. It has an oversight role for accountability of the firm's global managing partner and its leadership team. It also works collaboratively with the management team to address key strategic issues, firm-wide policies, and financial planning.

Prior to joining 7 Mile Advisors, Garber led corporate development at MedExpress, an Optum subsidiary of UnitedHealth Group. He was responsible for MedExpress acquisitions and joint ventures, and cultivating relationships with health systems, physician groups, insurers, and business partners. As head of MedExpress's Innovation Program, he chaired the Executive Innovation Committee and served as player and coach working with teams across MedExpress, Optum, and UnitedHealthcare to develop new product and service lines that aligned with enterprise strategic objectives.

Before joining MedExpress in 2016, Garber spent five years with Grouse Ridge Capital, a lower middle market private equity firm, where he was responsible for new investments in heavy industrials, robotic automation, and technology, and oversaw the turnaround of two distressed manufacturing companies acquired separately through bankruptcy and receivership. During his time with the firm, he managed four control acquisitions, seven minority investments, and two de novo startups, and raised over \$40 million of outside equity financing. —



PATRICK SLATTERY APPOINTED ASIA PACIFIC CFO AT COOPER TIRE & RUBBER COMPANY

PATRICK SLATTERY (MSIA 1994) was appointed Asia Pacific CFO for Cooper Tire & Rubber Company. A leading global competitor in the tire industry, Cooper Tire has manufacturing facilities on three continents, with sales and distribution networks around the world. Slattery's new role is based in Shanghai, China, building on his international experiences in Brazil, Turkey, India, and Thailand.

Prior to joining Cooper Tire, Slattery had a 25year career with the Ford Motor Company, most recently serving as the Executive Vice President and Chief Financial Officer for Auto Alliance Thailand, a Ford/Mazda joint venture. Earlier he served as Director of Global Financial Analysis in Chennai, India, and as CFO for Ford Land in Dearborn, Michigan.

He received his undergraduate degree in finance and economics from the Raymond A. Mason School of Business at the College of William & Mary and his MSIA from the Tepper School. —

DANIEL STARTA JR. ELECTED TO A.T. KEARNEY BOARD OF DIRECTORS

family for the past five years and serves as Managing Partner for A.T. Kearney Greater China, as well as serving as the Board of Trustees Chair for Shanghai American School. During his time in China, he has also worked with the G20/B20 Employment Task Force as well as serving clients across a range of industries. He spent the previous 10 years working in and leading the growth of A.T. Kearney's dynamic Middle East and Africa units.

Starta has been living in Shanghai with his

Starta has significant experience spanning a range of industries including economic development in support of government

initiatives, automotive, petrochemicals, high tech, oil and gas, process and manufacturing industries, utilities, pharmaceuticals, and consumer products.

He has an MSIA with honors from the Tepper School, a master's degree in engineering and mathematics from the University of Pittsburgh, and a bachelor's degree in engineering from Carnegie Mellon. In addition to consulting, he has published numerous articles and been quoted in the Economist, Businessweek, and numerous other leading publications. —

CHAPTER HIGHLIGHTS, AWARDS, AND ACCOLADES



JENNIFER (HAYLOR) MILACCI (BSIM

1995) is currently a Managing Director and Head of Client Service at Renaissance Institutional Management, a subsidiary of

Renaissance Technologies. Milacci joined Renaissance in 2005 and is responsible for overseeing marketing and client services for external funds.

After receiving her BSIM with a concentration in graphic communications and a minor in architecture, she worked for Putnam Investments for nearly seven years, initially within the graphic communications department and eventually as a product specialist within the institutional sales group.

In 2002, she earned an MBA at the NYU Stern School of Business. She interned as a buy-side analyst at Morgan Stanley Investment and after graduation worked as a sell-side research analyst at Bank of America Securities covering the REIT sector.

She has been a board member of

the Child Center of New York since

2007. She is a CFA Charterholder: a

member of the CFA Institute, New

and Financial Women's Association

She has been active with Memorial

York Society of Security Analysts,

of New York; and a Sustaining

Angel of 100 Women in Finance.

Sloan Kettering Cancer Center's

Nurse Service of New York. —

Cycle for Survival and the Visiting

(HAYLOR) (BSIM urrently a Director and nt Service

MICHELLE CROTTIER (MBA 2014) is in the unique position of having built her career on strategic changes in multiple industries. After graduating from St. Olaf College with a bachelor

of arts in economics, she joined a regional bank named TCF Financial Corp. just before the financial crisis and was on a small team executing everything from equity issuances to Dodd-Frank over the next few years.

She relished the chance to explore multiple interests at Tepper, accumulating five concentrations, went on six student-led treks and trips, and served as the Vice President of Alumni Relations on the Graduate Business Association.

She had a great experience interning with two classmates at Dow Chemical and took a full-time position with Alcoa at graduation. As part of Alcoa's internal consulting team, she helped run strategic projects, including the integration of two major acquisitions and the separation of Alcoa and Arconic, completed in 2016.

Starting in 2017, she switched industries again to technology, taking a job integrating mergers and acquisitions at Google.

Since graduation she has been active in corporate recruiting, chapter events, and serving as a TAP lead for her class. —



JOHN DISCHNER (MSIA 1994) has served in a number of hands-on leadership roles at Alix Partners in urgent situations as an adviser, and in interim management roles including CFO, CRO, and Treasurer. His work has centered on resolving both operational and financial issues in a timely manner for clients.

Dischner's overall client experience has been in leading and advising companies during restructurings, and has included liquidity management, the development and implementation of business plans and forecasts, contingency planning, the negotiation and development of plans of reorganization and related disclosure statements, transforming finance functions, communication with boards and key stakeholders, leading cost reduction efforts, and asset sales and carve-outs.

Dischner has an MBA from Carnegie Mellon and a bachelor of arts from Northwestern University, and he is a CPA. —



ROBERT DEANGELIS (MSIA 1985) is an Executive

Vice President with KeyCorp and a member of the bank's executive leadership team. Over a 13-year career with Key,

he has held a number of leadership roles, including Consumer Segment Executive and Chief Marketing and Client Analytics Officer.

Prior to joining Key, DeAngelis had a career of more than 10 years with Wachovia Corporation and its predecessors. Earlier in his career, he was a Senior Manager in KPMG's Financial Services and Corporate Transaction Services Consulting Practices. He worked with clients nationally across industries on a range of strategic and financial consulting assignments. He began his professional career at Mellon Bank as an analyst in the bank's high technology division.

In addition to earning an MSIA, DeAngelis holds a bachelor of science in chemistry from the University of Pittsburgh. He subsequently earned certification as a chartered financial analyst and completed the Wachovia Executive Leadership Program at the University of North Carolina's Kenan-Flagler School of Business.

DeAngelis has also served in a number of leadership roles supporting his community. He was a member of the executive committee of the MetroHealth Foundation Board and served as Chair of the Positive Education Program Board of Directors. —

CLASS NOTES

Tepper School Degree and Program Codes

AB	Alumni Board
BSIM	Bachelor of Science in Industrial Management
IWM	International Wealth Managemer
MBA	Master of Business Administratio
MSCF	Master of Science in Computational Finance
MSEC	Master of Science in Electronic Commerce
MSIA	Master of Science in Industrial Administration
MSQE	Master of Science in Quantitative Economics
PFE	Program for Executives (Executive Education)
Ph.D.	Doctor of Philosophy

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

Carnegie Mellon College Codes

 A
 College of Fine Arts

 CS
 Computer Science

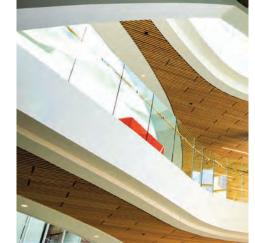
 DC
 Dietrich College of Humanities and Social Sciences

 E
 College of Engineering

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

 S
 Mellon College of Science





CLASS OF 1962

JOHN DIMLING (MSIA 1962) retired as CEO of Nielsen Media Research years ago and now serves as an adviser to two companies: C3 Metrics and Simulmedia Inc.

CLASS OF 1968

(A) JUDITH BIRKEN GERTLER (BSIM 1967, MSIA 1968) participated in Ride For The Living, a 60-mile bike ride from Auschwitz-Birkenau to Krakow to raise funds for JCC Krakow.

CLASS OF 1970

KEN DEROW (BSIM 1969, MSIA 1970) recently published his 100th editorial letter and his 30th in The New York Times. Letter writing is a cherished pastime for Ken, and he submits them multiple times per week. Ken's other post-retirement passion has been writing a diet lifestyle book, titled "Take 5: Count Your Way to Lasting Weight Loss, Better Health & Improved Wellbeing." With new co-author Dr. Meagan Grega on board, he's hopeful of getting it published.

MICHAEL MARVIN (MSIA 1970) is CEO and chairman of one startup through IPO and is involved in more than 100 others as an adviser and board member. He is currently working with a drone-powered cleaning company, going a second round with two longtime partners in a new company in the game entertainment space, and serving as an adviser to a company revolutionizing the electric motor. Michael joined the board of trustees of the American University of Bulgaria and is an adviser to the Bulgarian Entrepreneurship Center.

CLASS OF 1974

BRUCE I. JACOBS (MSIA 1974) is co-principal and co-founder of Jacobs Levy Equity Management, an institutional money manager, which entered its 34th year this fall. Last year saw the publication of his latest book, "Too Smart for Our Own Good: Ingenious Investment Strategies, Illusions of Safety, and Market Crashes," which explains the underlying causes that connect financial crises from 1987 to the present. "Equity Management: The Art and Science of Modern Quantitative Investing, Second Edition" describes his firm's approach to equity investing. On the personal front, Bruce and his wife of 44 years, llene, are proud of their four children, who are pursuing careers in social work, finance, and a food business startup. They are also enjoying their four grandchildren.

CLASS OF 1976

PETER MCINTOSH (MSIA 1976) lives in Orinda, California, with his wife of 30+ years, Ann. He retired from his corporate career some years ago (PricewaterhouseCoopers and Charles Schwab) and started a second career teaching math in Oakland, California, high schools. He is currently teaching AP Calculus and Precalculus at Oakland Unity High School, serving a population of mostly minority students. All those quantitative classes at GSIA are being put to good use, with some of the highest test scores in the state.

CLASS OF 1983

KATHY (HEGARTY) KREVAT (BSE 1983) published the third book in her Gourmet Cat Mystery series by Kensington Books, "The Trouble With Talent," in June 2019. It centers around a college admission scandal. She's also the author of the bestselling Chocolate Covered Mystery series by Berkley/Penguin Random House under the name Kathy Aarons. Kathy serves on nonprofit boards including Playwrights Project, the San Diego Chapter of Sisters in Crime, and a San Diego political club. She also helps coordinate the CCA Writers' Conference, the only free writing conference for high school students in the United States.

CLASS NOTES

CLASS OF 1984

ROBERT BYRNE (MSIA 1984, MSIA 1992) and the Class of 1984 and friends raised almost \$360,000 for the Class of 1984 Ilker Baybars Fellowship, which will support MBA students. It recognizes Ilker's more than 30 years of service to the Tepper School.

CLASS OF 1985

A HERMAN VANTRAPPEN (MSIA 1985) is the co-author with Daniel Deneffe of the book "Fad-Free Strategy: Rigorous Methods to Help Executives Make Strategic Choices Confidently," published by Routledge. The book provides a groundbreaking approach to making better business strategy decisions. It will be a useful tool for smart business executives at mainstream companies who are disappointed with strategy fads and simplistic solutions based on cherry-picked, anecdotal evidence from today's hero companies. It will also appeal to economics faculty members teaching graduate courses in business strategy who are looking for an economics-based strategy textbook that is both rigorous and comprehensive.

CLASS OF 1986

As CFO at Energy Advisors,

ANTHONY AMENDOLA (BSE 1984, MSIA 1986) helps to provide turnkey building improvement solutions through the development and funding of energy efficiency and capital improvements in Hawaii and the mainland. They are implementing "Efficiency as a Service" (EaaS) and Renewables as a Service (RaaS) utilizing their own funding in a zero upfront capital approach. They have also established a "Hawai'ian Kama'aina Fund" for their Hawai'i-based projects. Anthony is also excited to announce that his oldest daughter, Samantha, has joined him and has taken the reins of Amendola Enterprises in the energy efficiency sector. Alejandra, his second daughter, is studying journalism and law at the University of Oregon. His third daughter, Aja, is a freshman in high school.

CLASS OF 1988

ROSS AHLGREN (MSIA 1988) began investing out of Kreos Capital's sixth fund. It is a 700 million euro fund. After moving from a cushy ex-pat job in Paris to London to start Kreos Capital 21 years ago, Ross has now invested more than 2.4 billion euros in almost 600 startups and high growth companies across all of Europe and Israel. With a bit of internal recycling, the company should be able to invest well over 1 billion euros out of this new fund.

JEFF BENNETT (MSIA 1988) is publishing "Grassroots Strategy: Cultivating B2B Growth From the Ground Up," a book co-written with his business partner, Darrin Fleming. The book presents frameworks and practical advice for accelerating organic growth in B2B markets. The experience for the book is drawn from Jeff's work at Amphora Consulting, a boutique strategy consulting firm he founded in 2003. When not traveling to work with clients, Jeff lives in Hilton Head, South Carolina, and would welcome visits from fellow alumni.

PAULA DIGIOIA DEASY (BSIM 1988) has been helping to grow DiGioia Gray Inc., an engineering consulting firm focused on power delivery. The firm is headquartered in Pittsburgh, with offices in Charlotte, Philadelphia, Phoenix, and Roanoke. Paula is proud to have many Carnegie Mellon graduates among its ranks and is always looking for more!

CLASS OF 1989

TERRI GRIFFITH (Ph.D. 1989) is honored to join Simon Fraser University as their Keith Beedie Chair in Innovation and Entrepreneurship. She is looking forward to connecting with the Vancouver community and kicking off new research helping all of us gain from automation in our work.

CLASS OF 1990

WENDI AMOS (BSIM 1990), a retired international corporate attorney/mediator living in Davidson, North Carolina, became an empty nester in August when she moved her daughter, Jessi, into Morewood Gardens. Jessi will attend CMU on scholarship as one of 18 General Electric Co. Reagan Scholars chosen across the country from a pool of over 16,000 applicants for leadership, academic, and civic accomplishments. Wendi has been appointed by the North Carolina governor to serve on its state Veterans Affairs Commission and will continue her volunteer work on legislative issues.

JACK W. BURGESS (MSIA 1990) fully retired after 22 years of railroad work and is now providing volunteer support for K9S For Warriors (a tax-exempt 501(C)(3) nonprofit organization) that is dedicated to providing service canines to our veterans suffering from post-traumatic stress disorder, traumatic brain injury, and/or military sexual trauma as a result of military service post-9/11. They are the nation's largest provider of service dogs for disabled American veterans. Activities involve community outreach and presentations as an ambassador while also raising a puppy in support of their initial training process.

DAVID GOLDREICH (MSIA 1990, Ph.D. 1997) is Professor of Finance at the Rotman School of Management at the University of Toronto. He recently completed a term as Director of Rotman Commerce during which he revamped the undergraduate business program for 2,800 students. David and Deborah are enjoying being new grandparents to Lily Tamar (12 months) and Adam Jacob (4 months).

NANCY HULLIHEN (BSIM 1990) was recently promoted to Senior Associate Vice President for the development and alumni relations division of The George Washington University. In her new role, she will oversee strategy and fundraising efforts for the GWU business school, law school, and athletics program. Nancy joined the team at GWU after holding various fundraising and leadership roles at the University of Miami.

CLASS OF 1991

DEBBIE (JACOBS) COHN (BSIM 1991) and DAN COHN (CS 1994) are excited to be sending both their sons off to CMU. Ari is entering his junior year in computer science and Etan is entering his first year as a stats major.

KEVIN YOUNG (MSIA 1991) is proud to announce his business expansion into the Pittsburgh market and his new partnership with Patricia G. Milligan of UBS Financial Services in Sewickley, Pennsylvania. Kevin is a senior portfolio manager and has developed his own asset allocation model based on his extensive experience managing individual fixed income and equity portfolios. With 28 years of experience at UBS, Kevin combines his Tepper degree, UBS's in-house research, and his own asset allocation modeling to



Carnegie Mellon University Tepper School of Business

personally manage client portfolios. He and his wife, Jane, are the proud parents to Desmond and Aidan (twins about to enter their second year at the University of Pennsylvania), and their youngest son, Emmet, a junior at LaSalle College High School.

CLASS OF 1993

KAREN (DRYER) MCDONALD (MSIA 1993) recently joined Gallagher Research & Insights as Vice President in their New York office. Her work is centered on helping life sciences companies navigate the payer landscape.

CLASS OF 1994

JANET JAISWAL (MSIA 1994) recently took a role as the SVP of Marketing at a startup called ZineOne, based in Silicon Valley, where she will lead its marketing function. The role allows her to combine her love of technology, especially artificial intelligence, with marketing. ZineOne provides an Alpowered personalization platform which allows companies to understand buyer intent by the fifth click or tap with accuracies above 90%. She is also an advisor to IGeneX, a provider of testing for tick-borne illnesses, including Lyme disease. She continues to reside with her husband and two sons in the San Francisco Bay Area, where she has been since graduating from Tepper.

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DONOR SPOTLIGHT

n the last 10 years, I've really come to understand how much of my professional success was due to Tepper and Carnegie Mellon; I believe my education made a gigantic difference in my life," declared James Hinrichs (BSIM 1989, MSIA 1990) in discussing his unfailing and generous support.

"It's important for me to give back consistently because I got a lot — I got a lifetime gift from the school and from my education," he added.

That gift was a 30-year financial career in the health care industry that allowed Hinrichs to serve as CFO of three public and two private companies, two of which (Care Fusion and Alere) were sold in multibillion-dollar transactions. He's also held numerous noteworthy positions along the way at companies that include Cardinal Health and Merck.

As a teen, the New Jersey native had applied to CMU because of its "great reputation" and its quantitative opportunities, but it was the immediate comfort he felt on campus during a weekend visit that sealed the deal. Early in his education, the business student discovered the 3-2 program, an option for CMU undergraduates to earn both BSBA and MBA in five years, and recognized the top-notch companies and positions the MBA students were attracting. "Early on, I thought, 'This is a great opportunity to change the trajectory of my career," he recalled. "It was a no-brainer."

He was right. Hinrichs was thrilled to land a position with Merck (then one of the country's most admired companies) right out of school, and quickly

realized how his education allowed him to stand out from the pack there.

He recalls his first boss's pleased surprise when, unlike his peers, Hinrichs would immediately tackle a new assignment and have it turned in the next morning.

And there was a notable Tepper connection, alumnus Gary Sender (MSIA 1987), who mentored Hinrichs at Merck for the first decade of his career.

Today, Hinrichs has begun a well-deserved break from full-time corporate life, serving on three boards and enjoying family time. In this next chapter, he's hoping to use some of that newfound time to become more involved with his alma mater, recalling how much he appreciated 15 years of returning to campus to recruit for Merck and then Cardinal Health.

All along, Hinrichs has been a steady and increasing contributor, from annual giving to funding undergraduate scholarships to supporting the new Tepper Quad.

As a high school board member, Hinrichs' wife offered advice that championed this philosophy. "She reminds me what matters to these schools is consistency, knowing they can count on you, that you're giving to things that are important to you," he explained. "Her advice fueled my giving for the last decade and will fuel it for the next several. Now it's about how I can give back more meaningfully to Tepper, which I believe is what ultimately propelled me to where I am today."

GIFTOFA LIFETIME

"My goal when I graduated was to give early, a little at first, and more as it became possible, and so l've upped my donating as much as I can each year, each decade — and that's going to continue."

JAMES HINRICHS (BSIM 1989, MSIA 1990) SAN DIEGO, CALIFORNIA

CLASS NOTES

CAPRICE THORSEN (MSIA 1994) recently launched a transformative leadership and sales coaching program. It is based on the understanding that the mindset of people is the most important asset for a company. After 20 years of strategy consulting and leadership coaching, Caprice has learned that what companies need most is team members who are on fire about the company mission and fearlessly innovate to create happy customers.

CLASS OF 1995

ERNESTO ARTETA (MSIA 1995) has recently been named Vice President, Head of North American Foreign Exchange Sales at Northern Trust Bank in Chicago. His appointment comes after he spent 11 years at Northern Trust Securities trading structured notes, fixed income, and currencies. Prior to joining Northern Trust, he was in various sales and trading roles in foreign exchange at JPMorgan's legacy First Chicago and Bank One, Lehman Brothers, and Lotsoff Capital.

WILSON CHUA (MSIA 1995) has been awarded the SOVA Coach of the Year Award for 2018 for Special Olympics Virginia. From his nominator: "Wilson is the epitome of a dedicated parent of a Special Olympics athlete. Not only is he committed to his son getting him involved in numerous sports, but he also contributes many hours each week to support all athletes in our programs. Wilson's lengthy list of volunteer activities, both for Special Olympics and in the broader Loudon County community, demonstrates his commitment to improving the lives of individuals with disabilities."

After nearly seven years in Kuala Lumpur, Malaysia, serving as Regional CIO – Fixed Income for South East Asia at CIMB-Principal Asset Management, MICHAEL ZORICH (MSIA 1995) has returned to Principal Financial Group headquarters in Des Moines, Iowa, as Managing Director, Head of Private Credit in the company's asset management group.

CLASS OF 1996

After 25 years in fire service, PORTER WELCH (BSIM 1996) transitioned to a full-time law practice. As of May 1, Welch Legal Services LLC opened its offices on the square in Galena, Ohio. His practice is limited to civil issues, including small business, estate planning, real estate, and domestic relations.

CLASS OF 1997



KUSHAGRA BAIAI (BSIM 1997), a fourthgeneration scion of the 125-year-old Bajaj Group, heads the \$2 billion family business, which has interests across power generation, consumer staples, and sugar manufacturing in India. He plays a key role in the group's philanthropic initiatives through the Bajaj Foundation. Kushagra lives in Mumbai, India, and has been married to Vasavadatta for the last 20 years and is blessed with three children named Anandamayi (17), Yugadikrit (15), and Vishwarupe (12).

TAIMOOR LABIB (BSIM 1997) is pleased to announce the official launch of Affirma Capital, the leading independent emerging market private equity platform, with over \$3.5 billion under management, and with offices in Dubai, Singapore, Johannesburg, India, China, and Korea.

TIM ROWELL (MSIA 1997) works in inventory optimization for PepsiCo. He spoke at the APICS International Supply Chain Conference on the topics of Supply Chain Resilience and Inventory Truths. His work on supply chain resilience was published in Forbes and MIT Sloan Management Review. His work on inventory truths was also featured in SupplyChainBrain.com.

Owens & Minor Inc. hired 🔊 MARK ZACUR (MSIA 1997) as SVP, Chief Procurement Officer. Mark brings over 20 years of experience in supplier management, including various leadership roles in health care distribution and manufacturing.

CLASS OF 2000

Grand Valley Holdings, founded in 2018 by LACHLAN MCLEAN (BSBA 2000), recently acquired an 18-unit franchisee of Penn Station East Coast Subs with locations throughout southwestern Ohio. Grand Valley Holdings is a Cincinnati-based acquirer of lower-middle market businesses in the Ohio Valley.

SHARDUL MEHTA (MSIA 2000) is now Head of Products for the health systems business unit at American Well. Originally recruited into Avizia, he spearheaded the launch of the industry's first system-wide enterprise telehealth platform and numerous new virtual care product offerings. He also served as senior product lead on both the Avizia-Carena and the Avizia-American Well postmerger product integration strategies. He also launched his third startup several years ago, providing online training programs to over two million product innovators around the globe.

CLASS NOTES

CLASS OF 2001



Members of the Tepper Class of 2001 got together for drinks and conversation this summer in Washington, D.C.: MICHAEL THIEL (MBA 2001), ANJUM AGARWALA (MBA 2001), KHANG HIU (MBA 2001), CHARLES YANG (MBA 2001), and AUSEH BRITT (MBA 2001).

Help a friend take their first step toward a Tepper MBÁ.

KRISTEN HEIMERL (MSEC 2001) formed a mental health tech startup, Lander Tate, to address anxiety disorders, the No. 1 most prevalent mental health issue.

JAY SHIN (MBA 2001) recently had the opportunity to tag along with his 16-yearold son, Jayson, on a goodwill mission to Nicaragua that his son organized. With his desire to help underprivileged youths through sports, Jayson collected over 500 pieces of used donated baseball equipment and distributed them to children in Nicaragua. It was a great, and humbling, life experience. Back home in the States, Jay and his lovely wife, Susan, have been busy raising their three boys — Jayson, Jayden, and Jaykob — in the great state of New Jersey.

CLASS OF 2002

STEPHAN MUELLER (E 1994, BS 2002) recently started a new Pittsburghbased investment firm. Localize Capital Management integrates an income strategy and a patient growth strategy, connecting the interests of individual wealth, large family-owned businesses, and entrepreneurs who are building revenue-focused businesses. For entrepreneurs, Localize provides new options to allow them to build their companies on their own terms, creating jobs in our region. For large, family-owned businesses, Localize delivers a way to unpack the value of their business, while supporting the local economy.

CLASS OF 2003

ASHISH JAIN (MBA 2003) has been named the Senior Vice President, Head of Capital Markets, for C2FO. C2FO is the world's largest market for working capital. Ashish will drive to expand C2FO's offering and capabilities worldwide. Most recently, Ashish had been at SoFi.

AYSE ELIF TUTEK (MBA 2003) was elected to a three-year term as Chair of the Board for the Science and Arts Academy school her two boys attend in Des Plaines, Illinois. Ayse Elif is excited to lead the school as it implements its first long-term strategic plan.

CLASS OF 2004

RAMEZ QUBAIN (MBA 2004) was appointed as the CEO of Jordan Wood Industries Co. by its board of directors. JWICO is the leading cabinet manufacturing company in the Middle East and is publicly traded on the Amman Stock Exchange. Ramez's chief task is to turn the company around during the current economic and political difficulties facing the Middle East region.

CLASS OF 2005

IBRAHIM GULDIKEN'S (MBA 2005)

consulting company, IG Consulting, which focuses on business solutions, due diligence, and commercial and residential real estate, expanded its clientele to Turkey's biggest conglomerate, Koc Holding, the only Fortune 500 Company from Turkey to do business in the U.S. With his knowledge and experience of business development, real estate, accounting, and finance, IG Consulting will be offering "one stop shop" business solutions and expanding to new clients. Ibrahim has been providing his services to the Koc family already in addition to REITs and other ultrahigh net worth individuals and families in the U.S.

JOHN KOSS (MBA 2005) was promoted to Commercial Lead for Carbon Capture and Sequestration in the U.S. at Shell Oil. CCS is part of Shell's ambition to tackle climate change. John and his family continue to reside in Houston, Texas.

CLASS OF 2007

ANDREW SUTHERLAND (MBA 2007) was recently promoted to Associate Professor and Ford International Career Development Professor at the Massachusetts Institute of Technology Sloan School of Management.

CLASS OF 2008

JEREMY GLASSENBERG (MBA 2008) was married on Aug. 18.

MERCEDES HARRIS (MBA 2008) received a Microsoft U.S. Q4 Champion Award for her leadership in client digital transformation. In addition, she was accepted in the Emerge Academy program held by the Information Technology Senior Management Forum.

BERND KULLMANN (MBA 2008) is now the Head of Supply Chain at Sigilon Therapeutics. Bernd oversees global activities and is establishing the supply chain organization for Sigilon.

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CLASS OF 2009

ERASTUS ALLEN (MBA 2009) is a Product Manager working with the Machine Learning Group at UPMC Enterprises. The group developed an artificial intelligence algorithm that successfully detects bladder cancer from massive (6.4 gigapixel) whole-slide images. Their paper, "Performance of an Artificial Intelligence Algorithm for Reporting Urine Cytopathology," was published in Cancer Cytopathology on Aug. 14.

CLASS OF 2011



MEGAN SASINOSKI (BSE 2011) and her husband, Marco Attisano, are proud to announce the birth of their first child. Their son, William Henry Attisano (Class of 2041), was born April 5, 2019, weighing 8 pounds, 4 ounces and measuring 21 inches long.

CLASS OF 2012

STEVE DOTTERER (MBA 2012) is pleased to join H2R CPA (formerly Horovitz, Rudoy & Roteman) in Greentree, Pennsylvania, as Senior Manager, Business Valuation. Steve joins H2R from SullivanCotter, a national consulting firm. In his new role, Steve will lead a variety of valuation engagements to support a client base that includes families, businesses, attorneys, and fiduciaries.

CHRIS GASSMAN (MBA 2012) is excited about speaking with 20 CEOs and counting for his podcast about doing well by doing good, and all Tepper alumni with a story to tell are invited to be interviewed! He's hosting riverfront Manhattan rooftop grillin' outings with Tepper alumni like Matt Flores (MBA 2012), Max Egan (BSE 2006, MBA 2012), and Jason Cahill (MBA 2014), and MBA student David Turner. Chris is thankful to the network for the continued talks helping him improve his skills to stand up this servicedisabled veteran-owned small business.

DARREN OLSON (MBA 2012) and Jessica Lee are excited to announce that they got married on the island of Maui in April 2019. They can't wait to spend a month together on their honeymoon in Europe this fall. Darren, a senior manager in Deloitte Consulting's mergers and acquisitions practice, and Jessica, a manager in Deloitte's advisory practice, both live in Seattle. Be sure to stop by and say hi next time you visit the area!

DAISUKE TANAKA (MBA 2012) is the Chief Operating Officer of Tier IV Inc., a Japanbased startup leading the development and implementation of the first opensource software for autonomous driving. He oversees marketing and sales, project management, product management, branding, and external communication as well as strategic global partnerships.

CLASS OF 2013

ALESSANDRO ERCOLANO (MBA 2013) founded Originals LLC, a spirits import company focused on discovering, importing, and marketing the premium and craft liquors of the world.



ANDRES FELIPE VELASQUEZ BLANDON (MBA 2013) and ALICIA MARIE FIORENTINO

(MBA 2013) were married on Saturday, July 27, at St. Patrick's Cathedral in Miami Beach, Florida. A reception followed at the St. Regis Bal Harbour Resort. Andres is a Senior Manager in IT advisory with EY, and Alicia is a member of McKinsey's Optimize Sourcing Team. They are currently living in Boca Raton, Florida.

CLASS OF 2014

After four years as the CMO of Identified Technologies, **BARRY RABKIN** (MBA 2014) transitioned over to lead marketing for Near Earth Autonomy. Founded by CMU robotics professors, Near Earth engages with organizations like Airbus, Boeing, DARPA, and NASA that use its technology to enable transportation and inspection vehicles to autonomously avoid collisions and to fly accurately without GPS. Barry is excited to help create a future where autonomous flight is safe and accessible!

CLASS OF 2015

BRENT HEARD'S (BSE 2015) research study comparing the environmental impacts of home-delivered meal kits with traditional grocery store meals was featured by the news outlets NPR, TIME, Forbes, and The Guardian, among others. Brent is wrapping up his Ph.D. at the University of Michigan's Center for Sustainable Systems. He also recently gave an invited presentation at the National Academies of Sciences, Engineering, and Medicine on the use of autonomous vehicles and drones for sustainable food distribution.

WILL SANDERS, who earned a Bachelor of Arts in Economics in 2015, started Recruiting from Scratch earlier this year. Recruiting from Scratch is a recruiting agency and has grown to seven team members. The company primarily works with technology startups in the Bay Area. Will also has worked on CMU Tech & Entrepreneurship Bay Area (cmuteba.com) for the past few years, a community for alumni in the Bay Area with a Slack group, events, and happy hours.

CLASS OF 2016

HANIM LIM (MBA 2016) and **ROBERT BRAWNER** (MBA 2016) are happy to share they got engaged on a small island in the Caribbean in June 2019. Days later, on a somewhat larger island, they ran a 5k in extreme heat; this was a terrible idea.

CLASS OF 2017

DANIEL SIMON LEONARD (MBA 2017) married Abigail Olson on June 1.

AEDAN MARTY (BSBA 2017) is Partner/COO at RubyRide. He is approaching one year at RubyRide, a seed stage MaaS (Mobility as a Service) business that provides door-to-door, app-based ride services for populations living in suburban and rural communities, with a focus on improving access to health and human services for vulnerable populations. Next month, RubyRide begins a six-month pilot project in the South Hills of Pittsburgh, to demonstrate the value — both tangible and intangible — this ride hailing model can create for users and the destinations they need access to. The pilot is supported by a grant from a Pittsburgh-area foundation. RubyRide is also operating in the city of North Mankato, Minnesota.

GBOLAHAN "AYO" SHYLLON (MBA 2017) and Titilayo Ayoola were married in a civil ceremony on Thursday, July 11, 2019, at The Old Marylebone Town Hall, Westminster, London, UK. The reception was held at the Dorchester Hotel, Park Lane. Their religious wedding ceremony took place on Aug. 10, 2019, in the Methodist Cathedral of Peace and Excellence, Lagos, Nigeria. Gbolahan and Titilayo currently reside in the United Kingdom.

CLASS OF 2018

After leading marketing efforts for two highgrowth technology companies, **LAUREN D'SOUZA** (MBA 2018) has launched Nued, a consultancy to help innovation-driven companies align their sales and marketing efforts. Nued leverages a combination of go-to-market strategy, communications consulting, sales enablement, and customer insights to help companies bring in higherquality leads, close sales, and drive profitability.

THIAGO SERRA (Ph.D. 2018) has recently joined the Freeman College of Management at Bucknell University as Assistant Professor of Business Analytics.

CLASS OF 2019

Tepper graduates **MICHAEL LAI** (MBA 2019), **AASHAY DOSHI** (MBA 2019), **AYUSH** LUTHRA (MBA 2019), and SANTANU MUKHERJEE (MBA 2019) have founded Talent IPO, a platform that connects students seeking to raise money for their educational expenses with impactdriven university-affiliated investors. In short, alumni investors fund students' educational expenses for a percentage share of their future earnings for a set period of time. As MBA students, they experienced firsthand the debt associated with obtaining an advanced academic degree. Talent IPO was founded with the belief that school shouldn't be a burden, and they sought to create a better way for students to acquire the capital they need to pursue higher education.

During his time at Tepper, WILLIAM LEE (MBA 2019) founded EpigenCare, a DNA testing startup for personalized skin care — which won a \$25,000 grant from Johnson & Johnson — and he raised an additional \$36,000 from a crowdfunding campaign. After graduation, he launched the beta-stage commercial product SKINTELLI to the public. The first data results from early adopter customers was completed in September, with an official product launch scheduled for early 2020. On Sept. 9, William also spoke on behalf of his company about skincare and epigenetics at the Innovations in Dermatological Sciences conference as part of the Center for Dermal Research in association with Rutgers University.

During their five-day wedding celebration in Mexico this summer, **NICOLE PALADINO RUSTON** (MBA 2019) happily wed Mark Ruston. It was a beautiful event with nearly too much fun had by all. Immediately following, they took a two-month honeymoon throughout Africa. There, they had the opportunity to trek with gorillas, canoe among hippos, walk with rhinos, kayak with seals, helicopter over buffalo, safari seeing big five, hike up Kilimanjaro, and volunteer in an orphanage. Now that they are back in Atlanta working, the real adventure begins. THE SECOND ANNUAL INTERSECT@CMU CONFERENCE FOCUSED ON HEALTH CARE INNOVATION, WITH PANELS HIGHLIGHTING ADVANCES IN TECHNOLOGY, CARE AND DELIVERY, PRICING, AND POLICY DESIGN. THIS INTERDISCIPLINARY CONFERENCE INVITED VISIONARIES IN THE MARKET AND RESEARCHERS FROM ACROSS CARNEGIE MELLON UNIVERSITY TO DISCUSS THE FUTURE OF HEALTH CARE. THIS YEAR'S CONFERENCE, WHICH TOOK PLACE SEPT. 13 AT THE TEPPER QUAD, WAS SUPPORTED BY PRESENTING SPONSOR APPRIO INC. AND APPRIOHEALTH, FOUNDED BY DARRYL BRITT (MSIA 1990).

ARTING SHO

JAMES CALO (MSIA 1989)

James "Doc" Calo, of Plainsboro, New Jersey, passed away on June 28, 2019. He was 57. Born in Stoneham and raised in Medford, Massachusetts, he was the son of Shirley (Decker) and the late Edward Calo.

Jim held executive positions at Coopers & Lybrand, VF Corporation, Ralph Lauren, Nautica, Under Armour, and Li & Fung.

"Doc" embraced life, valued friendship, and demonstrated care and respect for everyone he met. He had a natural ability for human connection with a heartfelt and genuine interest in each person he came in contact with. His sense of humor was infectious but balanced by a laser focus on getting the work done, whether striving through "math boot camp" or holding court at Doc's in Shadyside and Silky's in Squirrel Hill. Absolute humility was jim's hallmark; he always tried to do things right, moreover, he never failed to do the right thing. Jim truly lived the "Glass Jar Metaphor"; his mere presence was uplifting and made all of our lives richer and more valuable.

Jim's biggest passion was his family. He loved spending time with his wife Diana and their four children Nicholas, Cassandra, Victoria, and Julia. Jim's family was his pride and joy; they were his world.

All who met Jim will miss him dearly. "He shall grow not old as we that are left grow old; age shall not weary him, nor the years condemn. At the going down of the sun and in the morning, we will remember him."

From George DiNardo (MSIA 1989)

SCOTT MILLER (MSIA 1997)

Scott E. Miller, of New York City and Palm Beach, Florida, passed away Oct. 22, 2018. He was 51.

Born in Pittsburgh and raised in Belle Vernon, Pennsylvania, Carnegie Mellon was a natural fit to launch Scott's extensive career. He often spoke of his time there and the friendships he made with both the staff and his peers.

With an MBA in finance, marketing, strategy, and entrepreneurship, Scott went on to hold executive operations positions at CrossBorder Solutions and Thomson Reuters, overseeing renewal sales, business development, client services, and IT and consulting functions. He was an integral part of the acquisition of CrossBorder by Thomson Reuters in 2007, which made him an expert in acquisition integration. He went on to lead Thomson Reuters' post-deal multifunctional integration teams for over 20 acquisitions worldwide.

Personally and professionally, Scott will be remembered most for his ability to bring out the best in people. He excelled at recognizing and mentoring young talent. He took a genuine interest in his clients and his staff. Post-9/11, while working in downtown Manhattan, he bought sneakers for his entire team to keep under their desks "just in case." He was always looking out for others.

His generosity was endless. Scott frequently flew his mother, Sharon, to New York and Florida to visit. He recognized the sacrifices she made for him and paid them back in spades.

Scott had an encyclopedic knowledge of rock music and was an expert cook and an avid wine collector. He enjoyed events and travel related to food and wine, which he enthusiastically participated in with his wife of nearly seven years, Crista Barnes Miller. He was the consummate host and took great pride in connecting people. Creating experiences for others made him happy.

All who knew Scott will hold a special place in their heart for him. He touched many people and would want the party to continue. In the words of the late, great Ric Ocasek, "Let the Good Times Roll."

From Christa Barnes Miller



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We view Carnegie Mellon University and the Tepper School as lynchpins to our success as a global society. We have always held our CMU experience to be very rewarding, not only for the professional opportunities that it fostered, but for the deep friendships we gained there. We are very pleased that our contribution to the Tepper Class of 1989 Fellowship will be used to assist future Tepper students.

Join us on Dec. 3 to be a part of **#givingCMUday.**

Gifts of all sizes go further on **#givingCMUday**. Join us on social media to show your Tepper pride, make a gift, and continue your impact at the Tepper School of Business.



SHEILA SMITH DINARDO (MSIA 1989), Vice President, General Counsel & Secretary (retired) ANSYS

GEORGE DINARDO (MSIA 1989), Colonel (retired) United States Marine Corps Reserve

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