Inventing the World
**LEADERS IN APPLIED RESEARCH**
Kettering University faculty receive National Science Foundation Grants
Faculty members share occupant protection expertise with state of Michigan
Research opportunities provide growth for undergraduates
Faculty member discusses automotive light weighting in Columbia

**INVENTING THE WORLD**
In a study cited in *The Economist*, Kettering University ranks fourth nationally in alumni who are inventors – ahead of Stanford and Carnegie Melon
A problem-solving approach led to a recent graduate receiving a patent
See how a grant is helping Kettering University create a culture of inventiveness among youth in the Flint area
See a list of alumni patent holders – and find out how you can add your name to our database

**THE FUTURE OF MOBILITY**
Mary Gustanski ’85 is creating the next generation of mobility technology as CTO of Delphi Technologies and Aptiv PLC
Kettering University’s AutoDrive team is gearing up for its first competition
Faculty members at Kettering University are contributing significant research and thought leadership to the advanced mobility ecosystem
Kettering University is a member of the Smart Belt Coalition and American Center for Advanced Mobility Academic Consortium

**PROMOTING DIVERSITY**
Tony Prophet ’82’s passion for equality led him to a diversity leadership position with SalesForce

**ALUMNI NEWS**
Class Notes
In Memoriam
Bosch, Kettering Announce $500,000 Fellowships
Nathanael Ford ’22 has been named the first recipient of the Bosch Fellowship at Kettering University. The Bosch Fellowship was established with a $500,000 endowment from the Bosch Community Fund to support annual fellowships for academically talented Kettering University students. Eligible majors for the fellowship include Mechanical Engineering, Electrical Engineering, Computer Engineering and Computer Science.

Students Create Disc Golf Course
From the moment Kettering University students step on campus, they are making a difference in the Flint community. A recent project also helped restore a closed golf course and bring entertainment to students and residents. Kettering students played an integral part in creating an 18-hole disc golf course at the former Mott Park Golf Course, which had not been in use since 2009. The course neighbors Kettering’s campus.

“There is a big emphasis on serving those around you and being there for your community, because this is where you live. It makes you a better person if you are serving those around you and making the world a better place,” said Ethan Holper ’20.

Community Engagement Creating a Vibrant City
It was a busy three years as Kettering University received $150,000 to help implement strategic community improvements along the University Avenue Corridor. The Crime Prevention Through Environmental Design (CPTED) grant funding was received from the Center for Disease Control and Prevention in September 2014 in partnership with the University of Michigan’s Youth Violence Prevention Center. During that time, Kettering received $50,000 a year for three years to create a better environment for businesses, neighborhoods and residents. Funds were used to provide 300 LED Solar Motion Lighting and 99 driveway motion sensors, 30 security cameras for homes and businesses, build a disc golf course at an abandoned local golf course, plan neighborhood block parties, discuss placemaking for the corridor and to teach others how CPTED planning helps to create a safer, more welcoming community.

Pre-Med Students Get Certified
Twenty-four students in the Kettering University Pre-Med program are American Heart Association-certified in basic lifesaving and CPR after attending their second workshop at Covenant HealthCare Simulation Center at the Central Michigan University College of Medicine in Saginaw, Michigan. During this workshop, students learned CPR and defibrillation on adult and infant training mannequins, and then practiced on a simulated patient who went into cardiac arrest.

“I am just so excited about these workshops,” said Dr. Stacy Seeley, Department Head of Chemistry and Biochemistry and Director of the Pre-med Program. “This type of training is normally reserved for third- and fourth-year medical students and residents.”

A Passion for Numbers
Jordan Howell ’21 wanted to make sure he turned his passion for math into practical experience. The co-op opportunity at Kettering University allowed him to do that and helped him get one step closer to his dream of becoming an actuary. Howell has always liked working with numbers and was excited to work on his math homework over any other subject in high school in Jamaica. He understands the importance of using numbers to predict how future events can happen, and that’s why he chose to study Actuarial Science at Kettering. Howell hopes to become an actuary by age 25 and then go back to the Jamaica, where there is a great demand for the profession.

Auto Passion Draws Student to Flint
Yu Wang ’17’s passion for cars encouraged him to travel across the world — from Beijing to Flint, Michigan — in order to pursue a career in the automotive industry. Wang discovered his passion for cars in elementary school. After completing most of his secondary schooling in Beijing, Wang transferred to Lake Shore High School in St. Clair Shores, Michigan, as part of a senior exchange program. Soon after arriving in the United States, Wang learned about Kettering and how it could help him achieve his goal of working in the automobile industry. He chose to attend Kettering to pursue a degree in Mechanical Engineering while completing his co-op with Faurecia in Columbus, Indiana.
Giving Back Through Co-Op
For Chelsea Reeves ’18, her co-op experience wasn’t only about growing professionally, but also about learning what it means to give back to the community. Her time at Kettering University opened up many opportunities to volunteer in Flint through the National Society of Black Engineers and Kagle Leadership Initiatives. Those experiences led her to find a co-op that allowed her to deepen her impact on the Flint community. After volunteering with Communities First, Inc., a nonprofit community development corporation in Flint, she eventually started a co-op there. “People don’t realize that they have a voice. When you find the different resources or the differing ways to help them be heard, I really enjoy that. Working on my thesis and being able to be an advocate for people experiencing homelessness is important,” said Reeves, an Industrial Engineering major.

Using 3D Printing to Help Animals
Before Cierra Haley ’22 ever stepped foot on campus as a Kettering University student, she was able to get a headstart on design skills at her co-op. Haley, a Mechanical Engineering major, spent her co-op term with C3 Ventures, a company focused on using its experience and business leadership to create jobs for the residents of Flint and the surrounding areas through sustainable and renewable energy strategies. Working mainly with C3 3D, which utilizes 3D printing technology and other associated technologies to provide thermoplastic parts to its customers, Haley helped create part of a duck bill for an injured duck and designed a wheelchair for a paralyzed cat.

Co-op at Tesla Teaches Life Lessons
Sam Daleo ’17 took the opportunity while at Kettering University to reach high goals and learn all he could from his co-op experience. During his last co-op term at Kettering, Daleo was working on software architecture at Tesla in California. “I collaborated a lot with others at Tesla. Everybody has something to teach you,” said Daleo, a Computer Engineering major. “Being in the real world and in industry interacting with so many people over the five years I was at Kettering teaches you so much. The co-op experience is really, really valuable.”

Students Help Create Co-Work Space
Kettering University students are a part of the Flint community for more than four years as they work, study and volunteer. Sometimes, they also get the opportunity to invest in the community in a unique way during their co-op experience. Adam Hartley ’20 and Emily Dunkel ’20, among a growing number of other students, have had the opportunity to be a part of the Ferris Wheel, a shared office space, and innovation and entrepreneurship hub in the heart of Flint. Hartley, a Business major at Kettering, has gotten to experience the ins and outs of the Ferris Wheel opening. On top of that, he has helped with 100K Ideas, a non-profit organization created to help bring ideas or products to life, and Divide by Design, a company he is helping to start that creates a simple wall partition system to use for any type of room and is being used throughout the entire building. For Dunkle, who is a Mechanical Engineering major at Kettering, that means working on the physical space in different ways including figuring out which types of walls to use in which areas and helping with CAD work for the business ideas.

Students Partner With Hospital to Create Efficient Processes
Kettering University Industrial Engineering students recently worked with Hurley Medical Center for their capstone project, helping the Flint hospital plan ways to be more organized and efficient in the operating rooms. The students spent their time focusing on orthopedic surgeries, meeting with surgeons, hospital technicians, administrators and other hospital staff to observe the process, gather information and create recommendations for a smoother, more time efficient process. “The Hurley team was very impressed with the speed at which the students understood the processes that they were reviewing, and the depths of their recommendations,” said Melany Gavulic ’91, Hurley President and CEO.
Kettering University faculty members received two National Science Foundation Major Research Instrumentation grants totaling more than $500,000 to purchase equipment for faculty and student research. The grants are among 11 National Science Foundation Major Research Instrumentation awards the University has received since 2012 — more than any university in Michigan during that time.

Dr. Gillian Lynn Ryan, Physics faculty member, and collaborators from multiple disciplines across campus were awarded $395,975 to acquire a centralized High Performance Computing resource called the Kettering University High Performance Computing (KUHPC) cluster. It allows Kettering University to facilitate both computation- and data-intensive research on campus. Faculty and students can do more research more quickly, providing more results and a greater impact.

Ryan studies pattern formation inside cells, looking at how proteins assemble and organize within the cell. Because the type of model is stochastic, involving randomness, the High Performance Computing cluster allows her to run the same scenarios many times to get an average behavior rather than spending more than three or four hours on a single trial.

Students and faculty alike can use the cluster for projects and research and login from on or off campus.

“Many Kettering students use computer simulation and numerical calculations in their co-ops, and some of those students are already using clusters,” Ryan said. “Computational research techniques and tools are essential for state-of-the-art work in multiple STEM fields. We need to train our students to be competent users of this type of equipment.”
Dr. Susan Farhat, Chemical Engineering faculty member, and a multidisciplinary team of faculty received a $152,550 grant to acquire a spectroscopic ellipsometer. With the spectroscopic ellipsometer, Kettering can grow its research profile in the area of materials science and engineering, expand undergraduate research opportunities, support integration of research and experiential learning into courses and enhance community outreach programs in science and engineering related fields.

“The spectroscopic ellipsometer could support projects such as the development of engineered surfaces for orthopedic implants, investigation of the deposition behavior of organosilicons in plasma, creation of new materials and models for sodium-ion batteries, improved food storage materials, monitoring of surface-initiated polymerization kinetics, depositing silicon dioxide thin films with plasma, synthesizing materials for tissue engineering and wound repair, and understanding refractive index for thin ferrofluid layers.

Faculty and students in Chemical Engineering, Chemistry, Physics, Applied Biology and Electrical Engineering will use the equipment in classes, projects and research.

“At Kettering, undergraduate students get exposed to meaningful on-campus research opportunities at an earlier stage than peers at other universities,” Farhat said. “The ellipsometer will allow students to assist with research that will lead to opportunities to present at conferences, publish papers and potentially even be a part of new patents.”

State Officials Learn From Kettering Researchers

Members of Michigan Governor Rick Snyder’s Traffic Safety Advisory Committee, Occupant Protection Action Team, met on Kettering University’s campus in July and toured Kettering’s Crash Safety Center. The center’s director, Dr. Janet Fornari, and Mechanical Engineering faculty member Dr. Theresa Atkinson are members of the committee, which relies on research and expertise from universities like Kettering to provide data to show why the state implements standards and procedures to keep people safe on Michigan roads.
Research Experience Helps Undergraduate Grow

Although Jason Chapman ’17 was a Mechanical Engineering major, he learned how to properly conduct X-Ray Diffraction, design research methods and handle chemicals safely as an undergraduate.

He worked with Physics faculty members Dr. Uma Ramabadran and Dr. Gillian Ryan as they conducted research on incubating blankets to determine how to extend the duration of use beyond five hours and cap the maximum temperature of the blankets.

“For me it’s been incredibly valuable to have a broad range of experiences while I can. It was good to explore,” Chapman said. “I think it should be something people should consider. You’re here to learn.”

Ramabadran and Ryan began collaborating in 2015 to explore possibilities to slow down the phase transition from liquid to solid (crystallization), which will in turn slow the rate at which heat is released. The research first started with a partnership with Warmilu, an Ann Arbor startup that provides incubated blankets to villages in India that lack electricity.

The technology behind the heated blanket is a more sophisticated version of pocket warmers that can be easily found at local pharmacies and placed in shoes and gloves for added warmth. Warmilu has emulated that science to create a prototype blanket that can maintain warmth for approximately five hours. Ramabadran and Ryan are attempting to cap the maximum temperature the blanket will attain and extend the duration of warmth beyond five hours.

“FOR ME IT’S BEEN INCREDIBLY VALUABLE TO HAVE A BROAD RANGE OF EXPERIENCES WHILE I CAN. IT WAS GOOD TO EXPLORE,” CHAPMAN SAID. “I THINK IT SHOULD BE SOMETHING PEOPLE SHOULD CONSIDER. YOU’RE HERE TO LEARN.”

- Jason Chapman ’17

Faculty Member Presents at International Conference

Dr. Raghu Echempati, Mechanical Engineering faculty member, attended the 2017 SIIDI Conference October 2-6 at the Pontifical Bolivarian University in Bucaramanga, Colombia. He spoke about the connection between automotive lightweighting technologies, making vehicles lighter and more fuel efficient, and sustainability in agricultural industries. Transportation, especially trucking, is a key aspect of moving food like coffee and fruit around the world.
INVENTING THE WORLD
Kettering University out-ranks Stanford and Carnegie Melon in alumni inventors

By Patrick Hayes

Kettering University produces more inventors per graduate than all but three universities in the country, according to a recently released study examining how exposure to innovation influences inventiveness.

The study, by economists from Harvard University, MIT, the London School of Economics, Stanford University and the U.S. Treasury, analyzes the backgrounds of patent-holders nationwide to determine shared characteristics of inventors. In a portion of the study looking at the education of patent-holders, Kettering University was fourth in producing alumni who hold patents – trailing only MIT, CalTech and Harvey Mudd.

An article in The Economist noted that, “the college which produces the fourth-highest share of inventors in the data set is … Kettering University in Flint, Michigan—edging out brand-name institutions like Stanford and Carnegie Mellon.”

“From the moment they arrive on campus, Kettering University students are exposed to an intense, rigorous academic experience in our classrooms and labs and get to immediately apply what they learn in real-world industry settings through their co-op placements,” said Dr. Robert K. McMahan, Kettering University President. “That combination of theory and practice results in graduates who are uniquely prepared to enter the workforce not just as contributors, but as leaders and innovators. Kettering alumni have made a profound impact and have a proud legacy of creating technologies that have made the world safer, more connected and more sustainable.”

Kettering University was founded in 1919 on the belief that the best way to train engineers, scientists, businesspeople, leaders and innovators was to interlace the theory they learned in classrooms and labs with applied, professional experiences in their fields of study throughout their entire education. All Kettering students alternate between on-campus terms and co-op terms, either in paid positions with the University’s nearly 600 industry partners or in full-time, paid, research-based positions alongside faculty in labs.

“The ability for students to apply knowledge gained immediately to real-world problems in professional settings both on and off campus during the entire undergraduate experience differentiates Kettering from other universities,” McMahan
said. “That also leads to unique learning opportunities like understanding the patent process through intensive research experiences on campus or in industry settings in their co-op positions. At Kettering, our students and graduates truly develop the inventor’s mindset.”

Kettering’s facilities include the only autonomous vehicle proving ground on a college campus in the country, a crash safety center and high-tech lab and research equipment that undergraduate students get access to from the moment they arrive on campus. Kettering faculty have received more Major Research Instrumentation grants from the National Science Foundation than any university in Michigan since 2012 and are among the leaders in the United States in being awarded these grants, which have dramatically enhanced the University’s research capabilities.

Kettering University’s applied education model has resulted in graduates who are in demand. More than 98 percent of Kettering graduates are employed or accepted to graduate school within six months of graduation. Because they start out with more experience than graduates from other institutions, Kettering alumni typically earn higher starting salaries than their peers and have a higher lifetime earning potential. PayScale.com ranked Kettering first in the Midwest and 19th nationally for Return on Investment in 2017. Data shared by CNBC in September of 2017 ranked Kettering first in Michigan among colleges and universities for producing the highest earning graduates. The Wall Street Journal ranked Kettering first in the country in career preparation.

Kettering alumni also typically advance more quickly in their careers because of that headstart – more than 900 alumni in the University’s database are CEOs or presidents.

Kettering’s reputation as a rigorous academic institution also creates demand for graduates at elite graduate schools. The former dean of admissions for Harvard Business School told Fortune that, “We love Kettering in Flint” because of the experiences that students gain in the co-op program.

Grant Helps Young Innovators Program Grow

Kettering University is preparing a way for more than 100 young inventors to brainstorm, plan and present their ideas and inventions to the community.

Although the Young Innovators Program has been in Genesee County since 2000, it was the passion of Sarah Perkins, lead cooperative education manager at Kettering, back in 2013 that kept the program operating and inspiring fourth-, fifth- and sixth-grade students to think outside the box.

“It encourages students to be problem solvers, creative thinkers, researchers, technical writers, scientists and evaluators,” Perkins said. “It’s a great opportunity to introduce young students to STEM and careers in STEM. It’s a lot of fun.”

Each year, Kettering invites young inventors ages 9-13 to display their inventions at the Young Innovators Fair on campus. The innovators present their inventions to peers, educators and other attendees at the fair. Community support is a big factor in allowing Young Innovators to continue year to year. Recently the program received a $3,000 grant from the Stella & Frederick Loeb Charitable Trust fund through The Huntington Private Bank in Flint.

The program originated in Minneapolis and has a rich history of offering invention curriculum, resources and special events. The Flint and Genesee Chamber of Commerce and Genesee Intermediate School District offered the program to the students of Genesee County from 2000-2012. In 2013, Kettering University agreed to adopt this program as a part of the University’s mission to provide pre-college opportunities for students of all ages to gain exposure to Science, Technology, Engineering and Mathematics (STEM). The program integrates the core curriculum areas (Science, Language Arts, Mathematics and Social Studies) and applies them to real world problems to be solved, akin to the cooperative education model upon which Kettering University was founded.
Problem Solving Leads to Patent for Recent Graduate

For Devin Sutherland ’13, being an engineer means finding new ways to solve problems every day. That outlook on his career led him to earning a product patent only a few years after graduating.

Sutherland, a Mechanical Engineering graduate and product engineer for Magna Seating, ran into an issue when he was developing seats for Ford and Lincoln. The foam on the metal structure inherently causes squeaking, and there’s a spray that helps eliminate it. However, the foam color was changed from yellow to black, making it difficult for operators to see the spray.

Sutherland patented a noise-reduction coating that includes a fluorescent additive so engineers could better see it with a black light.

“When you go to black foam, you can’t see that spray on it. They originally added color into it so you could see it. When you go to black it was very difficult to see. Me being color blind it was even harder to see it,” he said.

“I didn’t see it as inventing at the time. I was just solving a problem.”


“I originally didn’t think it was unique enough from what was out there already. But we added the names of chemicals and additives that were in there and it made it unique enough,” he said. “I didn’t think this was a thing that would happen. It wasn’t a goal I had while solving this problem. But it makes you feel really good. It makes you feel like a real engineer.”

There’s a history for patents and inventions in Sutherland’s family. His great uncle, Robert Kearns, invented and patented the intermittent windshield wiper mechanism still used today. Sutherland said seeing his family deal with patents and legal issues with them taught him respect for patents.

“I DIDN’T THINK THIS WAS A THING THAT WOULD HAPPEN. IT WASN’T A GOAL I HAD WHILE SOLVING THIS PROBLEM. BUT IT MAKES YOU FEEL REALLY GOOD. IT MAKES YOU FEEL LIKE A REAL ENGINEER.”

- Devin Sutherland ’13

Kettering University Inventors

Learn more about some of Kettering University’s most prolific patent-holders below. Are you a Kettering University graduate who owns a patent? Please let us know so we can add you to our database. Contact alumni@kettering.edu.

Ted Adams ’68 was the principal founder of five companies and holds more than 70 medical-related patents.

Bill Bolander ’83 holds 10 patents, won the Kettering/GMI Engineering Achievement Award and received a $500,000 National Inventor’s Prize, all by the age of 35.

Douglas Campbell ’74 holds 13 patents and was a pioneer in airbag development.

Caroline Chung ’09 a Senior Advanced Development Engineer – Autonomous Seating with General Motors, holds a patent for a vehicle camera system.

Phil Edholm ’78 holds 12 patents with 12 more pending and is widely recognized as a thought leader and expert in Unified Communications (UC) and VoIP.

Linda Hunt ’11 a Research and Development Project Engineer for Easton Baseball/Softball, holds six patents related to baseball bat designs.

Marie Johnson, Ph.D. ‘90 is the CEO and President of AUM Cardiovascular. She and her company hold several medical device patents.

Steve McEwen ’54 holds 36 patents, 12 of which pertain to filtration systems.

Karen Stewart ’70 the first female graduate of GMI, earned a patent while working for Ford Motor Company for a manufacturing method for Stoichiometric Exhaust Gas Sensors.

Peter Stouffer ’86 holds 20 patents and is credited with spearheading the development and launch of Code-Alarm’s PowerCode Technology™ (all-in-one remote vehicle control system).

David Taylor ’70 holds 22 patents and is the co-founder of Donnelly Electronics and served as President until the company was purchased by Magna International in 2001.

Kettering University’s namesake, Charles Kettering, holds 186 patents, including the electric-starting motor (Patent No. US 1171055 A).

Frank Walker ’54 holds 20 U.S. patents and has three papers published by the Society of Automotive Engineers (SAE).
No matter whether vehicles have an internal combustion engine or a battery, they need to move. That’s where Delphi Technologies comes in.

Mary Gustanski ’85 has taken on the role of Chief Technology Officer for the new company when Delphi Automotive became two separate entities: Aptiv PLC and Delphi Technologies PLC. The companies went public in December of 2017.

“As long as vehicles need to move, there’s a need for Delphi Technologies,” Gustanski said.

Gustanski’s role is to ensure the flawless execution of global engineering and to share Delphi Technologies work product value propositions for propulsion systems. Delphi is more than a company that builds parts for internal combustion engines – the industry is moving toward hybrid, fully-electric, connected and autonomous vehicles, a transition that will take years because of infrastructure and customer expectations.

Projections show by 2025, 95 percent of vehicles sold will still have an internal combustion engine, Gustanski said. Many of those vehicles will be hybrids. Delphi Technologies is known for system integration abilities, or mixing and matching options to give customers what they want.

The transition period includes cost of electric vehicles, the availability of charging stations at stores and businesses and customers getting comfortable with electric vehicles. Regulatory standards also are changing, and original equipment manufacturers need to add more electrification options to meet the targets.

“Regardless of how fast and if we end up with autonomous vehicles, we still need to move them. We still need advanced propulsion technology,” Gustanski said.

Gustanski was ranked 42nd on MotorTrend’s 2018 Power List. “An engineer by education and trade, Gustanski oversees the mammoth supplier’s 20,000-strong team working on active-safety, autonomous and self-driving technology,” MotorTrend noted.

“That’s wonderful,” she said of the ranking. “More importantly, it really says there’s a recognition for how important the needs for future propulsion are.”
It’s also an acceptance of female leaders in the industry, she said.

Gustanski came to Kettering because it’s a hands-on University with on-the-job training through the co-op.

“For me, it was an opportunity to figure out what I was going to do with my degree,” she said. “The curriculum was well-suited to teach students how to apply facts with labs and hands-on techniques during school.”

She earned a Mechanical Engineering degree with an Electrical Engineering minor. The degree enabled her to grow in the ever-changing auto industry. Kettering also introduced Gustanski to Greek Life, where she learned about leadership as the president of her sorority and balancing school work with extracurriculars.

Gustanski encourages students to take extra classes to augment their degree.

“You can never get too much education,” she said. “You will reach into that tool chest for your entire career.”

She also advises them to take every opportunity presented to them. If someone asks students to join a project, take it. The effect is cumulative.

“Every one of those ends up being one more step in pyramid of who you will become,” Gustanski said.

AutoDrive Team Prepares for Competition as Mobility Research Center Nears Completion

Kettering University’s SAE AutoDrive Challenge team continues to gain momentum in preparation for its first competition in the spring of 2018.

The team received its Chevrolet Bolt from General Motors in the fall of 2017 and demonstrated the vehicle at the 2018 North American International Auto Show. A new lab space is also under construction in the C.S. Mott Science and Engineering building to house the team as it develops systems and components that will convert the Bolt into an autonomous vehicle. Currently, more than 50 students are involved with the team. Faculty from the departments of Mechanical Engineering, Electrical Engineering, Computer Engineering and Computer Science support students on the team.

The AutoDrive Challenge is part of SAE International’s Collegiate Design Series. The three-year autonomous vehicle competition tasks students with developing and demonstrating a fully autonomous driving passenger vehicle. The technical goal of the competition is to navigate an urban driving course in an automated driving mode as described by SAE Standard (J3016) level 4 definition by year three.

AutoDrive is a core component of Kettering University’s commitment to creating the future of advanced mobility through facility upgrades, curriculum updates, interdisciplinary collaboration and hands-on opportunities for students.

Kettering University’s GM Mobility Research Center — an autonomous vehicle proving ground — is the only facility of its kind on a college campus in the country. The first phase, a 3.25 acre test pad built to race track performance specifications, was completed in 2016. Phase two of the project includes a nearly 1-mile road course aimed at creating diverse driving environments and will be completed in the spring of 2018. Construction on a research annex that includes garages and conference and lab space will begin in the spring of 2018.

“The facility and other facility upgrades being made on our campus will have a tremendous impact on our ability to continue educating the nation’s best and most innovative scientists and engineers,” McMahan said. “It will open up many new opportunities for our faculty to engage in applied research at the cutting edge of autonomous vehicle systems design and engineering. It will also provide a state-of-the-art facility for our more than 600 corporate partners to use when researching, developing, and testing new mobility and transportation technologies. The Mobility Research Center is already acting like a magnet - attracting companies in Michigan and from around the U.S. to come to Flint to create these new technologies.”
Kettering University Joins Mobility Consortiums

Kettering University has joined two prestigious groups aimed at developing future advanced mobility technologies.

The Smart Belt Coalition, an esteemed multi-state consortium of universities, government agencies and advocacy groups, is a collaboration that aims to help shape and inform the ongoing development of connected and automated vehicles.

Kettering University is also one of 15 colleges and universities in Michigan partnering in a new American Center for Mobility (ACM) Academic Consortium aimed at training the next generation of high-tech talent at the state-of-the-art connected and automated vehicle technologies (CAV) facility in Southeast Michigan.

The ACM and the Academic Consortium will partner to create educational pathways to train and prepare students to support automated vehicle testing and implementation. The members will work together to identify workforce courses and training programs as well as recruitment opportunities, internships, co-op and work study programs for Academic Consortium students.

The research efforts of two Kettering University faculty members in the Department of Electrical and Computer Engineering are helping expand the University’s autonomous and mobility research and development capabilities.

Dr. Jungme Park joined Kettering’s faculty in 2017 and brought a wealth of industry and academic experience to help develop classes and student research experiences in autonomous driving technologies.

Park previously worked on localization and mapping for autonomous vehicles at Changan U.S. Research and Development Center, a major OEM in China. Prior to that, she spent two years as a senior research engineer developing applications for vehicle camera software for Hyundai Mobis in Plymouth, Michigan.

At Kettering, Park is continuing her research in environmental perception and localization and mapping for autonomous vehicles.

Dr. Juan Pimentel was a popular speaker at the 43rd Annual IEEE Industrial Electronics Society conference from October 29 through November 1 in Beijing, China.

After presenting a tutorial about autonomous vehicles to more than 150 people, the conference organizers invited Pimentel to speak on the Industry Forum panel where he shared the work Kettering University students are doing to turn an electric car into an autonomous one.

In July of 2017, Pimentel led a tutorial on connected vehicles and presented a recent publication on wireless sensor networks at the IEEE 15th annual International Conference of Industrial Informatics in Emden, Germany.

The tutorial focused on vehicle-to-vehicle and vehicle-to-infrastructure communications using wireless technologies. Based on this type of communications, the vehicle would be capable of making decisions about stimuli that extend beyond a driver’s range of vision.
Tony Prophet ’82 believes that in any career choice, following a passion is key. In his case, his career and experiences impressed upon him the importance of fighting for equality.

Prophet, who became Chief Equality Officer for Salesforce in 2016, found an opportunity to take his passion to the next level and focus on people. “Throughout my career, I’ve found myself in positions where my business role exposed me to critical human rights and social justice issues. Fortunately, I was able to use my platform to influence positive change,” Prophet said. “I’ve always admired Salesforce for its purpose focus — centered on the idea that businesses can be a platform for social change. These values are closely aligned to my own.”

While working on global supply chain projects, Prophet worked to advance a range of equality issues, including advocating for the rights of young and female workers in developing countries, improving schools for children of migrant workers and addressing the root causes of migratory worker flows.

At Salesforce, Prophet leads the company’s equality initiatives, focusing on gender, LGBTQ and racial equality to ensure that Salesforce reflects the diversity of the communities it serves. He is a member of the company’s executive committee, reporting to Chairman and CEO Marc Benioff. Prophet currently serves on the board of Gannett where he chairs the Transformation Committee, as well as on the board of College Track.

Prophet and Salesforce are taking action on four key pillars: equal pay, equal education, equal rights and equal opportunity.

“In this role, I learn from our entire community who tirelessly dedicate themselves to working together to create a more equal world for all. Throughout this journey, there are three key learnings that have stuck with me: start with transparency; lead with empathy; and create a culture of allies who will ask, listen, show up, and speak up for one another,” Prophet said. “Equality isn’t just the right thing to do, it’s also the smart thing to do. Research shows that a commitment to workplace equality and giving back has financial, innovation, customer loyalty and employee engagement impacts.”
FOLLOW YOUR PASSION
Looking back over the 35 years since he graduated with an Industrial Engineering degree from Kettering, Prophet learned that so many of life’s successes boil down to a few key factors: building teams with the best people and inspiring them to do their best work; being adaptive to a wide range of context — from the shop floor to the board room; developing a genuine sense of empathy for employees, partners and customers that you work with — striving to see the world through their eyes and driving toward win-win solutions; and distilling the mission and strategy of an organization into simple, memorable and actionable words.

Previously, Prophet served as Microsoft’s corporate vice president of Windows and Search Marketing, where he was responsible for Windows, Bing, Cortana and MSN brands. His team led the Windows 10 product marketing and launch planning, which was one of the most successful operating system launches, garnering more than 200 million users within six months of launch. He was also co-executive sponsor of Blacks at Microsoft and founding executive of BlackLight, an organization empowering black marketers at Microsoft.

Prior to Microsoft, he led worldwide operations for what is now HP Inc., and before that, he lead worldwide operations for Carrier Corporation. Before that, he was a partner with Booz Allen Hamilton.

When Prophet came to Kettering, he found himself drawn to the manufacturing environment and the shop floor. Industrial Engineering was a natural fit for him. As he progressed in his career, he began to think outside the box of what was the best role for him.

“My advice for others is to follow your passion. For me, human rights and how manufacturing logistics affected them was something I became increasingly passionate about. Over time, it evolved into the broader lens of equality and making sure companies or any institution are respecting the rights and aspirations of each of their stakeholders,” Prophet said. “Take risks in your career decisions early on — put people first — focus on the customer.”

Prophet’s time at Kettering set him on a path to be prepared for whatever opportunities came his way.

From an early age, he had a love of cars and a huge stack of Motor Trend and Car & Driver magazines that he would read cover-to-cover every month. What Kettering offered was very appealing to him.

“When I was in high school, Kettering came to our campus looking for young people excited about math and science, and interested in a career in the automotive industry — it was a perfect fit for me,” he said. “Once I was there my experience was a really unique combination of work and study. And at the end of five years, I felt completely prepared for any number of roles — from engineering to production management. I look back with great fondness about my time at General Motors Institute, which ultimately became Kettering. Despite the small class size, I continue to run into alumni doing amazing things all over the world. It’s an incredible institution that I’m super proud to be associated with.”
Ryan Ayler ’15 partnered with Los Angeles artist Jonathon Keats to study human interfaces with computers in the Los Angeles County Museum of Art and Hyundai Venture’s Art + Technology project. They created a “driver-full” car using available technology to immerse the motorists in the driving experiences, including connecting the vehicle’s RPMs to music’s beats per minute.

Mary Barra ’85, Chairman and CEO of General Motors, was named MotorTrend’s 2018 Person of the Year and was No. 1 on the magazine’s Power List. Three other Kettering graduates, Pamela Fletcher ’89, General Motors Vice President of Global Electric Vehicle Programs; Mary Gustanski ’85, CTO of Delphi Technologies and Aptiv PLC; and Raj Nair ’87, President of Ford North America also made the Power List.

The Society of Women Engineers presented Maryann Combs ’87 with the 2017 Global Leadership Award for her work as an executive and mentor in the automotive world. The executive director of global validation at General Motors leads a team of 1,500 engineers and mentors men and women in countries around the world, something she started doing after coming up through the auto industry without female mentors.

Clinton Bolinger ’06 gives back to younger generations through The Robot Space, which he established with his wife Brandi in 2013 to host summer camps workshops for younger children to learn how to build robots. He’s also the founder and co-head mentor of the FIRST Robotics Grand Blanc EngiNERDs - Team 2337 and helps his students with their studies and the college application process.
1971  
**James Carter** works as Industry Liaison at Gage Products. He is also on the Board of Directors for GasTechno, a startup company with a new technology that allows for small-scale conversion of flare gas into liquid fuels at remote drilling sites.

1973  
**Michael Mahany** retired and is now living in Alaska.

1975  
**Chuck Pugno** and his wife Janet now have a 6-year-old foster child to go along with their several grandchildren. He calls them his “cousins.”

1977  
**John Cavanaugh** retired from Electro-Motive in December of 2015 and has since been enjoying golfing, gardening and time with his grandchildren.

1979  
**Steven Luboniecki** earned his Lean Six Sigma Blackbelt and started teaching after his retirement from GM. He is a Siemens Level One Certified Instructor and is an Adjunct Professor at Motlow State Community College in Smyrna, Tennessee. He teaches full-time at Smyrna High School and is certified to teach Advanced Placement Physics, Advanced Placement Chemistry, other sciences and math.

1982  
**John M. Cachat** has joined forces with **Scott A. Gray** to develop a new international cloud app to help Tier 2 and smaller companies in the global automotive supply chain by improving the application of the Automotive Industry Action Group (AIAG) Core Tools (APQP, PPAP, Control Plans, FMEAs, and MSA). Cachat is a subject matter expert in computerization of quality management business processes and has been recognized by Kettering for both Entrepreneurial Achievement and Management Achievement awards. Gray is the AIAG Director of Quality Products and Services, after retiring as the Global VP of Quality at Eaton Corporation.

1990  

1993  
**Michelle Alamo** recently relocated to Denver, Colorado, where she is enjoying the sunshine and mountain views, as well as her work at Armstrong Teasdale LLP.


1999  
**Eric Baron** has been working at Cantor Colburn since 2007 as a patent attorney. Before working at the firm, he was an engineer at Hamilton Sundstrand. Today he represents clients on all aspects of patent application preparation, prosecution
First Founders Day of Giving a Success

On October 19-20, 2017, Kettering University launched its first Founder’s Day of Giving event—a 24-hour online campaign to raise funds for the Keep Me Kettering Scholarship Program. Mark Makulinski ‘73 offered to match the first $20,000 dollars raised.

Thanks to the generosity of the Makulinski Family Foundation, the support of social media ambassadors and thoughtful donors, the campaign was a success: 145 donors helped raise $57,490 in 24 hours. The campaign culminated in an on-campus celebration with students, alumni, faculty and staff complete with birthday cake and signing of the iconic bulldog statue.

Keep an eye out for more information on how you can participate in our 2018 Founder’s Day of Giving which will launch Kettering’s Centennial Celebration this coming October.

2001
Mindy (Woodyard) Holmes is working in the exciting field of Internet of Things & Autonomous Driving as a Risk and Controls Program Manager for Intel Corporation. She has been elected to be chair of the Industry Advisory Board for the IISE (Institute of Industrial System and Engineering) and sits on the UoFA Industry Advisory Council. She also volunteers for STEM programs in her community. She has three children, twin girls that are 2-years-old and a son that is 1-year-old.

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Corey M. Beaubien co-authored an article entitled “US design patents — no longer second chair” in the IAM Yearbook 2018. He also was a speaker for the webcast “The Hague Agreement and Design Filings: Things You Need to Know and Do,” presented by The Knowledge Group, LLC in October 2017. Beaubien is a managing shareholder at the law firm Reising Ethington P.C. Beaubien was quoted in an article in the Wall Street Journal in September 2017 entitled, “A Shape-Shifting Car? Patent Filings Point to Auto Industry’s Future.” He was recently named a Michigan Super Lawyers Rising Star for 2017 in Intellectual Property.

2005
Todd Grzegorczyk and wife Nicole welcomed their first child, Zavyer, on April 25, 2017.

Jared Pratt graduated with a Master’s in Business Administration from the University of Michigan in 2007 and has worked in the technology sector for 10 years. He currently works for Microsoft as a Product Manager. Jared is an active volunteer with the Kettering Alumni Foundation and various educational programs in the community.

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of Michigan. Pratt was recently promoted to Senior Marketing Manager for Global Marketing with Ethicon Inc.

Jeanne (Hargreaves) Wagner married Chris Wagner, on July 30, 2016. They relocated from Toledo, Ohio, to Sandy, Utah, when Wagner transitioned from a career in solar power to medical devices. She is a Senior Supplier Quality Engineer for Edwards Lifesciences working on Transcatheter Heart Valve Delivery Systems.

Essence Wilson was one of 50 urban leaders worldwide selected as a Next City Vanguard. Wilson was invited to the Vanguard conference, an experiential urban leadership gathering of the best and brightest young urban leaders working to improve cities, in Newcastle, Australia, where her team’s winning proposal was selected to transform an abandoned train station in the city.

2008

Put your best foot forward in 2018. Make a gift of $35 or more before June 30th to the Kettering Gift Fund or other area of your choice, and you’ll receive an exclusive pair of Bulldog socks to rock.

Make a gift of $35 or more in support of Kettering students at build.kettering.edu/bulldogpride and we’ll send you a unique pair of socks. When you receive your socks, take a sock selfie and post it on Facebook, Twitter, or Instagram with the hashtag #Bulldogpride.

Your generous support makes a difference in the creation of student scholarships, enhanced labs and learning facilities, as well as in achieving our mission of building future leaders in the fields of science, technology, engineering, math and business. Every gift matters.

These one-of-a kind socks will be available only through June 30, 2018.
ONCE A BULLDOG, ALWAYS A BULLDOG.

Save the Date for Kettering University’s Homecoming Celebration Weekend!

MAY 18 - 20, 2018

Reconnect with your alma mater as we celebrate nearly 100 years of exceptional education, long-term collegiate friendships and what it means to be a Bulldog. Formal invitations and a full schedule of Homecoming events are coming soon.

KETTERING.EDU/HOMECOMING