A New Automotive Research Hub
Kettering University’s GM Foundation Automotive Research Area will not only create one of the most innovative outdoor proving ground and lab spaces in the country, but also its construction on former Chevy in the Hole property will be a national model for creative reuse of industrial brownfields.

Rebuilding a Community Centerpiece
Thanks to an outpouring of community support, including a $1.75 million gift from the C.S. Mott Foundation, Flint’s historic Atwood Stadium will see new life – and new turf – as a key piece of Kettering University’s efforts to connect its campus to exciting developments in downtown Flint.

Expanding STEM through FIRST Robotics and Pre-college
Kettering University has the only FIRST Robotics Community Center located on a college its campus in the country. Find out how the University is using this innovative facility, as well as other pre-college initiatives, to expose students to the power of STEM education.
Community Vitality Impact

The city of Flint and the surrounding area are important attributes of the Kettering experience. It is imperative that we actively engage in the economic renewal of our city and region by fueling innovation and entrepreneurship in our graduates and by collaborating with our educational and community partners in the region.

“[Kettering University’s] success has created a positive draft that has pulled our entire community forward.”
– Flint Mayor Dayne Walling, via MLive.com

50 BLIGHTED STRUCTURES REMOVED in the University Avenue Corridor since 2013

“I want to give a shout out to Kettering University for building a first of its kind community center for FIRST Robotics teams. They’ve been a true leader.”
– Michigan governor Rick Snyder during the 2015 State of the State address

“This innovative approach, which prioritizes public safety and represents a partnership between Kettering University, area residents and local law enforcement, will help reduce and prevent crime along University Corridor neighborhoods, including Carriage Town, Mott Park and Glendale Hills.”
– U.S. Congressman Dan Kildee

3000+ VOLUNTEER HOURS contributed to Service Projects in Flint

“Hosting the GREEN Summit on Kettering’s campus is a great fit. These students have an interest in science, so getting to expose them to a place like Kettering through this program is a great opportunity.”
– Rebecca Fedewa, executive director of the Flint River Watershed Coalition

“President Robert McMahan and his staff have proven their desire to become more involved in our community by their commitment to making Atwood Stadium, as well as the entire University Avenue corridor, a positive part of rebuilding Flint.”
– Hon. Duncan M. Beagle, Genesee County Circuit Court Judge and member of the Friends of Atwood Stadium

$8 MILLION + IN GRANTS & DONATIONS for initiatives that have directly impacted Flint since 2013
Campus News

Around Campus

1. Kettering University students helped repaint walls surrounding the Atwood Stadium field in the spring.

2. Faculty and staff from Kettering University and Powers Catholic High School started a new winter tradition—a friendly broomball game on the skating rink at Atwood Stadium.

3. As part of a Service Saturday project, Kettering students helped clean up a median at DuPont Street and Chevrolet Avenue by planting flowers, mulching and weeding.

4. Former NCAA and NBA basketball player and Flint Northern great Mateen Cleaves hosted his 1 Goal, 1 Passion youth basketball camp at Kettering University in 2014 and 2015.

5. Participants in Kettering’s Lives Improve Through Engineering (LITE) program partnered with GM to construct duck houses made of upcycled Chevy Volt battery covers. The duck houses were hung in various locations along the Flint River.

6. A mathematics conference focused on urban data collection attracted scholars from around the world to Kettering University and Flint.

7. Flint was one of several locations around the country selected by Benjamin Moore to have building exteriors receive new paint. Kettering students, faculty and staff participated in the volunteer-driven effort.

8. Kettering University hosted the Flint Regional Science Fair, which featured exhibits from hundreds of high school students. Students also received a light and fiber optics demonstration from Physics faculty member Dr. Corneliu Rablau.

9. For the second consecutive year, Kettering University hosted young inventors from elementary and middle schools throughout Genesee County to present their projects as part of the Innovators: Kettering Young Inventors program.

10. Hundreds of middle and high school students from around Genesee County were on campus during Homecoming 2015 participating in workshops, doing water testing and presenting findings from their participation in the annual Flint River Watershed Coalition Green Summit.
A group of Kettering University students completed a service project that is not only giving dogs at Genesee County Animal Control something to do, but also helping them prepare to find new homes.

Seven students from the Kettering University chapter of Tau Beta Pi — a national engineering honor society — built dog agility equipment to create a “puppy playground” in a fenced-in yard at the Animal Control facility.

“We looked up specifications for dog agility obstacles from the official competitions and built the equipment to those specs,” said student Ben Spiegel, a senior from Bloomfield Hills double majoring in Mechanical Engineering and Industrial Engineering.

The project was brought to Tau Beta Pi by Dr. Diane Peters, assistant professor of Mechanical Engineering at Kettering University. Peters serves on the advisory committee for Genesee County Animal Control.

“I saw a need at the shelter for something like this, and I suggested it to Tau Beta Pi,” Peters said. “Jacob Sherwood and Ben Spiegel took charge and really ran with it. With help from other members of Tau Beta Pi, they did a lot of work and this was a really nice service project. Who doesn’t love the idea of a puppy playground?”

The equipment was installed in mid June and has already become extremely popular.

“The dogs absolutely love it,” said Renea Kennedy, volunteer/events coordinator for Genesee County Animal Control. “It’s great for the animals because it allows them to work on mental challenges, as well as getting exercise. It’s great for helping them with anxiety.”

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Dr. Petros “Pete” Gheresus, Robert and Claire Reiss Chair of Industrial Engineering at Kettering University, has one resounding message about his journey from Eritrea (formerly a province of Ethiopia), East Africa, to the American Midwest: he didn’t get here alone.

“I did not get here by myself,” Gheresus said. “The probability of leaving Eritrea for educational opportunities was virtually unimaginable.”

Gheresus spoke about his journey at the annual Black History Month celebration at New Zion Missionary Baptist Church in Flint this year. Gheresus’ struggles were plentiful at each point of his journey, and now he’s dedicating his life to serving students both in his homeland of Eritrea and in Flint and surrounding communities by sharing his time and knowledge.

Based on his own life experiences, Gheresus has developed an unwavering belief in the power of education. In his 35 years in Flint, he’s been active in the Flint Public Schools while also forgoing his summer vacations to develop and invest in pre-college programs at Kettering. Gheresus emphasizes that he didn’t get to where he is today by himself and it’s unreasonable to think Flint-area students could achieve success without the help of the generation that came before them.

“I am grateful that Kettering University continues to enable me to pursue my passion helping others through the vision of “Community Vitality,”” Gheresus said. “Education will equip you with knowledge and information, and that’s the best asset one can possess.”

Students Work to Create Sustainable Food Source in Flint

A group of Kettering University students are currently working on a capstone project that features significant community collaborations, and the end result will both make use of currently vacant space in the city and provide a food source for residents.

The students, as part of Kettering’s Center for Culminating Undergraduate Experiences Interdisciplinary Senior Capstone Design course are working with Metro Community Development of Flint and PetraFirma, LLC, to design an aquaponics system. The work done in the Interdisciplinary Capstone course constitutes the legwork needed for the much larger scope of a Professional Practice Thesis.

The initial system will be built in an empty garage area in the Metro Community Development building, with construction starting this summer. Kettering students will design and oversee construction of the system, with labor provided by students in Metro Community Development’s Youthbuild program.

Once the concept is proven in the smaller setting, the plan is for a larger scale aquaponics farm to be constructed in the building that formerly housed the Flint Farmers’ Market.

“This project is an example of the many engineering projects that have a real-world impact taking place in the CCUE interdisciplinary course,” said Dr. Matthew Sanders, Kettering University professor of Industrial Engineering.

“Students get so much value from projects like this – they are impacting the community in a positive way and also using a wide range of skills from several engineering disciplines.”

Student Committed to Making a Better Flint

Beyond his education, Angad Mehrotra is committed to dedicating himself to improving Flint.

“I want to make sure Kettering and Flint are better places when I leave them,” Mehrotra said.

Mehrotra committed himself to Kettering’s Service Saturdays program as a means to promote community organizing for the greater good in the city.

“With Angad’s leadership our Service Saturdays took on an entirely new perspective,” said Jack Stock, director of external relations at Kettering. “He turned the perceptions of three different neighborhood association groups towards Kettering students on its head. We now have their confidence and cooperation, and we are all so much better as a community because of Angad’s leadership.”

Mehrotra has expanded his second goal at Kettering beyond the boundaries of Flint with his involvement in Engineers Without Borders on campus. After months of organizing and planning, Mehrotra led a team of four students and two mentors to Vukuvevelle, South Africa, in January 2013. The team aimed to provide the residents of the village with a water source by implementing roof water systems.

“He oversaw the entire project. His role was a unique complicated assignment of not just thinking about solutions, but coordinating with all the other agencies that have a hand in the project,” said Dr. Laura Sullivan, founder and faculty advisor for Engineers Without Borders and professor of Mechanical Engineering at Kettering. “He worked with all the stakeholders in addition to focusing just on the technical solution like other team members.”
Kettering University’s golf club has not only provided a way for Kettering students to continue participating in the game, but also, through community outreach efforts, worked to pass on their love of golf to kids in Genesee County through The First Tee of Eastern Michigan program.

“We got involved with The First Tee program last fall through the IMA Brookwood Golf Club,” said Tyler Phillips, a sophomore from Durand, Michigan, majoring in Industrial Engineering. “It’s a great program that helps create passion for the game at young ages for kids.”

The program was designed to connect young people with mentors, using golf to provide educational opportunities that “build character, instill life-enhancing values, and promote healthy choices through the game of golf,” according to the organization’s mission. Andrew Prina, a Kettering freshman and the golf club’s treasurer, is the organizer of Kettering’s involvement in the program, and Bill Schaub, a Kettering sophomore, is the club’s events coordinator.

Kettering Students Help Spread STEM Concepts to Girl Scouts

Nearly 100 Girl Scouts from southeastern Michigan worked to earn badges and learn STEM (Science, Technology, Engineering and Math) concepts at the third annual Kettering University Girl Scout STEM Daycamp.

This is the third year for the program, and an increase in volunteers this year allowed female Kettering University students to mentor an even larger number of Girl Scouts.

“We had about 20 Kettering volunteers this year, and that really allowed us to grow,” said Beth Facemire, a Mechanical Engineering major and organizer of this year’s event. “In the past, we’ve only had about 50 girls in the camp. This year, we were able to serve a lot more young girls and help encourage them to explore STEM-related fields.”

Helping Hurley Medical Center Solve Congested Parking

Christopher LaFayette came to Kettering University in search of a practical education in both the classroom and in his co-op experience. So when Hurley Medical Center approached Kettering University to conduct a parking study, LaFayette and his classmates were elated to take on the challenge.

LaFayette and his classmates — David Butler, Alex Stair, Mallika Wadhawan, Cassidy Metzer and Kenya McDonald — evaluated the available parking spots at Hurley, the traffic to and from Hurley during low and peak times, and number of spots available during both, and made recommendations based on their findings.

“We concluded that they do not have a shortage of parking,” LaFayette said. “We looked at the time card data and using that we identified the peak days when they had the most amount of people at the facility. Even at the highest peak, it didn’t exceed the number of spots available.”

The group’s research was a part of their capstone project with Dr. Pete Gheresus, and, although they determined that the number of parking spots was not an issue, the quality of wayfinding to those spots needs to be addressed.

“We concluded that they do not have a shortage of parking.”

—Christopher LaFayette ‘15
"He was an inspiration to us all and showed us by example how to live life" — Dr. Stacy Seeley

REMEMBERING REG BELL

Every student Kettering University Professor of Chemistry Reg Bell encountered in his more than 50 years on Kettering’s faculty was among his “favorite students” for a very simple reason — he unwaveringly believed that Kettering students and alumni were the best and most talented in the world.

Bell, who passed away on July 21, 2015, was a tireless advocate for Kettering students throughout his career, personally influencing the lives of thousands of students.

“For those of us who pursue teaching as a career, we do so hoping that we will have impact in some positive way on the lives and careers of our students,” said Kettering University President Dr. Robert K. McMahan. “Reg achieved this for thousands of students, and so much more. He made an indelible impact on their lives. He did on mine, as well.”

Bell’s career at Kettering University (formerly General Motors Institute) began in 1963. Bell, a North Carolina native and graduate of Wake Forest and the University of Tennessee, famously arrived on campus driving a 1959 Cadillac that he adored — a restored version of which he was surprised with as a gift from Bob Kagle ’78 during the Homecoming 2013 celebration of Bell’s 200th consecutive term teaching.

“Our students are geared toward excellence and achievement,” Bell said in 2013. “The students will always come first for me. The most fortunate thing that happened to me was finding out about this school.”
Bell was known not only for energetic teaching methods that included jumping on desks, blowing things up and injecting his one-of-a-kind sense of humor into courses and labs, but also for taking an active and caring role in the lives of innumerable students. Over the years, he composed thousands of recommendation letters for current and former students. He helped students who ran into financial difficulties find scholarships to stay enrolled and finish their degrees. He provided advice and counsel that has critically shaped thousands of lives and careers.

“He was an inspiration to us all and showed us by example how to live life,” said Dr. Stacy Seeley, Department Head of Chemistry, Biochemistry, Chemical Engineering and Applied Biology at Kettering University. “His cup always more than half full, he taught us to see the good in everything and to give of oneself. He was an example of the type of professor that we all strive to be, and no one will ever be as dedicated to the students and University as Professor Reg Bell. We loved him dearly; he was an exemplary teacher, colleague, mentor and friend.”

There were very few requests from students that he would decline — he even took a starring role in several student-produced dance videos in recent years that remain YouTube sensations.

One of his very first students was Joe Spielman ’68, retired Vice President of Manufacturing at General Motors. Spielman, who, as Bell, arrived on campus in 1963, noted in 2013 that Bell’s “whole life is his students” and that literally hundreds of the best company presidents, CEOs, CFOs and vice presidents around the country today all learned from Bell.

Reg was instrumental in launching the Bell-Kagle Undergraduate Research Internship program, which provides intensive research co-op positions for students in Biology, Chemistry and Biochemistry. He was even famous for finding his way onto campus tours when prospective students and families were visiting Kettering, and for then giving them a customized tour — and insights about the University that only Reg was capable of providing.

His advice to those students and families was often very similar — “You cannot afford not to come to Kettering. A degree from Kettering is the key to success,” he was famous for saying.

Bell received several institutional awards for his commitment to teaching and research, including the Outstanding Teaching Award in 1969, 1986, 1995 and 2002, and the Tutt Award for Innovation in Teaching in 1979. In 2015, he was part of the inaugural class of faculty enshrined on Kettering’s Faculty Wall of Honor.

Bell was also a longtime advisor to the Theta Xi fraternity. He was awarded the Greek Life Faculty Member of the Year award in 2009.

In addition to teaching, Bell was a major ping-pong enthusiast, known to attract alumni back to campus for rematches. He also enjoyed playing bridge and discussing astronomy.

@ Read and share memories of Reg Bell at kettering.edu/RegBell.
Transforming Chevy in the Hole

Major support from General Motors will create an innovative outdoor lab and proving ground at the former ‘Chevy in the Hole’ site

By Patrick Hayes
Gifts totaling $4 million — $2 million from the General Motors Foundation and $2 million from General Motors Company — will allow Kettering University to create dynamic new outdoor and indoor lab spaces to continue providing a world class education to the next generation of engineers, scientists and industry leaders.

The $2-million gift from the GM Foundation will enable Kettering to construct the General Motors Foundation Automotive Research Area, an automotive proving ground on a piece of campus that is of historical significance to GM, as the former site of the Chevrolet Division, or “Chevy in the Hole.” The proving ground will be built on a 19-acre parcel of land at the corner of Chevrolet Avenue and Bluff Street.

The proving ground will create new hands-on, experiential learning opportunities for students; it will enhance faculty research opportunities; and it will offer the University new potential to attract industry partners to conduct product research, development and testing at the facility.

The $2-million gift from General Motors Company will allow Kettering to construct a new powertrain lab in the C.S. Mott Science and Engineering building. The GM Advanced Powertrain Research Lab will provide students with state-of-the-art equipment and enhanced hands-on learning opportunities that supplement what they are learning in their classroom and co-op employment experiences.

An equipment donation from General Motors earlier this year will provide machinery for both the powertrain lab and the machine shop in Kettering’s FIRST Robotics Community Center.

“We are grateful for the support of the GM Foundation and General Motors,” said Kettering University President Robert McMahan. “These facilities will provide unparalleled educational opportunities for our students. Our new proving ground, in particular, will also serve as a model for creative redevelopment of brownfields and industrial land nationwide and a great symbol of the continued turnaround in the city of Flint.”

The GM Foundation Automotive Research Area will help answer the growing need in the auto industry for versatile engineers trained across a variety of disciplines. The facility will provide opportunities for many academic departments to enhance teaching.

“General Motors has a long and proud history of supporting students pursuing careers in science, technology, engineering and mathematics.” —Gerald Johnson ’85
learning and research opportunities, including vehicle testing and crash safety in Mechanical Engineering, autonomous vehicle and GPS research and instruction in Computer Science and Computer Engineering, and hybrid electric vehicle research and instruction in Electrical Engineering and Mechanical Engineering, and even opportunities for faculty and students in life science disciplines like Biology to study soil and environmental impact at the site. There will also be opportunities for student Society of Automotive Engineers teams to test vehicles they build for competitions, including their formula race car, Baja dune buggy and clean snowmobile.

“The General Motors Foundation is committed to supporting the education of the next generation of leaders and innovators,” said Vivian Pickard, President of the General Motors Foundation. “This facility is an example of our commitment to that mission, as well as to Flint’s bright future. This proving ground will productively redevelop land that was a critical part of our company’s heritage into a facility that will help ensure the future workforce will be prepared and educated in one of the most unique and innovative facilities in the country.”

Both facilities will be utilized to educate the nation’s finest engineers to fulfill global workforce needs for automotive and other industries. They will also enhance Kettering University’s rich tradition of excellence in educating the nation’s finest automotive and motorsports engineers.

“General Motors has a long and proud history of supporting students pursuing careers in science, technology, engineering and mathematics,” said Gerald Johnson ’85, General Motors Vice President for Operational Excellence and Kettering University’s Key Executive. “These investments represent GM’s commitment to not only educating the next generation’s workforce with the latest technology, but also our commitment to the continued revitalization of the city of Flint and surrounding area.”

The GM Foundation Automotive Research Area will also connect to a major city of Flint project on the southern portion of the Chevy in the Hole property called “Chevy Commons.” The project, which began this spring, will convert the property into mixed-use nature, trail and parkland. Kettering University’s recently unveiled Campus Master Plan also complements the Chevy Commons project, creating a green, vibrant gateway.

“As people travel to campus from the new I-69 corridor from Hammerberg Road, passing the newly opened Powers Catholic High School and new Michigan School for the Deaf buildings approaching Kettering, the first sight they’ll see is an incredible vehicle testing and research facility,” McMahan said. “The support from the General Motors Foundation and General Motors is fitting because their history is so closely aligned with Kettering University’s legacy as the former General Motors Institute. These projects will ensure that legacy endures and flourishes while helping produce some of the finest engineers in the industry.”

“The General Motors Foundation is committed to supporting the education of the next generation of leaders and innovators.”

-Vivian Pickard, President, GM Foundation
Kettering University’s monthly Service Saturdays are receiving an influx of added support — employees from General Motors facilities in mid-Michigan who have also been volunteering for service projects in the University Avenue Corridor.

Kettering’s Service Saturdays program was launched in 2013, with the founding principle of the initiative aimed at promoting civic engagement among Kettering students, faculty and staff by teaming up for a variety of community service projects in the University Avenue Corridor region in Flint, in collaboration with several community organizations. In 2014, Kettering hosted 10 service days that included more than 470 volunteers who contributed more than 1,700 hours to the Flint community.

“Service Saturdays have helped create a positive domino effect in the University Corridor,” said Jack Stock, Kettering University Director of External Relations. “People who live in the area consistently see volunteers out there, cleaning up and engaging in the community, and it makes more and more people want to get involved. That’s helped these events grow – it just spreads through word of mouth and people witnessing our volunteers out there consistently helping in the community, and then wanting to get, involved themselves.”

General Motors has provided volunteers on Service Saturdays, July 11 and August 8, and will participate again on October 3. Volunteers have done tree trimming, brush clearing, bagging and weed whipping along the Flint River Trail and Atwood Stadium parking lot.

In addition, GM volunteers, many of whom are Kettering University graduates, were able to tour campus facilities before and after the service projects each day.

“The service days in Flint are a great opportunity for employees to engage in the exciting revitalization of the city of Flint,” said Sabin Blake ’99, Community Outreach Manager at General Motors. “Our teamGM Cares volunteers have adopted families over the holidays, collected money and mittens for young school children, packed food for Gleaners and Forgotten Harvest, collected Halloween costumes and treats for Matrix Human Services, mentored robotics teams, participated in telethons, and served their communities in many other ways. These projects in Flint will be a great way for our employees to leave a positive imprint on a community that continues to be a vital part of GM’s legacy.”
Flint’s historic Atwood Stadium will gain new life — and new visitors — in 2015, thanks to a wide range of support from many stakeholders in the Flint community.

The approximately 11,000-seat stadium, which opened in 1929, has hosted many memorable events, including rallies for political figures like John F. Kennedy and concerts for legendary bands like The Who, and has served as the backdrop for Flint’s long, proud athletic tradition, as an Olympic Gold Medalist, a Heisman Trophy winner and dozens of other athletes, who went on to successful collegiate and professional careers, got their start at Atwood.

Now, thanks to community-wide support from many individuals and organizations and culminating with a $1.75-million grant from the Charles Stewart Mott Foundation, Atwood Stadium’s future as a viable, unique community gathering space in the heart of Flint is more secure. New turf, along with a separate gift from Diplomat Pharmacy, Inc., in support of Flint Community Schools and Powers Catholic High School, will allow varsity high school to return to Atwood in the fall.

“Two years ago, we were unsure about the future of the Stadium, because of the large number of repairs and upgrades that were needed to make it viable again,” said Judge Duncan Beagle, a member of the Friends of Atwood and a longtime Flint sports historian. “We asked the community if they’d be willing to support our efforts, and the response was overwhelming. Atwood truly has a special place in the hearts of many generations of Flint and Genesee County residents, and we’re ecstatic that it’s going to continue to play an important role in the community.”

Kettering University took over ownership of the stadium from the City of Flint in 2013 and has, with the help of the Friends of Atwood, led fundraising efforts and made critical upgrades to the facility.

With the grant from the C.S. Mott Foundation and more than $300,000 in other community support, Kettering is now able to make the remaining critical improvements necessary for the stadium to reopen in time for the 2015 high school football season. Kettering and the Friends of Atwood will continue fundraising to support other long-term improvements, maintenance and upkeep.

“The recognition of Atwood as a local treasure and asset is reflected by the fact that so many organizations and individuals are coming together to support these improvements,” said William S. White, Chairman and CEO of the C.S. Mott Foundation. “The social and economic returns on the community’s investment will add to quality of life in Flint and Genesee County, and help fuel the region’s ongoing revitalization.”

Kettering University President Dr. Robert K. McMahan noted that when Kettering took ownership of Atwood Stadium, it did so with a single ambition: to ensure Atwood remained a viable community venue for future generations.

“As a longtime neighbor and friend of Atwood Stadium, Kettering has witnessed the importance of the stadium to Flint
“As a longtime neighbor and friend of Atwood Stadium, Kettering has witnessed the importance of the stadium to Flint over its great history.”

–Dr. Robert K. McMahan, President, Kettering University
Friday evenings at the University Square Park in Carriage Town have become fun, community-oriented evenings filled with entertainment, food and community-building thanks to grants received by the University Avenue Corridor Coalition.

The first Friday Nights at University Square event was held July 3 and attracted hundreds of visitors who enjoyed music, games, food trucks and other community-building activities.

“The goal of Friday Nights at University Square is to intensify the activity that occurs at University Square with the intent of making this a public gathering space for large-scale activities in the University Avenue Corridor throughout the year,” said Jack Stock, Director of External Relations at Kettering University. “Events like this show that the Grand Traverse and University Avenue intersection is a viable space for future economic development and social activities.”

Four events have been scheduled throughout the summer of 2015. Additionally, the University Avenue Corridor Coalition (UACC) hosted two special events that transformed part of University Avenue into a water park. The events are aimed at providing fun and camaraderie in the community while also raising awareness of the need for — and potential success of — more permanent attractions near campus.

The events are the result of Flint’s being chosen as one of four Michigan cities (along with Marquette, Jackson and Kalamazoo) to participate in the Lighter, Quicker, Cheaper (LOQ) Placemaking program this year. The UACC has received technical assistance in placemaking activities, as well as grants from the Michigan Association of Realtors and East Central Association of Realtors and the University of Michigan Youth Violence Prevention Council.

Kettering University is a founding member of the University Avenue Corridor Coalition, a group of community members and organizations committed to creating a vibrant, safe and economically diverse University Avenue Corridor region, connecting McLaren Regional Medical Center, and Kettering with downtown Flint.

Kettering Receives $1-Million Grant to Promote Safety in Flint

Efforts to create a safe, walkable University Avenue Corridor region connecting McLaren Regional Medical Center, Kettering University and surrounding neighborhoods to downtown Flint along University Avenue received a major boost with a $1-million federal grant to Kettering University that will support neighborhood revitalization efforts.
Byrne Criminal Justice Innovation (BCJII) Program grant — part of the Obama Administration’s Neighborhood Revitalization Initiative — will provide $1 million over three years to help convert the University Avenue Corridor into a vibrant region by developing and implementing sustainable crime prevention strategies that spur community engagement and development and promote health and safety. Kettering and Flint were one of only six communities nationally to receive the BCJII grants.

The grant encourages a wide cross section of partnerships. Kettering, along with the Flint Area Reinvestment Office (FARO) and the Local Initiatives Support Corporation (LISC), led the grant proposal process. Kettering will act as the lead research agent for the grant.

Since taking ownership of the stadium in 2013, Kettering has continuously made repairs to masonry, restrooms and concessions near the east end zone, fixed broken lighting and signage, and made upgrades in the locker rooms. The University also has continued to make Atwood available for community events, including youth and intramural sports, Relay For Life and ice skating.

The grant from the C.S. Mott Foundation will allow for masonry and restroom repairs in the area near the west end zone, as well as replacement of the dated playing surface, with a safer, more natural field-turf — something that will be truly transformational for Atwood’s capabilities, according to Judge Beagle.

Kettering has selected FieldTurf Inc., the nation’s leading provider of professional artificial playing surfaces, to install the same turf used at Ford Field in Detroit and Michigan Stadium in Ann Arbor in Atwood Stadium. This new surface will allow Atwood to host professional and NCAA sports, as well as local athletic events. The Atwood field also will be striped and widened to accommodate the regulation surfaces required by other sports, such as soccer and lacrosse.

For information about making a contribution to Atwood Stadium, contact University Advancement at (810) 762-9863 or John McGarry of the Friends of Atwood at (810) 762-9735.
Long established FIRST Robotics teams in Flint are being given the opportunity to give back through their new unique setup at the FIRST Robotics Community Center (FRCC) on Kettering University’s campus.

The FRCC opened in September 2014 and the Kettering-sponsored Team 1506 Metal Muscle moved a short distance across campus to their new home.

“We’re used to this,” said John Wolfert, Mentor for Metal Muscle. “We’ve been on campus for the past 11 years.”

Metal Muscle has 16 active students from Genesee, Oakland and Lapeer counties, including students from Flint Southwestern and area private and home schools.

Team 894 Chargers from Powers Catholic High School moved from their old shop, previously located in a house adjacent to the new high school off of Miller Road in Flint, into the FRCC in December 2014.

“The space and equipment are great. We have more and better equipment than we had before,” said Paul Gillie, mentor for the Chargers. “Being able to talk with other teams as we are doing things is a real benefit, as well.”

Wolfert sees two primary uses for the FRCC for area teams — building a foundation and helping existing teams achieve sustainability.

“There’s two reasons for this space. One is for rookie teams to get started, to help them get established and get the right foundation built,” Wolfert said. “The other purpose is to provide opportunities for teams that lose their space or don’t have a permanent place to work. So it’s a matter of sustainability for those teams.”

Having established their foundations in their new home on Kettering’s campus, Metal Muscle and the Chargers are paying it forward by helping new area teams build their programs.

In January 2015, Atherton High School and International Academy of Flint both moved into two of the eight available spots in the FRCC. In addition to the state-of-the-art facility, each of the teams was inspired by the potential for relationships with existing teams in the FRCC.

“They wanted to come here and get help,” Wolfert said. “Initially, we took last year’s robot and showed it to the students to get them excited. We invited them to use our space. If they need parts, we help by providing them with parts.”

The availability of assistance in the FRCC can also foster new ideas and techniques as teams construct their robots for upcoming competitions in 2015. Even a veteran group like Powers is enjoying the intimacy that the FRCC is creating among teams as it is enhancing the collective knowledge base and robotics experience of Flint area teams.

“It’s really no different than any mentor that you would have in high school,” Gillie said. “There’s a place to go. There are people you can go to.”

FIRST Robotics competitions are unique in that they are simultaneously collaborative and competitive, which creates opportunities for exploration and experimentation at the FRCC. Each of the Flint-area teams housed on Kettering’s campus is striving to win while also rooting for their colleagues in the FRCC.

“Everyone wants to be as successful as everyone else,” Gillie said. “We aren’t here to work against someone. We’re here to work and succeed together.”

Robotics Serves as Tool to Teach About Life for Flint Team

Sheila Barnes had two goals for Team 322 Flint F.I.R.E. as they prepared for the district competition at Kettering University last spring: Firstly, have fun and, secondly, use these competitions and life experiences to prepare students for college.

“I’m trying to provide experiences and giving them different outlooks by being in this environment,” Barnes said. “This is life experience.”
The 10 active members of the team are from Flint Southwestern, Flint Northwestern and Mott Middle College. Barnes is attempting to complement the enjoyment of building robots with a disciplined workmanlike approach to instill the values necessary for students to attend and succeed in college.

“They have badges so I tell them that this is their job,” Barnes said. “When you get here, you get to work, because that’s the real world.”

Barnes’ sentiments are echoed by Kettering Mechanical Engineering student Harrison Ford, who transferred from being mentor on his high school team at Carman-Ainsworth to work with Flint F.I.R.E.

Based on his own experiences, Ford views FIRST as a means to be trained technically and as a way to teach high school students to work as a team — both ideals that have been critical for his own success. Ford is also adamant that FIRST can be the foundation for getting a transformational college education.

“I really want to help kids get to college,” Ford said. “FIRST promotes competition but I truly care about getting these kids to college and helping them get scholarships for college. That’s one of the reasons I changed teams as a mentor, because I wanted to help inner city kids in Flint go to college.”

The ambitions Barnes and Ford have for their students are complemented by the group’s arrival at the FIRST Robotics Community Center (FRCC), where they have the opportunity to work alongside other teams in preparation for upcoming competitions.

“The difference is that we have other teams that we can communicate with. We can get ideas from other teams and I like that,” Barnes said. “Another advantage of being in this space is the ability to see the field.”

Flint F.I.R.E. is one of five teams permanently housed in the FRCC, and Barnes is constantly telling individuals on the team to get to know their neighbors in order to maximize learning opportunities. The collaborative nature of the FRCC is creating new opportunities for each of the teams and individuals, and Barnes is hoping that the results will be greater than the sum of their parts.

“It’s a collaborative thing and, hopefully, in the end, we will all be working together and all of our robots will be competition ready,” Barnes said. “We all have the same idea, but if we can get together and tweak our robots, our Center will be well represented.”

LIEVES IMPROVE THROUGH ENGINEERING (LITE)
Kettering University faculty and staff have partnered to engage high school females in the math and sciences through the “Lives Improve Through Engineering” summer program on campus.

“The program allows you to experience multiple engineering disciplines, but the real inspiration comes from the mentors. The mentors in the program inspire you to be who you want to be and to see that women can make a difference,” Hayley Schuller ’14 said.

LITE is a two-week residential program created by Kettering University to introduce 11th-grade girls to what engineers do and how they significantly improve people’s lives by applying math, science and technology to solve human problems.

Since 2002, 449 high school females from 37 states across the country have come to Flint to participate in the program.

ACADEMICALLY INTERESTED MINDS (AIM)
In 1984, Dr. Petros Gheresus, a professor of Industrial Engineering at Kettering University, wanted other under-represented minorities to have the same opportunities that he did which resulted in the creation of “Academically Interested Minds” (AIM) — a pre-college program that encourages multicultural students to engage in math and sciences.

“Education will equip you with knowledge and information and that’s the best asset one can possess,” Gheresus said.

AIM is a five-week residential pre-college summer program that provides multicultural students a real college life experience by preparing them to make a successful transition from high school to college. Students attend freshman level courses Monday through Thursday in calculus, chemistry, chemistry lab, computer programming, computer lab, economics, physics, physics lab and business management.

Since 1984, over 1,100 students from across the United States, Jamaica, Mexico, Puerto Rico and the Bahamas have participated in AIM.

Ready for College and Life
Kettering University has taken an active role in offering educational opportunities to pre-college students throughout the Flint community and beyond.
There’s a very important word in a recently established endowed professorship at Kettering University — “family.”

“I wouldn’t have achieved what I achieved in my career without my family,” said J. Michael Losh ’70, who recently donated more than $1 million to his alma mater to establish the Losh Family Business and Engineering Professorship. “They’ve been a constant source of support for me, and this is a way to honor that.”

Family and his surroundings growing up were influential in Losh’s decision to attending Kettering.

“I grew up in Dayton, Ohio, which had a significant General Motors influence,” Losh said. “And I had an uncle who had attended GMI, so those factors, along with really being attracted to the opportunity to co-op were what led me here. I come from a family of modest means, so co-op was a way to help economically.”

That decision ultimately set Losh on a diverse career path, something he credits his formative experiences at Kettering for helping launch. Losh’s career started as a co-op student with the GM Inland Manufacturing Division in Dayton. The richness of the experiences in that setting were particularly important in shaping his career path.

“Roy Sparks, who ran the co-op program at Inland, would talk to us at the end of each rotation about what we just experienced, as well as what we’d be doing when we came back,” Losh said. “He matched my interests with opportunities, so I had an engineering rotation, a personnel rotation, a manufacturing rotation.”

Another important component of Losh’s education was the opportunity to participate in the international travel program, something that helped prepare him for later career experiences where he found himself working abroad.

“I had an extremely diverse career with varied experiences in places like Brazil, Canada, Europe and Mexico,” Losh said. “[The international travel program] was a broad, rich experience that I had the opportunity to participate in and learn from at a young age.”

Losh’s experiences at Kettering also positioned him well to excel at Harvard Business School. Kettering has long been a feeder school for HBS. In a 2012 interview with Fortune Magazine, the Dean of Admissions at Harvard Business School was quoted as saying “we love Kettering in Flint” because of the experiences that students gain in the co-op program. Losh also feels his significant work experience was important at HBS.

“The mix of the engineering education [at Kettering] and the work experience puts you in good standing at Harvard,” Losh said. “The breadth and depth of the co-op experience is very useful.”

Following his graduation from HBS, Losh spent a significant portion of his 36-year career with General Motors in the finance organization, including serving as Chief Financial Officer from 1994 to 2000. Prior, he served as Vice President and General Manager of the Pontiac Motor Division and General Manager of the Oldsmobile Division. He was also responsible for all car and truck divisions as Group Vice President of North American Sales, Service and Marketing.

“I was able to participate in GM getting into the small car business in Europe, expansion of operations in Mexico and Brazil, and GM’s ownership of Hughes Electronics and Electronic Data Systems (EDS), among other opportunities,” Losh said. “I got to do a bit of everything – from the coffee farm in Brazil to locomotives in Canada.”

Losh hopes that the Losh Family Business and Engineering Management Endowed Professorship will help current and future Kettering students get started on similarly rewarding careers with a wide range of experiences and possibilities. The endowment will help Kettering University expand the Business Program by providing a new endowed professorship that focuses on the natural symmetry between engineering and business. The position will add an academic leader to the faculty who will help develop business programs coupled with technical management skills, operations management, entrepreneurial mindset and other skills aimed at giving students a better perspective in preparation for joining the workforce as the next generation of business leaders.

“T

I got to do a bit of everything – from the coffee farm in Brazil to locomotives in Canada.” —J. Michael Losh ’70
The General Motors Legacy Endowment at Kettering University is designed to provide scholarship support to Kettering juniors and seniors who have exhausted their financial resources and need additional funds to continue their education at Kettering University.

During the kickoff, GM executives and Kettering graduates Barra, Diana Tremblay ’83 (Vice President, Global Business Services), Matt Tsien ’81 (President, GM China), Chuck Stevens ’83 (Chief Financial Officer), Jim DeLuca ’87 (Executive Vice President, Global Manufacturing) and Gerald Johnson ’85 (Vice President, Operational Excellence) announced personal contributions to the endowment totalling $38,000. During the event, attendees contributed another $10,600, for a total of $48,600 raised to support students.

Contributions can be made to the General Motors Alumni Legacy Endowment by visiting www.kettering.edu/give or by calling 1 (800) 955-4464 ext. 9579. Through October, those making contributions of $100 or more to the fund will receive a commemorative Kettering University t-shirt.

More than 150 Kettering University alumni, including General Motors CEO Mary Barra ’85, who are current GM employees gathered for a special reception at the Renaissance Center in Detroit to celebrate and support a new scholarship fund for Kettering students on June 25.
Co-op Helped Prepare Graduate for Career in Railroad Industry

If presented with the option of having a guaranteed high-paying job at a major university or working for an industry going through bankruptcy, which would you choose? This scenario confronted John Samuels ’66 in 1978 and he made a decision that caused his colleagues to question his sanity and future.

“I left a tenured associate professorship in the College of Engineering at The Pennsylvania State University [Penn State] to go work for Conrail, a northeastern U.S. freight railroad which was emerging from bankruptcy,” Samuels said. “The faculty took a collection up and gave me an envelope and it said ‘for psychiatric services as needed.’ They gave me the envelope of money, said good luck and sent me off.”

Samuels didn’t view the transition from academia to industry as a risk, but rather as an opportunity to use his expertise to help an industry that was believed to be breathing its final days as an American institution. “I wanted to apply my engineering know-how,” Samuels said. “I had been in the teaching and university research realm for 10 years, and I’d never had an opportunity to manage engineers and develop an engineering department. I wanted to try to do that during my career.”

Samuels graduated from Kettering in 1966 with a degree in Industrial Engineering. He received his master’s and doctorate degrees in Industrial Engineering from Penn State in 1968 and 1972 respectively, after which he began teaching full time in Happy Valley.

In 1978, Conrail, which emerged from bankruptcy in 1976 as a single entity, offered Samuels the Chief Industrial Engineer position with the freedom to build a 100-person Industrial Engineering Department from scratch.

“In those days, I wanted to get back to industry to see if I could run an engineering department,” Samuels said.

Despite reservations from his colleagues, Samuels took the job at Conrail and his career flourished as he was able to apply more than a decade’s worth of academic knowledge in the field of engineering and management. Less than 10 years later, in 1987, Conrail was deemed profitable, after having gone public and paying back the $2.1-billion loan they received from the federal government in 1976.

As Conrail’s profits soared and the railroad industry once again became an integral part of America’s economy, Samuels’ career paralleled the company’s success. In 1989, Samuels became the Vice President (VP) of Continuous Quality Improvement, then the VP of Mechanical in 1991, VP of Engineering in 1993 and the VP of Operation Assets in 1995.

“A lot of my success had to do with Kettering, because of the co-op nature of the educational experience.” —John Samuels ’66

In 1996, just 20 years after emerging from bankruptcy, Conrail was sold to Norfolk Southern and CSX railroads for $10 billion.

“It was the right move but a lucky move,” Samuels said. “Everything I’ve been associated with in my career has been very profitable and very viable.”

The luck Samuels couldn’t control, but the education background that allowed him to take advantage of his opportunities was at the heart of his success.

“A lot of my success had to do with Kettering, because of the co-op nature of the educational experience,” Samuels said. “I had the academic experience coupled with the co-op time to understand the dynamics of how industry works and what motivates people to work at all levels of a company.”

Read full story at kettering.edu/news
Norm Szydlowski ’74’s journey is an American fairy tale that began at Kettering University. From small midwest roots to a global leader, Szydlowski achieved success in his career by simply taking advantage of every opportunity that came his way. Kettering is an anecdote in Szydlowski’s story, as it served as the beginning of his decorated global career.

“I really feel like it was a superb launching point for me. The co-op program gave me a window into the future, as it integrated the working environment and working with people,” Szydlowski said. “Thinking about the college experience, I really felt like I had a fast start and that fast start let me take advantage of lots of opportunities throughout the rest of my career.”

Szydlowski graduated from Kettering in 1974 and then again in 1976 with his master’s degree in Business Administration from Indiana University in Bloomington. After a couple jobs along the way, Szydlowski’s career flourished when he joined Chevron in 1981 as an engineer in Denver, Colo., where the energy boom was then taking place. He supervised oil trucks, tanks and warehouse units. In 1983, he moved to Chevron headquarters in San Francisco, Calif., and Szydlowski followed that by doing stints in Washington, Texas, Maryland, Mississippi and New Jersey.

“I got a great understanding of different locations, people, cultures, and parts of the oil and gas business.” Szydlowski said. “For me, it was really gratifying and ever-changing and really kept my interest.”

Over the next 25 years, Szydlowski’s domestic travels turned into international ones as he was promoted throughout the company until he was named the Head of Refining for the corporation.

“It was an evolving career,” Szydlowski said. “I never would’ve imagined when I first started or when I left the plant in Flint that I would end up running refineries around the world.”

Throughout his career with Chevron, Szydlowski has traveled to Africa, Thailand, Papua New Guinea and the Middle East and observed that much of the oil in the world is in impoverished and inaccessible places. Throughout his travels, the diversity and depth of individuals around the globe humbled Szydlowski. He was often overwhelmed and honored to have the experiences that he had in the numerous places that he had them. He respected these opportunities by striving to assimilate himself in the communities in which he worked through language.

“I felt that to understand people, you need to understand the cultures, and to understand the culture, you really need to speak the language.”

In 2004, Szydlowski retired from Chevron after the Pentagon called and asked him to help with transitioning the oil sector in Iraq from its past regime to the new government.

“This was a period in time that the United States and the Coalition had just removed dictator Saddam Hussein, and now we had the Coalition Provisional Authority as the sovereign government in Iraq,” Szydlowski said.

Szydlowski spent eight months in Iraq between 2004 and 2005 before returning to the United States, this time in Atlanta, to become the Chief Executive Officer at Colonial Pipeline Company. From 2009 to 2014, Szydlowski shifted again, this time to Tulsa, Okla., to take a position with SemGroup Corporation. Now, he’s officially retired and is serving on multiple boards for start-ups, established companies and nonprofits.

Read full story at kettering.edu/news
Supporting Flint’s Revitalization

Throughout her upbringing, education and professional career, the one underlying theme in Essence Wilson ’05’s life is unwavering support and belief in Flint’s revitalization.

“I always had a passion for Flint and see a great deal of potential and opportunity here,” Wilson said. “I see my peers seeking opportunities elsewhere, because there’s a mindset that the ‘grass is greener’ elsewhere. Instead of looking at it that way, I think ‘how can we make the grass greener where we are?’ ”

Wilson compares Flint to Detroit in that it is ready for a comeback, and she wants to be a part of the team that makes that comeback a reality. She’s earned the right to be part of the group, because no matter the economic climate in the City, Wilson has committed to making a difference.

In 2010, Wilson and her husband Glenn co-founded Communities First, Inc., a non-profit community development corporation aiming to promote and provide an improved quality of life for residents of distressed communities through economic development efforts and affordable housing solutions.

“My husband is a leader with a vision who can see potential in dire situations, and I am able to translate that vision into action steps to see that vision come to pass,” Wilson said. “We started Communities First, Inc., with that vision and a unique set of skills. The results of stepping out in faith to pursue a vision are amazing.”

In September 2014, Communities First, Inc., completed the transformation of the historic Oak Elementary School into 24 apartments intended for seniors. The $5-million project was funded by a mix of funding sources and took three years to complete.

“The skills that I learned in my experience at GM and Kettering taught me how to manage a team, conduct a gap analysis, and how to see the end from the beginning,” Wilson said. “As an engineer, I am a logical thinker and that helps me every day.”

Entrepreneur Wants to Make Flint His Company’s Home

A once theoretical independent classroom study is now attempting to become a reality as Dan Kurin ’11 is trying to enhance network connectivity in large institutions and buildings. Kurin founded Swiftlet Technology, a company that creates “open source, wireless mesh networking” technology.

“Mesh networks as a base technology are a wireless network like Wifi but instead of having one wireless router, every wireless device is a router,” Kurin said. “When you’re looking at wireless networks, a new device only needs to be in range of another device and not necessarily a central device.”

The technology is especially helpful for retrofitting old buildings like public schools and universities where cables would only be needed in a few rooms rather than the entire building. Additionally, the software will sync the network so the entire building isn’t relying on a single router but rather multiple ones in different spaces.

There are other companies working on mesh networks but Kurin’s project is unique, because it will be open-sourced, meaning anyone will be able to write code for it. Additionally, it will allow different types of hardware to work in conjunction with each other.

Kurin has a unique long-term vision and business model for his company. Firstly, Kurin wants to build the company in Flint, a place he feels a moral imperative to help develop economically. Secondly, he wants to operate a business model that considers more than just profits.

“As a philosophy, the triple bottom line method is the most established way of talking about these things,” Kurin said. “The profits are the bottom line, but you are also looking at the social and environmental impact and not just what’s going to make the most money. If you’re not basing your company on the profit bottom line, it’s not easy to find financial support.”

Kurin left his job with Laird Technologies in Holly, Michigan, to work on this project full-time and has since devoted his time to business planning and constructing the appropriate hardware and software for the mesh network. Including his time at Kettering, he’s lived in Flint for the past seven years and now is hoping to build a sustainable business in the area.

“The way I want to run the company is to benefit Flint and its people,” Kurin said.
Class Notes:

Rodney O’Neal ’76 delivered the 2015 Commencement address at Kettering University’s 107th Commencement Ceremony in June. More than 200 graduating students participated in the ceremony.
1955
The class of ’55 celebrated their 60th reunion at the 2015 Kettering University Homecoming festivities. Returning for the reunion were Byron Richards, Bob Schaefer, Ken Myers, Doug Wing, Terry Williamson, Julius Szymczyk, Ron Steinmayer, Al Macciomei, Paul Jankovsky, Mike Tahy, Gib Hufstader, Bob Verbensky, Kermit Hicks, Max Hineman and John Mahoney. The group’s English instructor, Charlie Sheridan, also joined for the festivities. The class received a pin for having the most alumni present at Homecoming.

1966
ODILON VICENTE ALMEIDA is working as a consultant on quality business and living in Brazil. He notes that he has been revisiting many friends through old photos and hopes to reconnect with as many as possible.

1973
BARRY BOYCE is working as a medical device Quality Engineer Consultant. In the past year, he completed rough drafts of two books: Quality for the Factory Floor Operator and Steam Locomotive Design 1890-1946. The latter came about when he was asked, “Why was an 1890 steam locomotive not the 6,000 horsepower, 600 ton Big Boy locomotive of 1942?” Once you get past, “For the same reasons there was not an air-conditioned fuel-injected automobile in 1890...” it’s a good story!

1979
LOREN REX, an independent financial advisor with Generations Financial Planning & Wealth Management, has qualified for Cambridge Signature Club 2015. This qualification was announced by his independent broker-dealer, Cambridge Investment Research, Inc. (Cambridge), one of the largest privately owned independent broker-dealers in the U.S. Qualification for Cambridge Signature Club honors a financial advisor's independent business accomplishments in delivering some of the highest levels of client service and productivity while reflecting Cambridge's core values of integrity, commitment, flexibility and kindness.

1981
TONY LAROCHE and wife Cheryl (Oaks) moved to Gilbert, Arizona, in 2014. LaRoche retired in 2013 after nearly 35 years with General Motors at Detroit Diesel and GM Powertrain.

1990
TRACY COLEMAN completed his MBA, focused on international business and strategy, with the Kelley School of Business at Indiana University. Coleman traveled to Washington, D.C., and South Africa as part of the program of study.

1991
SCOTT CHARNEY is now maintenance manager for GP Crossett Paper Operations.

1993
Two graduates, COREY M. BEAUBIEN ’02 and SCOTT A. HOGAN ’93, authored an article together titled, “Making Sense of Non(ce)sense – Seeking Broad Claim Coverage and Avoiding Unwanted Means-Plus-Function Treatment,” published in BNA’s Patent, Trademark & Copyright Journal in May 2015. Both

Submit Class Notes online at www.kettering.edu/alumni.
Beaubien and Hogan are shareholders at the intellectual property law firm Reising Ethington P.C.

2003
**JAVIER REVILLA** became Director of Business Systems at Kaydon Corporation in July of 2014.

2007
**ARI GREENWALD** is now the Technical Services and Continuous Improvement Leader at Campbell Soup Supply Company in Milwaukee, Wisconsin.

2009
**NICHOLAS MASCHINO** and his wife would like to announce that their daughter (Emersyn Jude) has turned one. They would like to share her photo with the Kettering Community.

2012
**CHARLES FISCHER JR.** began his dream job working in Powertrain at FCA SRT, currently responsible for driveline components for the Grand Cherokee SRT and Viper programs.

**NICOLE RAMO** is currently working on her Ph.D. in bioengineering at Colorado State University in Fort Collins, Colorado. Her research focus includes the material characterization of the soft tissues of the spinal cord in an effort to better predict and prevent injury.
REMEMBERING REG BELL