Lawrence Tech.

LAWRENCE TECHNOLOGICAL UNIVERSITY MAGAZINE | Fall 2016



A campus connected: New Taubman Complex completes the LTU quad, adds new collaboration spaces

Capital campaign far exceeds goal | Studies laud LTU ROI | New leaders in STEM, architecture, advancement Stevens named Fulbright scholar | Alumni News & Notes | Donor Honor RoII | And more!

Lawrence Tech.

LAWRENCE TECHNOLOGICAL UNIVERSITY MAGAZINE

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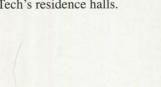
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On Campus – A new dean of architecture and design; a new vice president of advancement; Lawrence Tech continues to lead in educational value and return on investment; and much more.



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On the cover: A new and visually striking addition to the Lawrence Tech quadrangle is the A. Alfred Taubman Engineering, Architecture, and Life Sciences Complex, home of the Marburger STEM Center. Situated between - and connecting - Lawrence Tech's Science and Engineering Buildings, the Taubman Complex adds 36,700 square feet of much-needed laboratory, collaboration, and office space to support emerging multidisciplinary programs. The \$16.9 million building also makes it possible to walk between all of Lawrence Tech's major academic buildings without having to go outdoors - something students and staff will no doubt appreciate come winter! (Photo by Gary Duncan.)

For the latest about Lawrence Tech, visit www.ltu.edu/news





he future's so bright, Blue's gotta wear shades.

Over the past decade, Lawrence Technological University has set a new bar of excellence in teaching, in innovation, in service to the region, and in engaging and supporting students. The University's growing momentum is matched by the growing confidence of supporters in LTU's ongoing success.

The exceptional generosity during LTU's "Proud Heritage, Bold Future" campaign that concluded June 30 reflects an increasing level of investment in Lawrence Tech's mission and students. Between 2006 and 2016, alumni, community leaders, corporations, foundations, and other organizations donated more than \$125 million in private support, significantly surpassing the campaign's initial \$75 million goal and even exceeding the "stretch" \$100 million goal, setting a new record for University fundraising. This groundswell of support is one of the most exciting things happening at LTU, and the future of the institution is brighter because of it.

Dedicated to achieving ambitious strategic initiatives, LTU's Board of Trustees launched the campaign in 2006. A 10-year timeline was set with a target of \$7.5 million a year. That goal was reached three years ahead of schedule. In order to capitalize on the tremendous momentum, the trustees again demonstrated their commitment to transformation by increasing the goal to \$100 million, enhancing the opportunities for philanthropic investment through a revised campus master plan, including adding an entirely new building to enhance engineering and science education.



Residence Hall.

More housing is part of creating a more vibrant campus life, accomplished with donor support.

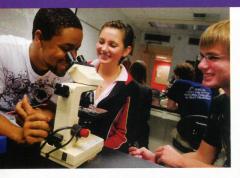
The capstone on the success of this campaign opened this fall – the \$16.9 million A. Alfred Taubman Engineering, Architecture, and Life Sciences Complex. Cutting edge and state-of-theart may be overused terms, but one look at this space and they'll seem more inadequate than cliché – 36,700 spectacular square feet of learning space, laboratories, and collaboration areas, with support for expanding interdisciplinary programs such as robotics, biomedical engineering, mechatronics, and architectural engineering.

Donors to the campaign upgraded LTU's IT systems, providing students with industry-leading technology that catapults their ability to succeed in their careers from day one. Other donors made it possible for hundreds of students to receive enhanced financial assistance for tuition and other expenses. Throughout the campaign, LTU's "Theory and Practice" emphasis has never been more evident, with growing support from the business community for real-world experiences and applied research.

"The goals of the campaign were threefold," said Lawrence Tech President Virinder Moudgil: "Supporting and incentivizing

Continued

A capital lishment



New equipment was part of LTU's just-ended capital campaign.

faculty who provide our students with meaningful instruction and advance research into critical challenges for today's global

industries; providing modern, innovative, and inspiring spaces for collaboration and learning for our students, faculty, and community; and establishing long-term financial stability through the growth of LTU's endowment."

Through the generosity of thousands of donors, all three goals were achieved. A select number of accomplishments made possible by philanthropy include:

- Establishment of the Marburger STEM Center in the Taubman Complex jumped forward, helped by a remarkable \$20 million gift from anonymous donors. Named to honor LTU President Emeritus Richard Marburger, the center will centralize and focus the University's commitment to STEM (science, technology, engineering, and mathematics) education at all levels, from kindergarten through college.
- Significant support from the Henry Ford Trade School Alumni Association to build on its shared legacy with LTU, creating an endowment for undergraduate scholarships in mechanical engineering.
- Establishment of LTU's Detroit Center for Design + Technology (DCDT), a new academic center at Woodward Avenue and Willis Street in Midtown Detroit. The DCDT is now the centralized home of three different LTU Detroit programs, as well as offices of architectural and design organizations, providing more points of contact between LTU architecture and design students and the professional community where they'll be going to work.
- Endowment of the A. Leon Linton Department of Mechanical Engineering, which enabled improvements and upgrades for the department, including new instrumentation and equipment, as well as new laboratories in robotics engineering and image velocimetry.
- Creation of endowed scholarships specifically targeted for disadvantaged and underrepresented students to pursue STEM studies and careers.
- Additional significant funding for the LTU Alumni Endowed Scholarship, established in 1992. It is one of the University's largest, supporting more than 40 students a year.
- Creation of an endowed scholarship in the College of Engineering specifically for undergraduate students that provides full tuition awards.
- Transformation of numerous engineering courses through the addition of problem-based learning, active and collaborative learning, design studies, and the maker culture.
- Renovations of laboratories and classrooms on the second floor of the Science Building. The floor has now been named

Harlan Hall in honor of John and Beth Harlan. Mr. Harlan served 24 years on the University's Board of Trustees, 1978-2002.

- Dedication of the Larry A. Lawson Suite of the Electrical and Computer Engineering Chair. Mr. Lawson is an LTU trustee and is president and CEO of Spirit AeroSystems, one of the world's largest independent producers of commercial aerostructures.
- Dedication of the Fred A. and Marilyn L. Ciampa Fabrication Lab in the Engineering Building.
- Creation of an endowed scholarship open to engineering and architecture students with secondary preference given to life sciences students.
- Significant assistance and resources for faculty to foster and enhance entrepreneurship in their courses.
- Support of innovative sustainability projects that address today's environmental challenges, including a storm-

water management educational trail built by LTU civil engineering professor Donald Carpenter.

campaign.

- Continued support of endowed scholarships from the George H. Holley Foundation, continuing its 50-year relationship with LTU.
- Establishment of the Mary E. Marburger Interdisciplinary Facilities Fund, which resulted in the renovation of the auditorium in the Science Building, which was renamed the Mary E. Marburger Science and Engineering Auditorium.

Thanks to the generosity of so many, the University created a new donor society – the A. Alfred Taubman Society – recognizing LTU's most generous supporters. Even though the campaign has concluded, the celebration continues for all those who have supported the institution in the past and those who will make even more achievement possible in the future. $\square MR$



Above, Lawrence Tech's new Detroit

Below, STEM education is front and

center after LTU's massive capital

Center for Design + Technology

marks a major expansion of the University's Detroit presence.

Join LTU's Bold Future

The momentum established by the campaign continues, with new programs, innovative student life offerings, and transformative opportunities still ahead. For information on how you can brighten the future for thousands more students, call LTU's Office of University Advancement at 248.204.2300 or email kdevries@ltu.edu.

A new name, a new season, but the same fun for LTU's supporters

springsation

onors, friends, and alumni of Lawrence Tech celebrated the successful conclusion of the University's "Proud Heritage, Bold Future" capital campaign at the annual celebration for major donors formerly known as Winterlude. Now moved forward a season to guarantee better weather, it's been rechristened Springsation.

Attendees gathered in the Mary E. Marburger Science and Engineering Auditorium for an overview of the capital campaign from President Virinder Moudgil and Dennis Howie, senior associate vice-president of university advancement.

Moudgil thanked donors for gifts that built the architectural star of Springsation – the \$16.9 million, 36,700-square-foot A. Alfred Taubman Engineering, Architecture, and Life Sciences Complex. That's where a strolling supper was held after the awards program. "You, and others like you, have truly made an impact that will last

well beyond our lifetimes," Moudgil said.

Moudgil's presentation also included the new buildings on LTU's campus that were supported by the campaign, as well as the University's new Detroit presence, and new academic programs.

The evening featured the presentation of awards to companies and individuals who had moved up a level in the LTU Giving Societies.

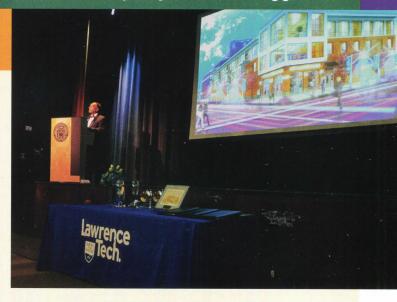
The evening also featured a University-produced video of a cross-section of LTU students,

speaking about what the University meant to them as they prepare for rewarding careers.

Kenneth Fitzgerald, MSArE'16, also offered remarks thanking donors for the philanthropy that made his college education possible. $\square MR$



President Virinder Moudgil recognized Detroit Institute of Technology alumnus Gino DiClemente and his wife, Luciana, at Springsation.
DiClemente's \$500,000 gift created the Gino and Luciana DiClemente Endowed Scholarship in Architectural Engineering.



President Virinder Moudgil's presentation at Springsation included a look at the University's new Detroit Center for Design + Technology.

Springsation guests enjoyed a strolling supper and entertainment inside the new A. Alfred Taubman Engineering, Architecture, and Life Sciences Complex.



Enjoying their Springsation experience are (bottom row) President Emeritus Richard Marburger, College of Arts and Sciences Dean Hsiao-Ping Moore, (top row L-R) College of Management Dean Bahman Mirshab, Senior Associate Vice President of University Advancement Dennis Howie, Sheryl Marburger, and Dennis Marburger.

Peering deep into the early universe this observation from the NASA/ESA

Hubble Space Telescope reveals thousands of colorful galaxies swim-ming in the inky blackness of space.

A few foreground stars from our own galaxy, the Milky Way, are also vis-ible. This spectacular skyscape was

captured in October 2013 during the

study of the giant galaxy cluster Abell

2744, otherwise known as Pandora's

ience undergrad's research on galaxy analysis gets universal

What good is gathering scientific data if you gather so much that it's impossible to study it?

The answer is to use computers programmed with artificial intelligence, according to a new study from Lawrence Technological University, which did just that, and which was chosen for a prominent position on the research website of the American Astronomical Society (AAS).

The research paper, by LTU computer science undergraduate student Evan Kuminski, and Lior Shamir, associate professor of mathematics and computer science, was published online April 6 in The Astrophysical Journal.

Then, on April 27, Susanna Kohler, editor of AASNova.org, the online journal of research highlights from the AAS, wrote an article about the paper for the website. And in May, the study was noted in a prominent article in the online home of Atlantic Monthly magazine.

The paper details how Kuminski and Shamir developed a machine learning algorithm to classify millions of galaxies whose images have been captured by automated telescopes - but almost all of which have never been studied by scientists.

Shamir said the problem is simply one of numbers.

"The thing is, you have ro-

botic telescopes that keep collecting images of celestial objects, hundreds of millions of images, soon to be billions of images, and there are no tools to analyze those images," Shamir said. "No person can study and categorize that many images manually. That's not going to work."

Shamir noted that Kohler pointed out in her article that the scientific community tried crowdsourcing the work: "They recruited over a million people worldwide, non-experts, to do that manually, but that produced about 55,000 objects after three years, and that's not a lot out of a catalog of millions of objects."

And the problem will only grow worse when the Large Synoptic Survey Telescope (LSST), now under construction in Chile, goes online in the late teens. The internationally financed telescope and its 3,200-megapixel camera will image the entire visible universe every few weeks, allowing scientists to observe faint, distant objects – and changes in them – like never before.

Shamir has previously used computer intelligence to analyze everything from modern art to Beatles music over his years at LTU, and he had already started working on astronomy analysis when Kuminski arrived as a freshman. "When he came here,

that can obtain useful information quickly from the data that these sky studies are generating so rapidly.



Lior Shamir



Evan Kuminski

that's what he wanted to do," Shamir said of Kuminski. "He had already published a paper by his sophomore year."

Kuminski said astronomy "has been something I've been interested in going back as far as I can remember, but it was never something I planned to do anything with in college. But I'm really glad it has, because it's become a way to put together two subjects (astronomy and computer science) that have always been a fascination of mine."

Kuminski said the study means "we've found a method that can obtain useful information quickly from the data that these sky studies are generating so rapidly. It could be useful to people studying aspects of galaxies. It's an easy way to get a large sample size very quickly."

Kuminski, a junior from Strongsville, Ohio, said he is still

Hubble's view of Stephan's Quintet, a group of five galaxies in the constellation Pegasus discovered about 130 years ago. The group is the most studied of all the compact galaxy groups; four of the five galaxies are involved in a violent collision at an estimated 280 million light-years from Earth.

unsure about his plans after graduation from LTU a year from now, but that he probably

will attend graduate school. "I know I want to do something in the field of computer science, but I've always thought I'll make that decision after I finish school," he said.

The latest publication by AAS demonstrates the way that LTU undergraduates are participating in groundbreaking research.

"Advances in technology have transformed the way we do science. The generation of big data is outpacing human analysis in almost every field," said Hsiao-Ping Moore, dean of the College of Arts and Sciences at LTU. "The work by Evan and Dr. Shamir elegantly illustrates the direction science must take in the future. Involving undergraduate students in science discovery will also be the way of the future in science education."

LTU President Virinder Moudgil also lauded "this very important and extremely impressive study," and said of the authors, "I am proud of their work and its impact on science and our understanding the relationship between computers and the human mind." $\square MR$

Amateur radio taking off - again - at Lawrence

ong before the internet, radio was the first technology allowing truly global communications.

Amateur radio uses "skip propagation" – the property of radio waves to bounce between the earth and the ionosphere, an electrically charged layer near the top of the atmosphere, 40 miles or more up – to send signals far past the horizon.

The Lawrence Technological University Wireless Society, with an assist from the Hazel Park Amateur Radio Club, introduced the hobby to a new generation during LTU's spring 2016 Exploration Day for high school students.

Jerry Begel, education coordinator of the Hazel Park club, and club member and LTU alumnus Ken Redcap, gave six presentations during Exploration Day that emphasized the theme of the American Radio Relay League, the national association for amateur radio – "We Do That!"

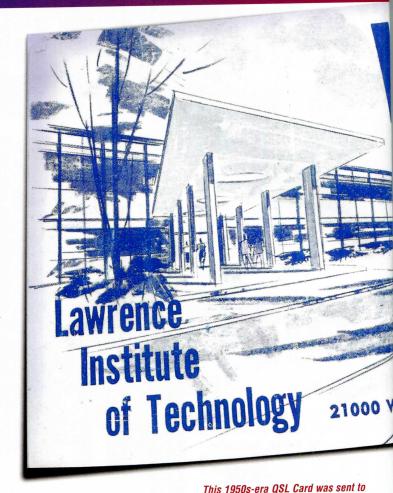
The presentations explained how amateur radio operators maintain communication in emergencies – radio still works when other communications systems fail – and how they learn about technology and electronics to have fun communicating around the world. The students also learned about how ham radio has evolved from vacuum tubes to technologies like software-defined radios and programmable controllers.

The original

World Wide Web

Also included was information on recent amateur radio demonstration projects, such as the one in which a tiny solar-powered 10-milliwatt ham radio was attached to a Mylar balloon and released to circle the globe several times on the wind, its signal picked up by thousands of amateur radio operators along the way.

During the presentations, Hugh Boyle, another Hazel Park club member, set up a 20-meter antenna outdoors that allowed the students to tune in to international conversations thousands of miles away. Students also experimented with a second radio that was set up on the shorter-range two-meter band, used mostly for emergency and satellite communications.



Said Begel: "We hope that our presentations will promote amateur radio to a new

generation of hackers, makers, and engineers."

The Hazel Park radio club has about 90 members – more than a few of them, Begel said, Lawrence Tech alumni.

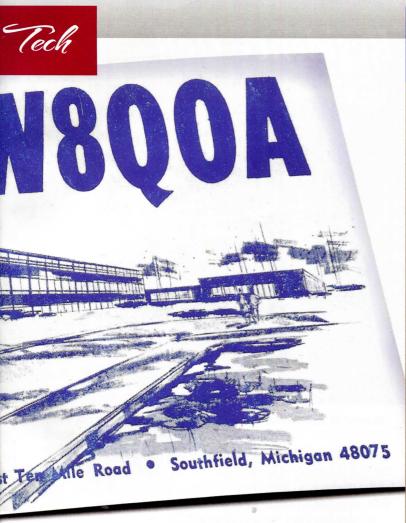
other amateur radio operators who

also had communicated with LTU.

And over the past two years, the club has been "Elmering" the fledgling Lawrence Tech Wireless Society. ("Elmer" is a ham radio slang term for a knowledgeable person who

mentors beginning amateur radio operators.) The club also uses the classrooms of LTU's Department of Electrical and Computer Engineering for licensing courses. (And in case you're wondering, memorizing Morse code hasn't been required for amateur radio operators since 2007.)

Kun Hua, associate professor of electrical and computer engineering at LTU, is the society's president, while Begel is the secretary. Said Hua: "We really appreciate the support from Jerry Begel, Murray Scott, Gerry Treas, and the Hazel Park Amateur Radio Club since 2014. We hope the LTU Wireless Society will become an ambassador of amateur radio to the LTU student body and assist our students in launching their profes-



"

We hope that our presentations will promote amateur radio to a new generation of hackers, makers, and engineers.



sional careers in wireless communications, satellite communication, software programming, and embedded system design. I believe exploring the radio spectrum is a golden chance for LTU to improve its science, technology, engineering, and math education."

Begel said the Hazel Park club also has many members involved in the Amateur Radio Public Service Corps, affiliated with federal and state homeland security and emergency re-

W8QOA Radio club nearly as old as the University

adio was the internet of the 1920s and '30s, creating fortunes and spawning innovation the likes of which the world had, never seen before.

So it makes sense that a technology-focused school like Lawrence Tech would dive in quickly. And it did. The 1938 *L-Book* yearbook contains the first mention of the Radio Club as "one of the newer activities at Tech, one which is growing rapidly."

The yearbook says the club was organized in 1936, just four years after Lawrence Tech's founding, and obtained a license to broadcast shortwave radio under the call letters W8QOA. Transmitting and receiving equipment was set up in the south wing of the original campus building in Highland Park.

By 1938, the *L-Book* noted that the club had 25 members, including both day and evening students, as well as LTU alumni. The club offered day and evening classes in radio theory, radio servicing, transmitter design and construction, and Morse code.

By 1941, the *L-Book* noted that the Radio Club, "can rightfully take its place as a veteran among school organizations." The club also took the 1941 Founders Day Cup for most interesting exhibit.

In 1942, the *L-Book* noted that World War II brought new restrictions on amateur radio that had resulted in the disbanding of the club. But it was right back in 1943 – working with the federal Office of Civilian Defense to help establish "WERS, the War Emergency Radio Service, which developed networks of ultra-high-frequency stations at strategic positions in cities around the country," including Detroit, in case of an enemy air raid or invasion. And showing that no national emergency is so serious as to rule out puns, the *L-Book* noted that "the radio amateur picture paradoxically brightened by going from bad to WERS."

The 1947-48 *L-Book* noted that the Radio Club was reorganized in 1946, and now boasted a 400-watt transmitter, strong enough to bounce shortwave signals around the world.

Lawrence Tech wasn't just a pioneer in radio. The 1939 *L-Book* contains the first mention of the Lawrence Tech Television Society (LTTS). The *L-Book* said that the LTTS was preparing equipment to broadcast a 500-watt signal at 112 megacycles − just above today's FM radio band, which lies between the old analog TV channels 6 and 7. By 1948, LTTS members were busy building TV sets to catch the birth of commercial television. □*MR*

sponse authorities. The group does emergency planning, including the effort to provide 17 Oakland County hospitals with ham radios that link to the Oakland County Emergency Operations Center in Pontiac. The club also participates in annual Amateur Radio Field Day emergency preparedness exercises. And two years ago, they helped students at a Warren school use amateur radio to speak to astronauts on board the International Space Station orbiting 250 miles overhead.

For more information about the club, contact Begel at W9NPI@arrl.net, or visit HPARC.org. More about ham radio in general can be found at www.arrl.org. $\square MR$

Now it's **Edward Donley** Residence Hall LTU's second dorm named after successful alumnus, loyal supporter



The renamed Donley Hall on Lawrence Tech's campus.

n inspiring story of educational opportunity leading to lifelong achievement was part of the May 13 dedication of the Edward Donley Residence Hall on the campus of Lawrence Technological University.

Members of the Donley family were on hand for the dedication of what was formerly called North Housing built in 2002 - to honor Edward Donley, BME'43, and his many contributions to the University.

Donley's son, John, told those assembled that his father graduated in 1939 from a Catholic high school in Macomb County that was not accredited. He said his father wrote letters to dozens of colleges and universities - but only E. George Lawrence, who led what was then the Lawrence Institute of Technology from 1934 to 1964, responded with an offer of a scholarship. Edward Donley had to maintain a B+ grade point average to keep that scholarship, which he did, at great effort, John said. He said going to Lawrence Tech "was the second most important thing in my dad's life ... My dad would tell you the most important was meeting my mother. But going to Lawrence Tech changed his life, changed our whole family's lives."

After graduation, Donley became one of the first 12 employees of Air Products and Chemicals Inc., then based in Detroit, starting as a draftsman. After a string of promotions through the 1940s and '50s, he became president in 1966, CEO in 1973, and chairman in 1978. He retired from his executive duties in 1986 and from the board in 1992. Today, Air Products, based in Allentown, Pa., has 20,000 employees and annual revenue of nearly \$10 billion.

Besides his business interests, Donley has been active in efforts to improve education, serving on numerous boards dedicated to teacher training and certification. He served as chairman of the U.S. Chamber of Commerce in 1986, and was also chairman of the chamber's Center for Workforce Preparation and Quality Education from 1989 to 1993.

He also has been very involved at LTU, serving as a Board of Trustees member and chair. His family's donations to the University, both personally and through company matching, top \$7.6 million.

Donley Hall is home to more than 200 LTU students, who live in spacious one- and twobedroom apartment-style suites with complete kitchens and bathrooms. $\square MR$

John Donley, LTU Board of Trustees Chairman Douglas E. Ebert, and LTU President Virinder Moudgil unveil a plaque honoring Edward Donley at the entrance of the renamed Donley Hall.



On Campus

C A M P U S

LTU a top educational value

Lawrence Technological University ranks in the top five Michigan colleges and universities for best educational value, a new study by a financial analysis website found.

A SmartAsset.com study

ranked 29 colleges and universities in Michigan. LTU ranked fifth. It is the highest ranking of any school in the Detroit metropolitan area.

The study created an education

value index that combined attendance costs, financial aid, student living costs, student retention rates, and the average starting salary of graduates.

LTU had the second highest tuition among the top 10 schools in the study (\$28,948), but also the fourth highest starting salary for graduates (\$56,600). Lawrence Tech's average starting salary for graduates was 25 percent higher than the average starting salary for all Michigan college graduates, \$44,958. And its average award for student scholarships and grants was more than twice the state average. $\square MR$

University jumps in ranking of college ROI

Lawrence Technological University moved up in the 2016 PayScale College ROI Report, which measures the return on investment of a college degree from more than 1,000 institutions nationwide.

Lawrence Tech is 56th in the nation in PayScale's ranking of the net 20-year return on a college degree. That's up from 74th last year and 91st two years ago. This year's ranking places LTU in the top 5 percent of the 1,343 colleges and universities ranked. For the full list, visit www.payscale. com/college-roi.

The survey showed that LTU graduates with a bachelor's degree earned an average of \$56,600 early in their careers and \$94,000 by mid-career. The net 20-year return on an LTU degree was pegged at \$614,000.

LTU has the best ranking among colleges in the three-county metropolitan Detroit area and ranked fourth in Michigan among 32 institutions listed.

PayScale is a salary, benefits, and compensation information provider based in Seattle, Wash. Its annual compensation survey of college graduates is based on more than 1.4 million employee records.

The PayScale survey documents that students get the best return on their college investment by majoring in science, technology, engineering, or math (STEM). More than half of LTU graduates (55 percent) included in the PayScale survey majored in STEM subjects, which was also true for

most of the other highranking colleges.

"LTU remains firmly committed

to offering STEM and STEMleading education," said LTU President Virinder Moudgil. "STEM is part of our DNA, and it has been since Lawrence Tech was founded at the edge of Henry Ford's famous Model T factory in 1932." $\square MR$

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LTU ranked 17th for game design

Lawrence Technological University is ranked 17th in the nation on the Princeton Review's just-published list of 2016's top 50 undergraduate schools to study game design.

The Princeton Review chose the colleges and universities based on a survey it conducted in 2015 of 150 institutions offering game design coursework or degrees in the United States, Canada, and several other countries.

The company's 40-question survey asked schools to report on everything from their academic offerings and faculty credentials to their graduates' starting salaries and employment experience.



Among criteria the Princeton Review weighed to make its selections: the schools' academics, facilities, career services, and technology.

LTU's College of Architecture and Design offers Bachelor of Fine Arts degrees in game art, graphic design, and interaction design.

LTU's College of Arts and Sciences also offers a Bachelor of Science degree in computer science with a concentration in game software development. Computer science majors can take game art courses, and game art majors can take software development courses.

The LTU program is unique in several respects, including the presence at LTU of design programs in other fields, as well as the inclusion of both art and computer science, allowing greater collaboration and cross-disciplinary study. $\square MR$

Research Day showcases student and faculty works

The internet is leading to the democratization of science, a Lawrence Technological University professor and researcher said at the University's fourth annual Research Day. "The way science is being done today is moving rapidly toward virtualization," said Lior Shamir, associate professor of mathematics and computer



science. "The main message in this for institutions like Lawrence Tech is that everyone has the same chance to make scientific discoveries. A high school kid has the same resources as the prestigious research scientist." Research Day also featured the display of a record 55 research projects by graduate and undergraduate students working with faculty on topics ranging from psychology to architecture and business management to engineering.

ON GAMPUS

Collins leads Marburger STEM Center

Sibrina Nichelle Collins has joined Lawrence Technological University as the executive director of LTU's Marburger STEM Center.

Her appointment to the newly created position culminates a national search and was effective July 1.

STEM (science, technology, engineering, and mathematics) fields are becoming increasingly significant for workforce development, national security, economic growth, and more. Lawrence Tech has long specialized in STEM subjects and its graduates are among the nation's highest paid in these fields. Collins' appointment signifies LTU's expanded emphasis on enhancing STEM programs and opportunities.

"Thanks to a recent \$20 million anonymous gift from one of our generous alumni, Lawrence Tech is incorporating a growing system of projects with industry partners, integrating the newest technologies, and increasing the amount of education, mentoring, and counsel provided to students across our campus," LTU President Virinder Moudgil said. "We are also establishing programs for younger students as early as the primary grades. For all these reasons we are delighted to have Dr. Collins join the University to lead these efforts."

Most recently, Collins was director of education at the Charles H. Wright Museum of African American History in Detroit, where she focused on the museum's science education and social studies programming.

A native of Detroit, Collins is an organometallic chemist and earned her PhD from Ohio State University. As a graduate student, she received extensive training as a photochemist, where she used light to investigate the chemical reactions of photochemically reactive molecules. She later completed a postdoctoral appointment

at Louisiana State University, focusing on the characterization of calcified human heart plaque. In 2003-06, Collins was an assistant professor of chemistry at Claflin University in South Carolina. She also worked as a writer and editor for the American Association for the Advancement of Science in Washington, D.C., and served as director of graduate diversity recruiting at the University of Washington in Seattle.



Sibrina Nichelle Collins

In 2008-14, Collins served on the chemistry faculty at the College of Wooster. There, she focused on the development of anticancer drugs containing transition metal centers. Collins has published several peer-reviewed articles on her research and STEM education in journals such as *Inorganic Chemistry*, *Acta*

Crystallographia, Bulletin for the History of Chemistry, and The Journal of Chemical Education.

Building, five acres, added to campus



LTU purchased the Mark Plaza building and its surrounding five acres of land in December. The two-building complex has 92,000 square feet of space in three stories. The building, renamed LTU's Enterprise Center, will eventually include a business incubator as well as academic space. "Purchasing this building provides important expansion opportunities for LTU," President Virinder Moudgil said. "The building and its acreage are immediately adjacent to our campus, which now totals 107 acres."

Business honors



LTU inducted 52 students into the Delta Mu Delta International Honor Society in Business at the honor fraternity's third annual induction banquet in April. Also given honorary induction was an alumnus with a sterling track record in money management, Matthew F. Sauer, BSHu'84, and LTU President Emeritus Richard E. Marburger, the keynote speaker.

DeVries named vice president of university advancement

Kristen R. DeVries was named vice president of university advancement Aug. 1 after a national search.

DeVries will oversee Lawrence Tech's fund raising, donor interactions, conference services, and alumni relations, in addition to corporate and foundation partnerships. For the past 9 years she has held executive positions in advancement at Drexel University in Philadelphia, most recently as senior associate vice president and campaign director.

Earlier, she has held leadership positions in fund raising and development with the University of North Texas, Boys & Girls Clubs of Greater Dallas, the National Jewish Medical and Research Center, and Texas Scottish Rite Hospital for Children. She is a graduate of Wheaton College.

"Every day Lawrence Tech is transforming the lives of its students, the vitality of the City of Detroit, and the national conversation about how the intersection of theory and practice launches innovations that will solve tomorrow's problems," said DeVries. "This is a tremendous opportunity for any advancement professional."

President Virinder Moudgil said that DeVries' appointment comes at a critical time in Lawrence Tech's growth, at the conclusion of the most successful capital campaign in University his-



Life Sciences.

"Lawrence Tech is expanding its outreach and service here at the hub of one of the world's great centers of innovation and technological achievement," Moudgil said. "Vice President DeVries will play a key role in increasing our donor support and community partnerships."

"BJA"

Kristen R.

DeVries

tory. Over the past year, LTU has opened a third student residence hall, the Detroit Center for Design + Technology in Detroit's Midtown area, and acquired an office building and five acres adjacent to its Southfield campus, part of which will be used for academic/business partnerships and incubators. In August, LTU also opened the \$16.9 million Taubman Complex for Engineering, Architecture, and

Noted architect Daniel Winey named to Lawrence Tech Board of Trustees

Daniel W. Winey, chief operating officer of the global architecture, design, planning, and consulting firm Gensler, has been elected to the Lawrence Technological University Board of Trustees.

"Daniel Winey's distinguished 30-year career in architecture and design will help Lawrence Tech remain a top-tier university in those important fields, and his passion for global business and green technologies will help drive the University's future in creating sustainable communities and economies," President Virinder Moudgil said.

Trustees at Lawrence Tech establish strategic direction, help formulate and approve major institutional policies, and hire the University's executive team. They serve without compensation.

Winey is an LTU alumnus, earning a Bachelor of Science in

Architecture in 1974, a Bachelor of Architecture in 1975, and a Master of Architecture in 2015. He also earned an MBA from the University of Michigan in 1982.

He began his career in 1972 as a project designer at General Motors, spent three years at Louis G. Redstone Architects, then returned to GM to work as a senior project designer and architectural and interior design director, 1978-85.

He joined Gensler in 1991, became managing principal of its San Francisco office in 1995, and regional managing principal of its Asia Pacific business in 1998. He has been a member of the Gensler board since 2005 and was its chairman, 2008-10. He has provided leadership on some of the firm's most important projects, including the innovative Shanghai Tower, a vertical city that is the

tallest building in China and second-tallest building in the world.

Gensler is a global architecture, design, and planning firm with 46 locations and more than 5,000 professionals networked across Asia, Europe, Australia, the Middle East, and the Americas.

In addition to lecturing internationally on creating livable cities, Winey has provided resources to the San Francisco Green Building Task Force, which advises civic agencies on the construction of sustainably designed buildings. He is a member of CoreNet Global, an organization for corporate real estate executives, and the Urban Land Institute, a nonprofit that provides leadership in the responsible use of land and in creating and sustaining thriving communities. $\square MR$



Daniel W. Winey

Daubmann new dean of College of Architecture and Design

Karl Daubmann has been named dean of the College of Architecture and Design at Lawrence Technological University. His appointment concluded a nationwide search and was effective July 1.

Daubmann succeeds Glen LeRoy, who resigned last fall to accept the presidency of Boston Architectural College.

LTU's College of Architecture and Design enrolls more than 700 students and is the largest architecture school in Michigan and one of the largest in the nation. Nearly half of Michigan's licensed architects are LTU graduates. Lawrence Tech offers 13 bachelor's and master's degrees in architecture and design disciplines. In addition to oncampus and online programs, the University opened the new Detroit Center for Design + Technology last fall.



Karl Daubmann

Daubmann previously was a professor of architecture and associate dean of post-professional degrees and technology engagement at the Taubman College of Architecture and Urban Planning at the University of Michigan, where he has taught since 1999.

He is a registered architect with

a record of distinguished projects in design technology, manufacturing, and multidisciplinary design. Daubmann is the recipient of the prestigious 2015 Founders Prize from the American Academy in Rome and has spent the past 11 months in Italy investigating fabrication and assembly techniques of stone and concrete construction as advanced through robotic technologies.

His teaching encompasses digital media, robotic fabrication, construction, and multidisciplinary design. He also established his own practice, DAUB (for Design Architecture, Urbanism, Building) Research Studio, in 2012. An architect at the forefront of design and computation, Daubmann focuses on expanding the relationship between design and technology, particularly the relationship between digital/robotic fabrication and building.

Daubmann also served as the vice president of design and creative director for Blu Homes, overseeing product development and project design from offices in Boston, San Francisco, and Ann Arbor. In this capacity he led a creative and multidisciplinary team that developed modern, green, prefab houses that fold for shipping across North America. Daubmann continues on the Blu Homes board of advisors.

In 2001-12 he was a partner of PLY Architecture and co-authored a broad range of work exploring design and digital fabrication with a local focus in Michigan. PLY's awards for both built and speculative projects include the 2010 and 2011 *Architect Magazine* R+D Award for architectural research; a national AIA 2010 Small Project Practitioners Award; a commendation from *Architectural Review*, and seven Michigan AIA Awards.

Daubmann received his
Bachelor of Architecture from
Roger Williams University and a
Master of Science in Architectural
Studies from the Massachusetts
Institute of Technology, where he
concentrated on design computing. $\square BJA$

LTU parking lot part of White House Water Summit

A new water runoff control system in a parking lot at Lawrence Technological University in Southfield was among the water quality improvement projects showcased at the White House Water Summit in March.

"This honor reflects the excellent collaborative research taking place at Lawrence Tech's Great Lakes Stormwater Management Institute, and the innovative technologies of our industry partners," said LTU Professor Donald Carpenter, who is director of the institute.

The Water Summit was intended to raise awareness of priority water issues and potential solutions in the United States, and to help build a sustainable

and secure water future through innovative science and technology. LTU's system is one of several technologies from the public, private, academic, and nonprofit sectors that were demonstrated at the event.

The Water Summit was livestreamed and the public was invited to participate through social media.

The LTU stormwater runoff control system was installed in part of a university parking lot in December. It is a dynamic system that addresses numerous concerns – pollution from paved surface runoff after rains, soil moisture imbalance, and lack of underground water recharging.

The system combines a parking

lot surface of permeable blocks manufactured by a Vancouver, Wash., company, Xeripave LLC; a porous aggregate material made of shale underneath the pavers, made by Haydite Press Brick Co. of Brooklyn, Ind.; and a system called energy-passive groundwater recharge products (EGRP) from Detroit-based Parjana Distribution LLC. The EGRP is a series of small C-shaped plastic tubes that are driven vertically down into the soil, encouraging water to move down the tubes more rapidly than it would through normal soil. Parjana Distribution is one of the key technology partners on this project and coordinated project implementation of the pilot site. According to Carpenter,

"Without the initiative of Parjana Distribution, the project would not have happened, so this project truly is an industrial-academic partnership." $\square MR$



Donald Carpenter attended the March 22 White House Water Summit held in conjunction with United Nations World Water Day.

Stevens named Fulbright Scholar

James C. Stevens, AIA, an associate professor in LTU's College of Architecture and Design, has been named the Fulbright Scholar in Albania.

Under the program, Stevens spent two months in summer 2016, to be followed by seven months in 2017, teaching and conducting research at Polis University, in Albania's capital city of Tirana.

The Fulbright grant is the culmination of five years of collaboration between LTU's makeLab, a digital design and fabrication studio that Stevens founded in 2010, and Polis University, which produced the first digital fabrication lab for architects in Albania.

Stevens said he applied for the Fulbright in Albania after learning about the country, beginning five years ago, from an LTU student from Albania, Pandush Gaqi. (Gaqi is now an adjunct LTU faculty member after earning a master's degree in architecture from the University of Michigan.) Stevens said he was interested in learning how digital fabrication could help a developing economy, and Gaqi suggested Albania. Over the years, the relationship has grown, and there has been a steady flow of students back and forth between LTU and Polis for study and visits.



Stevens has been on the Lawrence Tech faculty since 2008. He earned a Bachelor of Fine Arts degree from Savannah College of Art and Design and a Master of Architecture from North Carolina State University. In 2013, Stevens won the LTU Faculty Member of the Year award, presented annually by the Mary E. and Richard E. Marburger Fund for Excellence. He has also won the American Institute of Architects' Henry Adams Medal for Excellence in the Study of Architecture, and is a Fellow of the Coleman Foundation.

a Chicago-based charity that among other efforts funds entrepreneurship education. Prior to his appointment at Lawrence Tech, Stevens

James Stevens

was principal and president of Coastal Design Center, a residential design firm, in New Bern, N.C., 1995-2001, and principal and vice president of Peterson, Bure and Associates, a full-service architecture firm, also in New Bern, 2001-07.

Stevens is co-author with Lawrence Tech Associate Professor Ralph Nelson of a book on digital design, Digital Vernacular, Architectural Principles, Tools and Processes, published by Routledge Architectural Press in 2015, as well as several peer-reviewed architectural articles on the subject. He has been a professional lecturer, presenter, and exhibitor at architecture events around the globe, including Albania, Canada, China, France, Kosovo, Turkey, and the United Kingdom.

At Lawrence Tech, Stevens established the makeLab in 2010 – a space where students use computer-controlled machinery to make precise copies of computer-designed components in a variety of materials, including wood, cork, concrete, and plastic. The purpose of the lab is to use digital fabrication as an entrepreneurial opportunity as well as to improve design. It has been involved in several projects worldwide.

"Jim Stevens' Fulbright honor is yet another addition to the long list of awards earned by Lawrence Tech faculty, and a fine example of the high quality of instruction offered at LTU," said LTU President Virinder Moudgil.

The Fulbright Program aims to increase mutual understanding between the people of the United States and the people of other countries, and it is the flagship international educational exchange program sponsored by the U.S. government. Founded by U.S. Sen. J. William Fulbright in 1946, the program awards competitive, merit-based grants for international educational exchange to students, teachers, professionals, scientists, and artists. $\square MR$

LTU students dominate cybersecurity challenge

LTU students took first, second, and tied for third place at the ISACA Cybersecurity Scholarship Case Competition, held in April at the University of Detroit Mercy. Student teams competed to solve a breach in which sensitive information was hacked and placed on the Dark Web, the part of the internet that employs anonymity tools to hide users' locations and identities. The objective: countermeasures and prevention of future breaches. Two teams from Lawrence Tech tied for first place, both winning \$4,000. One team was comprised of Rose He, an MBA student in LTU's College of Management, and Gordon



Stein, a student in the MS in Computer Science program in LTU's College of Arts and Sciences. The other team was one person, Michael Talamonti, a student in the LTU MS in Information Technology program, part of the College of Management. Taking second place and a \$2,500 prize was Suvro Sudip, an undergraduate student in computer engineering in LTU's College of Engineering. Tying for third place and winning prizes of \$1,500 was Afiya Khan, also a student in LTU's MS in Information Technology program, and a team from Eastern Michigan University (EMU). In the photo are the winners – left to right, Stein, He, Khan, Talamonti, and Sudip, all of LTU, and Joeun Lee, Haemin Lee, and Junho Lee, of EMU.

N CAMPU

LTU commencement draws crowd of 5,000, and 5,000 more watch online

U.S. Representative Brenda Lawrence (D-Southfield) provided the keynote address at LTU's 84th commencement exercises, held on May 7 at the Ultimate Soccer Arenas in Pontiac, About 900 students received diplomas and certificates at the ceremony. Lawrence told the crowd of more than 5,000 that the room was full of talented problem-solvers.

"Sitting in the room with me is the person that's going to tell us how to build better green infrastructure, who will decide what

the new wave in solar technology and wind power will be, the person who will tell us how to heat and cool our homes in an affordable and effective way," she said. "Sitting before me are the future small business owners, the leaders who will provide employment for skilled trade workers and who will build our future communities... the future business leaders who will help build and design our destination cities right here in Michigan...engineers who will creatively engineer a process to



U.S. Representative Brenda Lawrence presented the Commencement address and was awarded a Doctor of Humanities, honoris causa. Her doctoral hood was placed by Trustee David Wohleen and President Virinder Moudgil.

ensure that food is safe, affordable, and accessible, making food deserts a thing of the past. I want you to know that there's plenty of work for you. We need you to

figure out how to make old things work better... and new things work faster."

Lawrence cited climate change, aging water infrastructure,



access to health care, and needed reforms in criminal justice, public education, and immigration law as major challenges to be faced by the Class of 2016 – pretty daunting stuff. But she said she also felt the "excitement and energy" in a room full of graduates who were "ready to run right out that door and change the world."

She said the key to that change is creativity, noting that "the Stone Age did not end because they ran out of stones – it was ended because of creativity."

Also at the ceremony, Lawrence Tech presented its Alumni Achievement Award to Javad Mokhbery, BSME'79. Mokhbery is founder and CEO of FUTEK Advanced Sensor Technology Inc. in Irvine, Calif. Sensors made by his company are used in a variety of applications, including the NASA Mars rover Curiosity.

LTU's commencement exercises were also streamed live over the internet and registered more than 5,400 views. □ MR

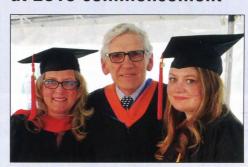




LTU's Class of 2016 faces a bright job market. Exceeding the national average, by the day of commencement, more than 88 percent of the class was already employed or had made plans to attend grad school. PayScale cites LTU salaries in the top 10 percent of all universities.



Mother, daughter both earn degrees at 2016 commencement



Kimberly (left) and Leanne (right) Johnson with Kenneth J. Cook, chair of the Department of Engineering Technology within LTU's College of Engineering.

Lawrence Technological University's 2016 commencement exercises were a double celebration for the Johnson family of Howell.

Mom Kimberly graduated with a master's degree in engineering management, while daughter Leanne earned a bachelor's degree in mechanical and manufacturing engineering technology.

Leanne started out as an English major at Michigan State University after her 2008 graduation from Howell High School. But eventually, she said, reality set in.

"I decided to switch to something where I could get a job, so I switched to engineering," she said. "It was a shock to my system. The class sizes were huge, and I struggled, and my advisor there said I wasn't cut out for engineering. I said if my mom can do it, I am cut out for engineering."

So Kimberly – along with LTU faculty members Ken Cook and Jerry Cuper – advised Leanne to transfer to LTU.

And that's just what Leanne did. And now she's a proud LTU alumna – and employed as an associate engineer at Advics, a brake systems supplier in Plymouth.

"It was just really welcoming," Leanne said of Lawrence Tech.
"Everyone was really eager to help me succeed. There was no
competition between students. Everyone in my classes, and all my
teachers, were trying to get us all to a good place. At Lawrence
Tech, everyone wants to succeed, but everyone also wants to help
everyone else succeed. Ken, Jerry, everyone in my class was really
helpful and friendly."

As for Kimberly, she earned an associate's degree in mechanical drafting and design at Lansing Community College in 2001, went

to work in civil engineering, and added a bachelor's in engineering technology from LTU in 2011. Then she went to work as an engineer for IAC Group in Southfield, and added the Master of Engineering Management, which offers an online option, in 2016.

So what's it like to graduate with your daughter? "It was awesome," Kimberly said. "But I told her, now she has to get a master's degree too."

Leanne sounds sold on LTU: "It's worth the investment," she said of her engineering degree. "You get a lot out of it. You make lifelong friends, and you have professors you can go to for anything."

MR

Brother Rice boosts STEM preparation through Lawrence Tech partnership

Brother Rice High School in Bloomfield Hills and LTU have formed an academic partnership that will enable Brother Rice students to take courses taught by LTU faculty and earn college credits.

The new agreement adds to LTU's outreach to pre-college students in STEM, the science, technology, engineering, and mathematics subject areas. It will also enhance the curriculum of Brother Rice's newly formed Science, Spirituality, Technology, Engineering, and Math (S2TEM) Academy, which will open offi-

cially in the fall of 2016.

The memorandum of understanding was signed in November by Brother Rice High School President John Birney and Lawrence Technological University President Virinder Moudgil.

As part of the program, Brother Rice S2TEM Academy students will have the opportunity to take courses taught by LTU instructors and receive dual enrollment credits for select college-level courses.

Brother Rice students will also be able to participate on Lawrence Tech's engineering competition teams as well as have access to campus facilities for robotics, architecture, and other related STEM disciplines.

LTU students will provide mentoring support to Brother Rice students enrolled in the program.

Moudgil said LTU welcomed

the opportunity to develop relationships with motivated college prep students who will be well prepared to succeed in bachelor's and advanced degree programs.

Brother Rice is a Catholic college preparatory school for young men, committed to offering its students a rigorous college prep curriculum that effectively prepares them for collegiate and professional success. □*MR*

Poli-Smith, Breen, Roush join staff

LTU made several administrative staff appointments in the spring semester:

• Susie Poli-Smith has been



named director of financial aid. Poli-Smith earned a Bachelor of Arts degree from Central Michigan University,

where she is also completing her final class for a Master of Arts in higher education administration. She was previously associate director of admissions at Northwood University, where she worked in a variety of capacities for 25 years. Earlier, she was employed by the University of Detroit Mercy.

· Brian M. Breen was named



digital media specialist in the Office of Marketing and Public Affairs. A native of Denver, Colo., who

spent much of his childhood in Clare, Mich., Breen was previously employed by the Michigan Economic Development Corp. Earlier, he worked in communications, public relations, and marketing for the Michigan State Medical Society and Lansing-based Spoke8 Marketing. Breen holds a Bachelor of Arts degree in communication from Hope College.

· Matt Roush has been named



director of media relations and managing editor of the University News Bureau. He was previ-

ously director of communications and public relations at the Engineering Society of Detroit. At LTU, Roush manages the University's twice-a-year alumni magazine as well as the annual magazine of LTU's College of Engineering. He also manages the University's media relations efforts and creates content for additional university print and digital media. Roush has been a writer and editor in Michigan for more than 35 years. He was technology editor at WWJ Newsradio 950, 2001-13, and a reporter at Crain's Detroit Business from 1990-2001. He holds a Bachelor of Arts in speech, communications, and theater from Albion College. □MR

Students design new house for Habitat for Humanity

Lawrence Tech architecture graduate students in an advanced design studio are creating a new approach to housing design and construction for Habitat for Humanity of Oakland County that could become the standard for future construction.

The project began in the fall of 2014, and construction will finish this summer after the prototype house's foundation is poured in Commerce Township.

The task of designing a house to meet the needs of Habitat for Humanity clients has been embedded into the curriculum of this studio within the architecture master's degree program at LTU. Associate Professors Scott Shall and Jim Stevens are leading the studio and coordinating the project with Habitat for Humanity managers.

The students have met with owners of Habitat for Humanity houses and will continue to seek feedback throughout the design process. They've also met with appraisers and others involved in the real estate market.

"The students are learning the value of listening by meeting with more constituents than architects usually do, and they're doing it at an earlier stage in the design process," Shall said.

Habitat has asked the students to come up with a house design that reduces the environmental footprint and cost yet increases the functionality and appraisal value of a three-bedroom house with one and a half bathrooms.

The students are attempting to save time and money on the construction site by utilizing the digital fabrication equipment and approaches of the makeLab in LTU's College of Architecture and Design. They are designing and constructing in advance some of the more expensive elements of the house, such as walls where the utilities are located, kitchen and bathroom walls, and walls that have closets with built-in storage space. $\square MR$

ON GAMPUS

SAE Aero Design, Supermileage teams make strong showing

Two Lawrence Technological University student engineering teams acquitted themselves well in competitions during spring semester. But the Lawrence Tech SAE Aero Design and Supermileage teams were in very different competitions, 2,000 miles apart.

In downtown Detroit, LTU competed in the Shell Eco-Marathon, a fuel economy competition to see who can squeeze the most mileage out of a tiny quantity of gasoline.

LTU's car achieved 319 mpg in the event, good for 20th place out of 45 teams competing in the prototype gasoline category.

"The team did a great job," said Liping Liu, assistant professor in LTU's A. Leon Linton Department of Mechanical Engineering. The vehicle successfully finished the Eco-Marathon's 10-lap run.

Liu said competing in the Eco-Marathon helps the Blue Devil Motorsports Supermileage team get ready for the SAE Supermileage event, held at Eaton Corp.'s Proving Ground in Marshall, Mich., in June – where the team finished in the top 10 in the competition.

Liu is co-advisor of Blue Devil Motorsports, which competes in five SAE-sponsored transportation events.

Meanwhile, in Van Nuys, Calif., Lawrence Tech's SAE Aero Design team competed in SAE Aero Design West in the Regular Class, in which the team is scored on a small radio-controlled aircraft's reliability, weight, and payload, as well as a technical report and presentation.

Andy Gerhart, associate professor of mechanical engineering, said the team finished eighth in the presentation competition and in 18th place for its written report, both improvements over last year.

The team's aircraft also flew and carried payload successfully, which Gerhart said was a major achievement considering what happened early in the competition.

"I'm very proud of the teamwork and perseverance of the 2016 team," Gerhart said. "They had a major crash on Thursday



LTU's 2016
Supermileage
team poses
during the Shell
Eco-Marathon
with its foambodied vehicle.

and got everything rebuilt in a hotel room throughout the night to pass tech inspection on Friday. And then they flew on Saturday. Not easy to do 2,000 miles from home."

All in all, Gerhart said, the competition will provide "good building blocks for the 2017 team."

LTU now helping to power ESD's tech news blog

Lawrence Tech is now a co-sponsor of a news blog covering high technology in Michigan.

TechCentury.com is the online version of TechCentury, the magazine of the Engineering Society of Detroit (ESD).

Matt Roush, managing editor of LTU's news bureau, will maintain TechCentury.com and keep it supplied with fresh news about the Michigan science and engineering scene.

TechCentury.com has now been rebadged to reflect this new rela-

tionship – as being "powered by the Engineering Society of Detroit and Lawrence Technological University."

The website will continue to publish breaking news on high tech, science, and engineering events and advancements in Michigan. Check out the coverage at www.TechCentury.com. Those with news releases to be considered for publication in the blog should now send them to Roush at mroush@ltu.edu. \(\sigma MR\)

Lawrence Tech, Focus: HOPE extend partnership

Lawrence Technological University and Focus: HOPE are offering LTU's new Associate of Science in Mechanical and Manufacturing Engineering Technology degree at Focus: HOPE's training facility on Oakman Boulevard in Detroit.

Some 16 students comprise the first class and upon completing their program will be the latest of over 115 students who have earned Lawrence Tech college degrees since LTU and Focus: HOPE launched their partnership in the early 1990s.

LTU President and CEO Virinder

Moudgil and Focus: HOPE CEO William Jones, Jr., signed the agreement in February and met with the students, who will also have the opportunity to transfer seamlessly to LTU's bachelor's program upon completion of their associate degree.

Focus: HOPE, www.focushope. edu, founded in 1968, is a Detroit-based organization dedicated to intelligent and practical solutions to the problems of hunger, economic disparity, inadequate education, and racial divisiveness.

High-tech art

A formerly blank white wall in a much-traveled lobby of the Southfield Town Center is now home to high-tech art created by two LTU design students. The 20-foot-long, 7-foot-tall sculpture, called "Hedron," is a series of triangular Plexiglas sections



held in place by wood framing. As a statement of sustainability, the lights are power-saving LEDs, and the wood framing is recycled. The LEDs change color to add dynamic motion to the art. The designers are Daniel Stack and Alek Cummings, both graphic design majors, from Farmington Hills and White Lake respectively.

ON GAMPUS

Lawrence Tech students getting loaded laptops that include up to \$116,000 in software

College isn't cheap, but along with those tuition bills comes value — the ability to pursue a personally rewarding and socially significant career, not to mention a lifetime of increased earning power.

And at Lawrence Technological University, that value starts the moment students sign up for their first classes.

Lawrence Tech was a pioneer in providing computers to all incoming undergraduates, starting a laptop program in 2000. And next month, new LTU students will get laptops loaded with software with an industry value of up to \$116,000.

Charlene Ramos, LTU's director of help desk services, calculated the value of software on the three different kinds of laptop computers distributed to incoming students, depending on their academic program.

The Lenovo Yoga Tablet distributed to students in most programs in the Colleges of Management, Arts and Sciences, and Engineering is loaded with software that would cost someone in industry up to \$116,081 to buy. Included on the tablet for engineering students is industry standard software such as AutoCAD, Matlab, Simulink, Siemens NX, and Solidworks.

The HP Z-Book distributed to students in architecture, transportation design, architectural engineering, civil engineering, and game art has software with a commercial value of \$92,986. Matlab, Simulink, and analytical software for engineers called Maple are among the offerings.

Finally, the MacBook Pro distributed to students in LTU's audio engineering technology, media communication, and graphic design programs has software with a commercial value of \$13,530. Matlab and Simulink



The laptops LTU distributes to incoming students are loaded with top-of-the-line industry design and engineering software.

software are the most expensive parts of this package.

Ramos added that most software companies deeply discount their software to college students, or offer it for free – but that offer is only good as long as you are a student, and frequently requires the college to participate in a software program as well. The prices she researched were for professionals in industry who were buying the software at retail price.

LTU became one of the nation's first universities to distribute laptops to students. Today, Ramos said, "we're distributing more than 2,700 laptops to students, faculty, and staff every year, and that number is growing, with enrollment growing."

Ramos said her research also shows that LTU's combination of top-quality hardware and industry-standard software is unique in higher education. "We haven't been able to find anyone else putting together this kind of program," she said.

What's in it for the students,

Ramos said, is the ability to get familiar with the exact same software they'll be using in their careers, in a group setting.

"The students benefit because of the collaboration, the idea that every student has the same software that their peers and instructors have, and they are never without a laptop," Ramos said.

Included in the LTU program is

a 100 percent replacement policy, too: "If a laptop drops and breaks, they get a new one," Ramos said. LTU President Virinder Moudgil

pointed to recent major software gifts from Dassault Systèmes and Siemens that have "enriched our academic experiences and the tradition carried in Lawrence Tech's motto, 'Theory and Practice.'"

Moudgil said Dassault's Catia software is "used primarily in transporta-

tion design and architecture, and our students who become familiar with this software have emerged as young leaders in automotive design, winning many awards." And Siemens' Teamcenter product lifecycle management software is used in engineering, motor sports, industrial design, and operational engineering. $\square MR$

All in the family

Kathleen Johns
(left) and Alina
Johns (right) visited
the campus recently
as Alina ponders
her university
options. They are
pictured with Louise
Keightley (center).
Alina is LTU founder
Russell Lawrence's
great-granddaughter, Kathleen is his
granddaughter, and
Louise is his daugh-



ter. They and their families reside in Montana, where Louise moved many years ago. This was Alina's first visit to the University as she contemplates possible majors and career choices. Russell Lawrence founded LTU in 1932 with help from several members of his family, including his brother, George, who served as president 1934-64.

Teams score well in math competition

A team of LTU students placed in the top 9 percent in the world in the annual competition of the Mathematical Contest on Modeling (MCM), an international mathematics competition sponsored by the Consortium for Mathematics and Its Applications.

The team of Mohit Bansil, Aaron Craig, and Nicholas Paul earned a "meritorious" designation for their solution to a difficult mathematics problem called "A Hot Bath."

The problem asked students to develop a model of the temperature of bathtub water in space and time to determine the best strategy someone in a bathtub could adopt to keep the temperature even throughout the bathtub, and as close as possible to the initial temperature, without wasting too much water.

Students were given 96 hours to develop the model and develop a presentation on their solution. Faculty of participating institutions could coach the students before they received their problems

to solve – but could not assist them once the problem had been received. The presentations were scored by mathematics experts using a standardized rubric.

Bansil and Craig are dualenrollment high school students taking LTU classes, Bansil at Farmington High School, while Craig is home-schooled. Paul is a computer science major at LTU.

In addition, Nicole Yu, a robotics engineering major, was one of four finalists in the new MCM Media Contest, for media presentations they created about their school's participation in the event.

Of the 7,421 papers presented in the competition, held at campuses around the globe in March, 13 solutions (0.2%) were classified as "outstanding," 22 (0.3%) were classified as "finalist," 594 (8%) were classified as "meritorious," 2,604 (35.1%) were classified as "honorable mention," 4,182 (56.4%) were classified as "successful participant," and six (0.1%) were classified as "unsuccessful."

Another LTU team, comprised of Muhammad Aftab, Nirmit Changani, and Ryan Pakledinaz, earned an "honorable mention" designation solving a different problem in the competition – how to remove space junk in orbit. (Or, more specifically, designing a time-dependent model to determine the best alternatives that a private firm could adopt as a commercial opportunity to address the problem of debris in Earth's orbit, which poses a threat to satellites.)

Aftab is an electrical engineering major, Changani is a robotics engineering major, and Pakledinaz

is a computer engineering major.

A third LTU team of Rodrigo Sanchez-Vicarte, Kritin Jordan, and Xinrui Zhou earned a "successful participant" designation for their solution to the bathwater temperature problem. Sanchez-Vicarte is a computer engineering major, Jordan a robotics engineering major, and Zhou a dual major in business administration and chemical biology.

The team of Bansil, Craig, and Paul also presented their paper at the Mathematical Association of America Michigan Section conference, held at Hillsdale College in April, and received the Ron Mosier Memorial Award for best student presentation at the event. $\square MR$

Ford Motor Company named Corporate Partner of the Year

When Lawrence Technological University was founded in 1932, its original building was on the campus of Henry Ford's Highland Park auto plant. Since that time, the relationship between Ford and LTU has remained close.

Now, Lawrence Tech has made it official, recognizing Ford Motor Company as its Corporate Partner of the Year in ceremonies on the LTU campus.

The event featured Ford employees and executives – all LTU alumni – who have played key roles in advancing the enduring Ford-LTU industry-university partnership.

A highlight of the event was a video, "Ford and LTU: Partners in Success," which explored the changes in the educational landscape since the University opened its doors in Highland Park 84 years ago. The video spans Henry and Edsel Ford's support of Russell Lawrence's vision for a university that offered working adults the opportunity to earn

engineering degrees in evening classes, to today's sponsored research on the high-tech vehicles of tomorrow.

Along the way, LTU grads have played key roles in groundbreaking Ford vehicles like the Mustang. the first-generation Taurus, and the stunning new version of the Ford GT supercar. Other examples include a Taurus modified by LTU students, which won the New York City to Washington, D.C., "Tour de Sol" in 2000, achieving more than 80 mpg with flawless highway performance. A Ford donation in 2006 funded the launch of LTU's innovative Bachelor of Science in Transportation Design degree, which blends design skills and engineering expertise.

Today, more than 3,600 Lawrence Tech alumni are employed by, or retired from, Ford Motor Company. The company and its employees have donated more than \$7.2 million to the University over its history.



National Innovation Fellows

Three LTU students are among 155 students from 47 higher education institutions nationwide who have been named University Innovation Fellows by the National Center for Engineering Pathways to Innovation (Epicenter). The LTU Fellows are (from second from left) Justin Becker, a junior in civil engineering from Romeo; Leah Batty, a junior in industrial engineering from Macomb Township; and Nada Saghir, a junior in mechanical engineering from Dearborn. They are flanked by (left) Heidi Morano, project engineer for LTU's College of Engineering Studio for Entrepreneurial Engineering Design, and (right) Cristi Bell-Huff, SEED director. The students attend online training and seminars to develop ways to promote an entrepreneurial mindset on campus.

Student design skills shine at industry show

Lawrence Technological University showed off its award-winning design expertise at its ninth annual Industry Design Show, held at the close of spring semester in the Architecture Building.

Senior transportation and industrial design undergraduate students displayed vehicles and consumer products, from advanced cars and trucks eyed for the year 2030 to the appliances and footwear of tomorrow.

Keith Nagara, director of both programs in LTU's College of Architecture and Design, noted that the show marks the sixth graduating class for LTU's transportation design program, and the third class for industrial design. He reviewed the programs' successes for the year, including last fall's opening of the Detroit Center for Design + Technology, an exhi-

bition at the 2016 North American International Auto Show, and continuing accreditation from the National Association of Schools of Art and Design.

The students also heard from Lindsey Grant, BSIT'14, now working as a designer at Ford Motor Co. She said the workload of a senior design student can seem overwhelming, as can the uncertainty of what lies ahead after graduation. But she said the future is bright for LTU's graduates.

The program also featured a video on advances in science and mathematics that rely on conceptual design thinking, rather than only the symbols of mathematical notation. Nagara also highlighted the projects LTU worked on during the 2015-16 academic year, with companies such as FCA, Polaris, Buick, Ford, Michelin, Honda,

GE, Under Armour, Plastipak, and Johnson Controls, helping design the future in everything from cars to appli-

Students check out the design projects at the industry show.



LTU's Jeff Summers, BSTD'16, displayed his designs for a huge superyacht.

ances to athletic footwear and vachts.

The program is also using advanced design software from partners such as Dassault

Systèmes that gives students knowledge of the practice of design in the working world. $\square MR$



Attendees of the design show enjoy a strolling supper.



Attendees get the story on the latest in design and technology.

NOMA student design



The LTU student chapter of the National Organization of Minority Architecture Students (NOMAS-LTU) won the Barbara G. Laurie Student Design Competition during the national conference of the National Organization of Minority Architects (NOMA) held in New Orleans in October. The first-place prize was \$1,500. NOMAS-LTU was established in 2014 and now has 15 dues-paying members. It has been closely collaborating with the professional chapter of NOMA Detroit, which is moving its offices to the Woodward Willis Building in Midtown Detroit where LTU's Detroit Center for Design + Technology is located. Accepting the top prize in the university student competition were (left to right) Breanna Hielkema, Sara Alsawafy, advisor Tiffany Brown, Andreea Vasile, Yacob Nigatu, Randy Butler, and Mateo Diaz. Not pictured: team member Rawan Ita.

An LTU family

For the Darbyshires, tech education opened doors

Like a lot of Detroit-area kids of the 1950s, '60s, and '70s, David Darbyshire grew up in a big family with a small house. In his case, 11 kids, in a 900-square-foot house in Clawson.

What was unusual, he said, was that his father, Dick Darbyshire, "raised all 11 of those kids to be engineers."

So it makes sense that seven of the 11 attended Lawrence Tech, and most are working in the technical community.

Family patriarch Dick Darbyshire, BSME'54, BSEE'61, spent his career at Burroughs, Chrysler, and General Dynamics, among other places, and among other projects, worked on the Lunar Rover during the Apollo era.

Son David, BSME'87, wound up turning his LTU degree into a family business in engineering software and 3D printers, DASI Solutions in Pontiac, which he cofounded with brother Ricky, BSME'94. He heartily recommends LTU to future students.

"I use my involvement with Lawrence Tech as a competitive advantage," he said. "It's a small school. I have access to President Moudail just like I had access to President Marburger when I was a student. It's very easy for me to plan and organize an alumni Dream Cruise event because I have direct access to staff. The beauty of Lawrence Tech is that you can be anything you want to be. You can be a leader - president of the student body or the ASME, on the rush committee of your fraternity, or planning Homecoming. Teachers knew your name. Teachers saw you in the atrium. People who run the lab recognize you, and when you show up to work on your senior project, they already know you."

David said he listened to his father, who said that "an engineer can do anything they want. They can design planes, trains, automobiles, consumer products. If they don't want careers in design, they can have a career in manufacturing. If they don't want a career in manufacturing, they can teach. If they don't want to teach, they can have an engineering business. Engineering teaches logical thinking and problem solving, and those skills can be applied to any industry, and that's why a STEMbased education is so important."

Other Darbyshires with LTU studies in their background include Robert, BSME '80, an engineer at General Dynamics; Edward, BSME'84, who also worked at General Dynamics, and later General Motors and Chrysler, and who now works for Cvb Lings Inc., a Darbyshire family holding company; Leonard, BSME'87, who worked for General Motors and the U.S. Army's Tank-Automotive Research, Development and Engineering Center; Richard, "Ricky," BMSE'94; and Louise A. Bjelobrk, BSME'00. Another brother, Jimmy, also attended LTU; he now runs the 3D printing studio at DASI Solutions in Pontiac. Louise works at Fiat Chrysler with her husband, Milan, who is also an LTU engineering grad.

Sister Gretchen Metevier also studied engineering at Kettering and Oakland, and now works at General Motors. Sister Audrey studied at Kettering as well, and sister Nellie at Baker College. The youngest brother, Heathcliff, is performing renovation work at



DASI Solutions.

"So our family is very much in the engineering community," David said. "We all live in Oakland County and we all have dinner at my mom's house once a week." There are 18 grandkids now, so that must be quite a meal.

Darbyshire said that the fundamentals of engineering have not changed since his father studied in the 1950s: "It's all about problem solving. It's all about interacting with your peers. It's all about finishing what you start. And that's what Lawrence Tech teaches you. Most of the people I attended Lawrence Tech with are leaders in their field. The sad thing is, many people don't know the ties of those leaders back to Lawrence Tech in the business community."

And, he said, "Entrepreneurship has always been a part of

The Darbyshire family of engineers.

Lawrence Tech's DNA. This isn't anything new. You see all these Lawrence Tech alums who are business owners. Take a look at every architect who graduates from LTU. Every one of them aspires to be their own proprietor."

Once again, David hosted a Woodward Dream Cruise party for LTU and DASI Solutions' friends at the company's parking lot in downtown Pontiac. "We had about 500 people in our backyard with 100 performance and classic cars." he said.

And the dominant colors, of course, were blue and white.



ALUMNI NEW S

Two outstanding students named Donley Award winners

Bridget Moricz and Steven Pascoe have been named the recipients of LTU's 2016 Ed Donley Distinguished Graduate Awards. They were selected for the honor by the LTU Alumni Association Board of Directors.

The Donley Awards recognize not only academic achievement, but also participation in campus activities, employment while a student, and involvement in professional associations and the community.

Moricz, of Livonia, graduated with a Bachelor of Science in Molecular and Cell Biology. She also has minors in chemistry and economics.

Moricz maintained a 3.77 GPA, and also held tutoring and group study sessions for other students. She was also a teaching assistant in LTU's cell biology laboratory and a supplemental instructor for an introductory biology lab.

She is a member of several science student groups, including serving as vice president of the American Chemical Society's LTU chapter, the Life Science Student Association, and the American Society for Microbiology. She also founded the new LTU student chapter of the American Society for Biochemistry and Molecular Biology. She was also an intern in the federally funded Microbiology Research Experiences for Undergraduates Program at the University of Iowa last summer. In the community, she organized a food drive at LTU for Forgotten Harvest, volunteered at Arts and Scraps in Detroit making art packages for local schools, and presented science demonstrations at area elementary schools and the Detroit Zoo's Zoo Boo.

Moricz was also a varsity athlete, serving as co-captain of the LTU bowling team for two years, where she was an Academic All-

American and an NAIA Champion of Character Award winner.

Her future plans include a PhD in molecular biology.

Pascoe graduated with a Bachelor of Science in Audio Engineering Technology.

Pascoe, also of Livonia, assisted in the creation of a student organization to promote the arts, the LTU Music Society, and organized and ran events for the society, including jam sessions, open mic nights, and formal concerts.

He also designed an educational website for the University's audio engineering technology students. The site helps students

build their professional network and lets them know about educational resources beyond the classroom.

Pascoe also launched a project to create an on-campus workspace and lab, the LTU Phono Lab, for

audio engineering technology students. The lab, designed to meet the needs of audio engineers, would allow students to conduct work such as acoustics testing, music mixing, or audio post-production with the convenience of an on-campus location.

Outside the University, he has volunteered with the homeless ministry of the Vineyard Church of Ann Arbor and is a volunteer with Greening of Detroit and St.



Bridget Moricz



Steven Pascoe

Alexander's Church in Farmington Hills.

The LTU Alumni Association annually honors one male and one female graduating student. The awards were renamed the Ed Donley Distinguished Graduate Awards in 2002, honoring the extraordinary leadership and philanthropy of Ed Donley, BME'43. (See related story, pg. 10.) $\square MR$

Retired professor makes waves

At age 91, George Bowden, former professor and chair of construction engineering, is still making waves. Every other morning he completes 40 laps in a 25-meter pool in order to help keep his diabetes in check. His robust routine was featured in the Winter 2016 edition of *Wellspring*, the quarterly magazine of NorthBay Healthcare based in Fairfield, Calif.

The magazine reports that after learning he had diabetes at age 65, even after 25 years, Bowden has experienced no side effects from the disease and his A1C number is 7.5. He gives regular exercise all the credit.

Bowden served on LTU's faculty from 1972 until retirement in 1988 and was department chair of construction engineering, 1974-84, during which the number of graduates jumped from six students annually to more than 80 for three

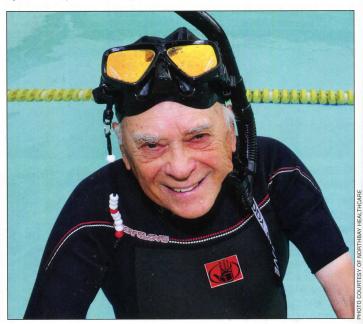
George Bowden served on LTU's faculty from 1972 until his retirement as department chair of construction engineering in 1988.

consecutive years.

He was named the 1984 teacher of the year by Lawrence Tech's student chapter of the Michigan Society of Professional Engineers. He spent 25 years in industry with Commonwealth Edison and Symons Corp. and developed

more than 25 patents prior to joining LTU.

Bowden remains active, too, as a walker, noting the drop in blood sugar when one exercises. He has always been active, serving on the swim team while a student at Purdue, as a U.S. Navy pilot during World War II, and later, when he flew as a hobby. $\square BJA$



The Henry Ford's LTU train man keeps history rolling

For Tom Fisher, BSME'87, the romance of old trains has pretty much faded into the distance, like the last, lonesome whistle of a departing locomotive.

Fisher says of his work space as chief mechanical officer at The Henry Ford in Dearborn: "Everything here is heavy, everything here is hot, everything here is dirty."

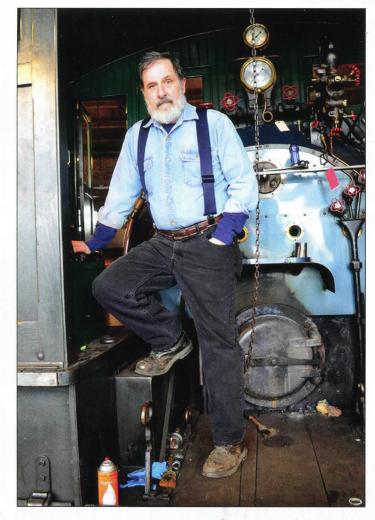
Still, Fisher is smiling when he says it, and it's clear he loves his work.

"My favorite part of the job is the constant challenge," he said. "There is very little that is day-to-day or mundane. All this stuff we use – all the parts, all the peripheral components, all the accessories – none of this stuff has been made in 50, 60, 70 years. So it's a challenge to teach ourselves how all these things were made, make them ourselves, and do the repairs. And we're repairing things in the same fashion they did back then."

Fisher and a crew of five mechanics maintain the working locomotives at The Henry Ford that carry passengers around the Greenfield Village outdoor portion of the park, which is open from April through December. They also do the occasional repair on the trains on static display inside the Henry Ford Museum.

Since you can't go find parts off the shelf for a locomotive more than a century old, Fisher says his crew makes hand drawings of parts that are broken and makes most of the parts themselves.

"We're equipped, and we've got enough technical savvy, where we do most of our own machining," Fisher said. "Probably 95 percent of the machine work we do right here, and the other 5 percent we do through a local company that I've dealt with for 25 years. One of my part-time guys works there, and he helps us make sure it gets done right. We've got relation-



ships with a couple of pattern shops and a couple of foundries." Designs for parts are done by hand, on paper, not on computeraided design software.

"I know AutoCAD, but drawing here is done so sporadically – I might go 16 months without replacing anything and then do six drawings in two weeks, so for me it's just easier to use pencil and paper," he said.

And the drawings of those parts are stored in a wooden cabinet that looks to be over 100 years old itself.

But Fisher points out that "we do make use of the latest and greatest," namely 3D printing. He's using 3D printed parts to

Tom Fisher

design a steam injector, a complex metal housing that injects water into a locomotive boiler when the boiler is under pressure. The project is replacing parts from the 1920s and 1930s that Fisher says have never worked quite properly.

"We've developed a relationship with Ford and their nondestructive testing facility; they scanned it, and the young lady who has been doing most of the work massaged the data so that the wall thicknesses are right and the bores are straight, so we will eventually have the parts," Fisher said. "You will not find another one like it anywhere."

The Henry Ford's trains were all made decades ago by companies like Baldwin Locomotive Works of Philadelphia, American Locomotive of Schenectady, N.Y., and Mason Machine Works of Taunton, Mass. Another locomotive is mostly the product of Henry Ford's craftsmen from the early decades of the 20th century.

In the winter, all the trains are in the shop – the three steam locomotives that operate in the park regularly, a diesel electric used only as a backup, and a gasoline-powered mechanical locomotive used for switching in the Henry Ford railroad yard.

Fisher actually came to
Lawrence Tech for his second
Bachelor of Science degree. The
Oxford native originally attended
Michigan Technological University,
graduating with a Bachelor of
Science in surveying in 1979.
But he said he tired of the hardscrabble of seeking out freelance
surveying work and returned
to school at LTU in 1982. After
several years of night school and
the last two years full time, he
graduated in 1987 in mechanical
engineering.

How does he recall Lawrence Tech?

"When I went there at night, most of the instructors had day jobs, and they were really, really good at what they did," he said. "They had a knack for making things understandable."

After graduating from LTU, he was volunteering for a railroad conservation group in Owosso when he saw an ad in a railroad enthusiast magazine for a mechanic's job at Greenfield Village. He applied and got the job. Twenty-eight years later he jokes that "I'm still waiting to find my perfect niche job."

Apparently The Henry Ford thinks he's found that niche; he was promoted to chief mechanic in 2006. $\square MR$

ALUMNI NEW S

LTU online education leads to futuristic homes

Mark Driedger grew up in Windsor, Ontario, in a passive solar house, so he admits that the seeds of green architecture were planted in him early.

Maybe that's why he was able to help design a striking 3,500-square-foot home that can be heated for less than \$150 a month – despite the fact that it's in Ontario, in one of the windiest places in North America.

In fact, the strip of land between lakes Ontario and Erie is so windy that the home, called Delta House for its triangular shape, was actually tested in a wind tunnel with fluid-dynamics software.

"I think a lot of what's taught in architecture is just form, focused on how it looks," Driedger said. "I'm interested in putting a house together like a machine, especially in terms of energy efficiency." Driedger said a lot of the problem with energy inefficiency in buildings is the use — and misuse — of windows. The Delta House has

only one small window on the northwest-facing side of the triangle, where the cold winter winds come from. Meanwhile, the south side of the home features the "Three Sisters," three huge two-story windows tilted to keep the hot summer sun out, while letting the low winter sun heat the home's polished concrete floor.

And the fireplace, unlike in most homes, actually helps heat the home. The chimney is a laby-



The south facade of the Delta House, showing the "Three Sisters" passive solar windows.

The great room, dining area, and kitchen of Delta House.

a local college, and it's currently listed for sale at \$1.3 million.

Going forward, Driedger is designing urban versions of the home that are made of forms filled with concrete. "They're unbelievably energy efficient," he said.

Driedger credits LTU with his chance to be a "real architect." He earned

a bachelor's degree in architecture from Toronto's Ryerson University in 2000, and after working in construction for a decade, enrolled in LTU's online Master of Architecture program in 2011. He graduated in 2013 and is now a lecturer at LTU in architectural engineering.

The program, he said, "was wonderful. I wouldn't have had the chance to be a real architect without Lawrence Tech." He's now an associate at ATA Architects Inc., which has offices in Toronto and Oakville, Ontario.

Driedger said the goal of architects is to have every single building energy self-sufficient within 15 years. Delta House isn't there yet, but \$150 a month to heat 3,500 square feet is a heck of a start. $\square MR$

Revisit student days with digital yearbooks

Wish you had yearbooks to aid your memory and once again look for your friends, professors, and schoolmates? The LTU Library has digitized its entire collection of Lawrence Tech's yearbooks from the first edition in 1936 to the last in 1989.

View them at www.ltu.edu/library. On the right side of the page, open the "Library Home" link and the "LTU Digital Image Collection." Then, "Browse Exhibits" to view the yearbooks.

Funding is being sought to digitize additional parts of the LTU publication collection, with the next goal being the student newspaper, the *Tech News*.

rinth that allows most of the heat of a fire to be sent to the home's HVAC system – the exhaust at the top of the chimney is only 300 degrees – where it is pulled all the way down to a "thermal battery," a foot-thick concrete slab under the home that contains a series of pipes through which warm air is circulated in winter, and cool air in summer.

The home also features carportlike structures at the southern edges of the triangle that direct the wind away from the big windows on the south side of the home.

The three-bedroom, 2.5-bath home also features an exercise room, a recreation room, an office, and a home theater. Its structural backbone is steel. Its first owner was a sustainability professor at

ALUMNI NEW S

Magnum opus

John Amarantides' accomplishments grew from his student encounter with Frank Lloyd Wright

An incredible lifetime of remarkable work. That's the focus of the entire December 2015 issue of the *Journal of Organic Architecture and Design*, devoted to John Constantine Amarantides, BSArE'51.

Amarantides is a former apprentice of Frank Lloyd Wright who met the architect during his senior year, arranging for Wright to make a rare speaking appearance sponsored by Lawrence Tech's student architecture club in 1951. Wright was so impressed by Amarantides that he invited him to join his Taliesan Fellowship.

Amarantides remained with the Wright organization for 22 years, until 1973, working on such iconic projects as the Guggenheim Museum in New York; Marin County (Calif.) Civic Center;

Mile-High Sky City, a 528-story skyscraper proposed for Chicago; the Lincoln Income Life Insurance tower; Bank of Spring Green; the Pearl Palace; and more.

Amarantides then moved to Athens, Greece, where he has remained ever since, marrying his beloved wife, Eva, and continuing to assist the Wright organization on projects such as signs, general graphics, logos, and special occasion greetings. He also continued practicing architecture with several firms that included projects in the U.S., Greece, Africa, and the Middle East.

Retired since 1992, he still engages in music, photography, cooking, and graphics, including making beautiful holiday cards that he shares with friends in LTU's Office of University Advancement. "I'm happy in my



For all the latest information on upcoming alumni events, follow the LTU Alumni Association on Facebook and Twitter:



facebook.com/LTUalumni



@LTUalumni or twitter.com/LTUalumni

work but never satisfied," he said.

Amarantides first encountered Wright's architecture in the late 1940s, viewing the Usonian residence of Gregor and Elizabeth Affleck in Bloomfield Hills, which coincidentally was donated to LTU in 1978 by the Afflecks' children.

"I was transformed," he said. The Affleck House was a revelation

that, the *Journal* reported, was an inspirational if not spiritual experience for him.

Wright's LTU student-spon-sored appearance would change, Amarantides' life even more profoundly. After the presentation, Amarantides, fellow student Harold Kahn, and

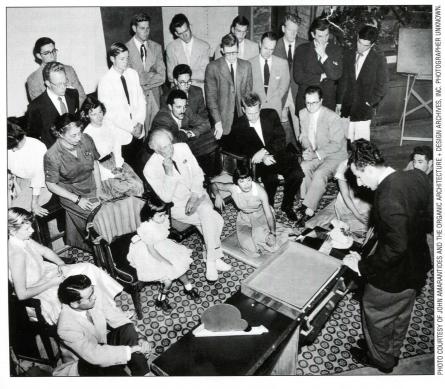
John Amarantides (standing) presents his box project to Frank Lloyd Wright (white shoes, seated) and the Taliesin Fellowship, 1953. Dean of Architecture Earl Pellerin were invited by Wright to his compound in Wisconsin. Full days and sumptuous dinners were followed by musical entertainment. Amarantides played a violin composition by Vivaldi.

As Pellerin recalled years later, from his adjacent chair Wright drew up close to Pellerin's and smiled, "That boy is a virtuoso!"

Amarantides became a senior associate of Taliesin Architects in 1959, following Wright's death. From 1959-73 he also taught for the FLW School of Architecture in Arizona and Wisconsin before moving to Athens.

The goal of the *Journal* and its parent nonprofit company is "to actively advocate for the acquisition, retention, preservation and conservation of the archives of design professionals whose work is/was based upon the philosophy of organic architecture and design."

"The creation of art is a lonely process but there is exhilaration as the idea is hitting paper and coming alive," Amarantides told the *Journal*. "This design exercise provides an outlet – a silent expression of love and joy. These are only words, as you know. The essence is in the doing." □ BJA



Alumni Notes includes news gathered from alumni, their families, and friends, and media reports. Submissions received after the deadline for this issue will be published in the winter 2016-17 issue. Use the form in this section to share news about you and alumni you know!

1965-1980

It may be the world's longest pinochle tournament. As a unique way to keep in touch, six former Lawrence Tech fraternity brothers and their wives have been getting together each month since 1968 to play their favorite card game. They are Ronald Abramovich, BSIM'67, and wife, Carolyn; Stephen Becker, BSME'69, and wife, Kathy; Paul Daniel, BSME'69, and wife, Kate; Kenneth Kamman, BSME'67, and wife, Wendy; Roger Liddicoat, BSIM'66, and wife, Sue; and William Wertz, BSIM'66, and wife, Donna. Three of the women graduated together from Marygrove College. Today, the couples have a total of 16 children and 29 grandchildren.

Dale N. Scrace, BSAr'70, was elected to an eighth two-year term as mayor of Grosse Pointe. Dale is an architect and real estate consultant.

Stephen J. Tertel II, BSAr'70, was promoted to manager of design and construction at Houston Methodist Hospital, Texas Medical Center.

Robert M. Piatek, BSAr'73, BAr'77, is director of the Detroit office, based in Northville, of HKS Architects.



James J. Connor, BSIM'74, joined Alderney Advisors, a Southfield-based business advisory firm, as managing director. He was previously

president and CEO of Tecumseh Products Co.

Richard C. Erickson, AEEtT'75, is an architect and senior project manager in the Berkley office of Stantec.

William P. Russo, BSEE'77, BSME'77, is the new vice president, manufacturing, Asia Pacific, at Ford Motor Co. He was also elected an officer of the company. In his new position, Bill is responsible for manufacturing facilities in seven markets with the capacity to produce 2.7 million vehicles.

James R. Godbout, BSBA'78, was re-elected to a four-year term on the Westland City Council. Jim is the Latin America sales manager for Littelfuse Inc.

1981-1990

Steven P. Varilone, BSME'82, manages Bell Tower LLC, a condominium development in the former St. Mary of the Snows Church building in Milford.

Cynthia S. Blank, BSAr'83, and **James M. Blank**, ACET'88, celebrated the 25th anniversary of their business, Blank Carpentry LLC in Macomb, last year. Cindy also works in the Macomb Township assessor's office.



Daniel P. Dailey, BSCh'83, was named an associate attorney of Brinks Gillson & Lione, an intellectual property law firm in Ann Arbor.

Douglas Del Grosso, BSME'84, was named CEO of Chassix Inc., a precision chassis casting and manufacturing company in Southfield. He will also serve on the company's board of directors. Doug is also a former member of Lawrence Tech's Board of Trustees.

Robert J. Howey, BSAr'84, a Republican from Trenton, is a candidate for the Michigan House of Representatives from the 23rd District this year.

Frank G. Nehr, Jr., BSCE'85, was promoted to owner and president of Davis Iron Works Inc. of Walled Lake. He succeeds his father, Frank Nehr, Sr., who is now chairman of the board.



Nicholas Salowich, BSAr'85, BAr'86, MAr'09, AIA, is the new Science & Technology Studio leader at SmithGroupJJR

in Detroit.

Nancy J. Downs, BSMCS'86, is program coordinator for the Plymouth-Canton Community Literacy Council, which offers one-on-one tutoring as well as conversation groups for English as a second language speakers.

David Darbyshire, BSME'87, is coowner of DASI Solutions in Pontiac. The tech company kicked off its 20th anniversary celebration last year by hosting its third annual DASI Dream Cruise Open House in downtown Pontiac.

Mark G. Nickita, BSAr'87, BAr'89, MAr'11, is co-founder and president of Archive Design Studio in downtown Detroit. He is also a co-owner of Pure Detroit stores, Rowland Cafe, and Stella Good Coffee Cafe. Mark is a Lawrence Tech Distinguished Architecture Alumni honoree.

Kirk T. Steudle, BSCE'87, director of the Michigan Department of Transportation, received the 2015 W.M. Carey Jr. Distinguished Service Award in recognition of his service to the Transportation Research Board. Kirk also received the Alumni Achievement Award in 2008 and was named to the College of Engineering's Hall of Fame in 2012.



Brian K. Shell, BSEE'90, published a textbook titled From Student to Engineer, which creates a college course detailing the journey an

engineering student might travel. Brian says the book was inspired by suggestions from Lawrence Tech students and faculty. Its cover features a photograph of the Lawrence Tech campus.

Ali A. Siblani, BSEE'90, founder and CEO of EnvisionTEC in Dearborn, is in the running for the 2016 Ernst & Young US Entrepreneur of the Year award. Last year, Al received EY's regional award in technology for Michigan and Northwest Ohio.

Kyle Westberg, BSAr'90, and his brother, Brent, are restoring the former Strand Theatre in downtown Pontiac. When the \$20-million project is complete, the historic structure will reopen as the 895-seat Flagstar Strand Theatre for the Performing Arts.

1991-2000



Tracy A. Blouir, ACET'91, is a new associate at ROWE Professional Services Co. in Flint.

George F. Huyler, Jr., BSAr'91, BAr'92, joined TowerPinkster in Kalamazoo as a senior project manager with a specialty in serving education clients.



Jeffrey W. Johnston, AMET'91, BSET'93, was named vice president of engineering at Elio Motors Inc. in Phoenix.

Paul Blair, BSBA'92, is the new chief financial officer at the Precast/ Prestressed Concrete Institute, based in Chicago.

Patrick J. Williams, BSBA'92, MBA'03, a second-term Canton Township trustee, is a Republican candidate for township supervisor. A commercial sales manager with a tier-one automotive supplier, Pat was inducted into the Canton Hall of Fame in 2013 for his community involvement.

ALUMNI NOTES



Michael Axline, BSME'94, was appointed to vice president of engineering at Kolene Corp. in Detroit. He has been with the com-

pany for 29 years.

Frank X. Medrano, BSAr'93, is a principal at Frank Associates International in Los Angeles, specializing in commercial and residential projects, international hospitality, and urban housing.



Carrie Chapman, BSAr'94, MAr'03, was promoted to associate at JPRA Architects in Farmington Hills.

Roxanne R. McDonald, BSBA'94, a member of the Dearborn Public Schools Board of Education, was a Democratic candidate this year for the Michigan House of Representatives 15th District.—

Natalie A. Rankine, BSAr'95, BAr'97, former director of Wyandotte's Downtown Development Authority, is now an instructor of architecture and drafting at Roosevelt High School.



John Rock, BSAr'95, was promoted to senior associate at JPRA Architects in Farmington Hills.



Michael B. Thomas, BSBA'95, is the new business development manager for Southeast Michigan at Rudolph Libbe

Group. He is based in the company's Plymouth office.



Brian Tognetti, BSAr'96, is the new unit manager at the Detroit office of Wiss, Janne, Elstner Associates Inc., based in Bingham Farms.



Tricia A. Wolters-Beck, BSAr'96, MAr'97, AIA, was promoted to learning studio leader at SmithGroupJJR in Detroit.



Cary B. Wood, MSIO'96, was appointed a new independent member of the Board of Directors at Vishay Precision Group Inc. in Malvern,

Penn. Cary is also a member of LTU's Board of Trustees.

Fadi A. Aloul, BSEE'97, is a professor of computer science and engineering at the American University of Sharjah in the United Arab Emirates.

Michael Thomas, Sr., MBA'97, was named human resources director at the Arab American and Chaldean Council, based in Southfield.

Richard T. Hamming, BSAr'98, MAr'06, joined the architectural team at the Portage office of TMP Architecture Inc.

Jason Goff, BSAr'99, MAr'08, joined WTA Architects in Saginaw as a project architect.

2001-2010



Kevin J. Boyle, BSAr'01, MAr'14, joined Kraemer Design Group, a Detroit-based architectural and interior design firm.

Ronna D. Freeland, BSAr'01, MAr'13, was appointed to the Milford Planning Commission. She was previously a member of the village's Zoning Board of Appeals.



Email

Michael D. Kozak, BSCvE'01, is a new partner at Detroit-based Giffels Webster. He is based in the firm's Washington Township office.

Robert W. Simmons, MSE'01, was named to the newly created position of vice president of state operations for Michigan and senior advisor on innovation at Reading Partners in Detroit.



Andrew and Jodi (Stockwell) Batay-Csorba, both BSAr'02, and now husband and wife, founded Batay-Csorba Architects in Toronto in 2010, five years after they both graduated with distinction from the Master of Architecture program at UCLA.

Continued

News for Alumni Notes

Use the space below to tell us about you or your fellow Lawrence Tech or DIT alums. Mail it to the Office of Alumni Relations, or email alumni@ltu.edu. Tell us about honors, promotions, marriages, appointments, and other activities.

New Address?

Name			
Street		n Dyllaties LA	
City State ZIP			
Home Phone (1		

Use the email address above or mail to: Lawrence Technological University, Office of Alumni Relations 21000 W. Ten Mile Road, Southfield, MI 48075-1058 Fax: 248.204.2207

A L U M N I N O T E S

During careers that began in Los Angeles, the couple have designed, directed, and managed more than 86 projects in 38 cities and 11 countries, both on their own and at Pritzker Prize-winning offices. In 2014, they won a Concept Award from the Ontario Association of Architects.

Carson Lyons, BSAr'02, joined Triangle Associates in Grand Rapids as a site project manager in the firm's senior living program.

Rosemary K. Bayer, CIMBA'03, is co-founder and executive director of the Michigan Council for Women in Technology and co-founder and chief inspiration officer of ardentCause L3C, a technology company serving nonprofits. She was a 2007 Alumni Achievement Award honoree at Lawrence Tech.

Subramaniam Manivannan,

MEMS'03, is the new director of operations and continuous improvement at Aperam Stainless Services & Software Solutions in Sterling Heights.



Jeremy Gascho, BFAI'05, BSAr'05, MAr'11, was promoted to senior associate at JPRA Architects in Farmington Hills.

Curt A. Panizzoli, MAr'05, joined the Berkley office of Stantec as a senior project architect.

Susan M. Allor, MBA'06, a Cheboygan County commissioner, is the Republican candidate for the 106th District seat in the Michigan House of Representatives.

Rychiee L. Espinosa, BSAr'06, is a co-founder of mcdowellespinosa, a small firm that explores new uses for waste and excess material. He and his business partner Seth McDowell received a 2015 Architectural League prize for a project in which each built three models composed of wax and water, chewing gum, spearmint leaves, and wood.

Brandon Friske, BSAr'06, MAr'12, is an associate at Quinn Evans Architects in Detroit.

Amy Swift, BSIA'06, is the owner of Building Hugger, a preservation-focused construction firm in Detroit. She was an adjunct faculty member in LTU's College of Architecture and Design in 2013.

Steven D. Cooper, BSAr'08, MAr'11, is a founding partner of Matter Architectural Studio Inc. in London, Ontario.



Danielle B. O'Grady, BSAr'09, BIA'09, was promoted to associate at TMP Architecture Inc. in Bloomfield Hills.



Carlyn D. Roth, MID'09, is the owner of The Bash Events, a special events and design firm in Birmingham.

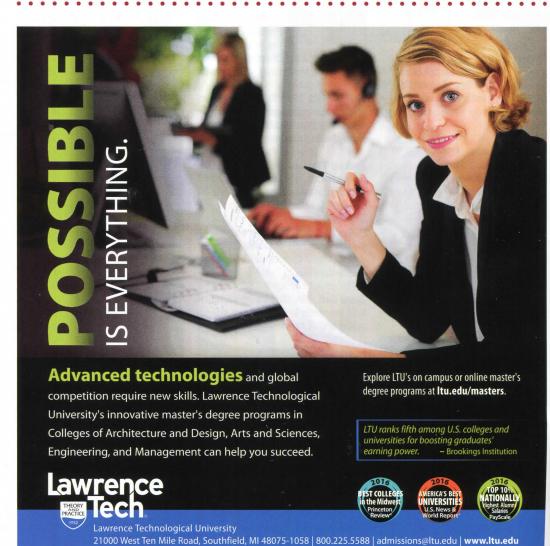
Elizabeth "Lisa" Sauve and Adam M. Smith, both BSAr'09, are founders and principals of Synechdoche, a design firm in Ann Arbor.

LaToya Cunningham, MBA'10, is the founder and creative director of Posh PR & Events LLC in Southfield.

2011-2016

Nathan Monfette, BSEE'13, has married Colleen O'Beirne at St. Thomas a'Becket Catholic Church in Canton last year. Nathan is an electrical engineer at Magna International.

Michael Paciero, MSArE'15, was named a Sigma Phi Epsilon Fellow for his role in leading a 50-man team through a sustainability-focused construction program with his chapter brothers and friends.



In Memoriam

Information for this section is gathered from family and friends of the deceased and from newspaper and electronic media accounts. When providing an obituary, please furnish as much information as possible, including the date of death and any Lawrence Tech- or DITconnected survivors and their graduation dates. If sending a newspaper clipping, please include the date and name of the paper.

H. George Johannessen, BSChE'41, of Rochester Hills, April 4, 2016. Mr. Johannessen was an expert in vehicle occupant safety during a long career with Firestone/Bridgestone. After retiring, he launched a second career as a legal advisor at OmniSafe Inc. and as a technical consultant for the Automotive Occupant Restraints Council. In 2011 Mr. Johannessen established a scholarship fund at Lawrence Tech. He was survived by three daughters and a son.

Charles M. Scott, BSME'41, of Concord, Calif., Aug. 31, 2015. He was survived by his wife, Jean, two daughters, and a son.

Clifford J. Lavers, BSChE'42, of Cape Coral, Fla., July 2, 2014. Mr. Lavers was a retired draftsman at Ford Motor Co. He was survived by his wife,

Harlan Houghtby, BSME'44, BSEE'48, of Brandon, Miss., Nov. 24, 2013. Mr. Houghtby was a retired staff engineer specialist at Trinova Corp. He was survived by three daughters and a son.

Mark Farrell, BSME'48, of Farmington Hills, Feb. 26, 2016. Mr. Farrell owned Bonnie Plumbing and Heating for 40 years. He was survived by his wife, Rusty, and a daughter.

Chester Kus, BSME'48, of Fort Wayne. Ind., Nov. 17, 2015. Mr. Kus worked for the Detroit Edison Co. for 38 years. In 2008, he and his wife established the Chester and Lucille Kus Annual Scholarship for Engineering. In addition to his wife, Mr. Kus was survived by two sons and two daughters.

Douglas K. Bloetscher, BSArE'49, of Lake Columbia, March 30, 2015. Mr. Bloetscher was survived by his wife, Shirley, a son, and a daughter.

Robert L. Lapado, BSChE'49, of Bloomfield Hills, Nov. 30, 2013. Mr. Lapado worked in plastic material engineering at Chrysler.

William G. Lidtke, BSChE'49, of Downey, Calif., Aug. 17, 2014. Mr. Lidtke, a Purple Heart recipient in World War II, was a process engineer at Occidental Petroleum Corp. He was survived by a son and a daughter.

Alfred B. Wnek, BSME'49, of Sweetwater, Tenn., June 13, 2015. Mr. Wnek retired from Ex-Cell-O Corp. after several years of service. He was survived by his wife, Delphine, a son, and a daughter.

Ronald L. Denecour, BSChE'50, of Mission Viejo, Calif., Nov. 9, 2015. Mr. Denecour was owner/technical director of Denecour Associates Inc.

Adam Shostak, BSAeE'50, of West Hebron, N.Y., Feb. 22, 2016, Mr. Shostak worked at Fairchild Space Industries for 40 years. He was survived by his wife, Margaret, two sons, and two daughters.

Earl A. Thorwall, BSME'50, of Fort Myers, Fla., Sept. 18, 2015.

James E. Clark, BSME'51, of Bloomfield Hills, Oct. 30, 2015. Mr. Clark was a sales engineer at Phoenix Wire Cloth Co. for 40 years. He was survived by his wife, Jean, two sons, and two daughters.

Richard V. Dowe, BSIE'51, of St. Clair Shores, March 27, 2015. Mr. Dowe was a die designer at General Motors for 39 years. He was survived by his wife, Pauline, and a son.

Thomas Golec, BSME'51, of Oakland Township, Oct. 20, 2015. Mr. Golec was a retired supervisor of engine engineering at Chrysler. He was survived by his wife, Shirley, three sons, and two daughters.

Edward L. Kossarek, BSBA'51, of Utica, Dec. 11, 2015, Mr. Kossarek was a retired senior assistant district supervisor with the City of Detroit. He was survived by two sons and two daughters.

Jerome L. Skelly, BSBA'51, of Plymouth, Dec. 9, 2015. Mr. Skelly was a senior manufacturing engineer at General Motors for 38 years. He was survived by his wife, Margret, two sons, and two daughters.

Blaine Denning, Sr. -Hall of Fame Basketball Player

LTU Athletic Hall of Fame member Blaine Denning, Sr., of Detroit, died January 25, 2016, at age 85.

"Blaine was a member of our first Hall of Fame class in 2011," LTU Director of Recreation, Athletics, and Wellness, Scott Trudeau said. "He was an outstanding basketball player and an even better man.'

Mr. Denning was a standout guard, 1949-52, and helped lead the Blue Devils to the 1950-51 National Invitational Tournament (NIT) in New York's Madison Square Garden. It was the first time a school from Metro Detroit made the NIT. During his senior season, he scored 569 points in 28 games, often utilizing a deadly hook shot that he could do with either hand.



Alumnus Blaine Denning was one of LTU's most accomplished and celebrated basketball players. He went on to a highly successful career as an entrepreneur.

"During the 1940s and '50s, many considered Lawrence Tech to be the basketball team of Detroit," said Bruce Annett, vice president of marketing and public affairs, who presented a eulogy at Mr. Denning's funeral. "And when national news media spoke of Blue Devil athletics, it was not only Duke that they were discussing – it was Lawrence Tech! Tens of thousands of fans came to games at the State Fairgrounds or old Olympia Stadium. The radio and TV coverage of LTU's complete games was said to be the very first in

In the 1951-52 press book, LTU Coach Don Ridler called Mr. Denning, "the greatest all-around basketball player he had ever coached." In 1952, when the process was less formalized than today, reporters and coaches endorsed him as an "All American."

Mr. Denning left Lawrence Tech after his senior season in 1952 for a once-in-a-lifetime opportunity to join the Harlem Globetrotters. He then was drafted by the Baltimore Bullets (today the Washington Wizards) in the NBA. In 1999, he was named one of the "founding fathers" of professional basketball by the Black Legends of Professional Basketball Foundation.

He received a second Lawrence Tech honor in 2012 because of his cumulative achievement during his basketball career. Mr. Denning's number, 14, was permanently retired and his jersey was raised to the rafters of LTU's Ridler Field House. As the crowd that night thundered their approval, all the current players ran hook shots in celebration of their hero and gathered around to shake his hand.

After his basketball career, Denning, an accounting major at LTU, grew a one-truck wholesale dairy distributorship into one of the largest African-American-owned businesses in Detroit. He also led a wine distributorship and opened the first African-Americanowned supermarket in Detroit. He engaged in coaching and in numerous community activities.

The Denning family has established and is encouraging contributions to the Blaine Denning, Sr., Memorial Scholarship at LTU to help young men and women graduates of the Detroit Public Schools. $\square BJA$

IN MEMORIAM

Frank J. Calimazzo, BSEE'52, of St. Clair Shores, Aug. 19, 2014. Mr. Calimazzo was retired from General Dynamics. He was survived by his wife, Sandy, who died in 2015, and four daughters.

Robert C. Richards, BSME'52, of Redford Township, Jan. 22, 2016. Mr. Richards retired from Ex-Cell-O Corp. in 1986. He was survived by a son.



Albert T.
O'Connor,
BSEE'53,
BSME'58, of
Bonita Springs,
Fla., Jan. 4, 2016.
Mr. O'Connor was
a retired chief electrical engineer at

Ford Motor Co. He was survived by his wife, Joan, three sons, and a daughter.

Robert Stuart, BSEE'53, of Linden, Dec. 26, 2015. Mr. Stuart was a retired supervisor engineer at Detroit Edison. He was survived by two daughters and a son.

Jan C. Knibbe, AMT'54, of Holland, April 10, 2015. Mr. Knibbe owned JK Engineering.

George T. Dzendzel, BSEE'55, of Loudon, Tenn., Jan. 25, 2016. Mr. Dzendzel worked at Detroit Edison for 38 years, retiring as director of the Relay Division. He was survived by his wife, Elaine, four sons, and a daughter.



Gust C. Loizos, BSIM'55, of Troy, Oct. 21, 2015. Mr. Loizos was a retired research development consultant at Machine Design. In 2008, he received the

Bravery Gold Medal of Greece, one of that nation's highest military honors, for his actions with the U.S. Army that helped save a group of Greek soldiers during the Korean War. Mr. Loizos was survived by his wife, Anna, and a son.



Ronald W. Sobson, BSME'56, of Livonia, March 6, 2015. Mr. Sobson was a retired engineer at Chrysler. He was survived by his wife, Claire, four

daughters, and a son.

Theodore A. Jackson, AMT'57, of Shelby Township, Feb. 29, 2016. In a long career in engineering and design, Mr. Jackson traveled to 51 countries and received 10 patents. He was survived by his wife, Nancy, four sons, and two daughters.

Harold G. McIlnay, BSME'57, of Novi, May 20, 2015. Mr. McIlnay was an environmental engineer at Ford Motor Co. for more than 30 years.

William R. Mortimer, BSME'57, of Okemos, Sept. 29, 2015. Mr. Mortimer worked for the Detroit Water and Sewerage Department for his entire career. He was survived by a son.

James B. Lepley, BSAeE'58, of Surprise, Ariz., Jan. 19, 2014. He was survived by his wife, Sonya, and three sons.

Ralph E. Maly, ARACT'58, of Phoenix, July 13, 2015. Mr. Maly was president of Ralph E. Maly Inc. He was survived by his wife, Marilyn, a son, and a daughter.

Donn R. Petrak, BSIM'58, of Ocala, Fla., Dec. 17, 2015. He was survived by his wife, Juanita, a son, and a daughter.

Robert L. Buch, ARACT'60, of Laguna Hills, Calif., Oct. 13, 2014. He was survived by his wife, Donna.

John R. Croghan, ABCT'60, of Clarkston, July 14, 2012. He was retired from Chrysler.

Leon Leduc, ARACT'60, of Clinton Township, July 8, 2015. Mr. Leduc was a technical engineer at United Technologies for more than 30 years. He was survived by his wife, Marjorie, six sons, and two daughters.

Charles N. Otto, BSIM'60, of Plymouth. Mr. Otto was a retired supervisor at Ford Motor Co. He was survived by his wife, Rose.

Thomas Boucher, Sr., AMT'61, of Shelby Township, March 5, 2016. Mr. Boucher worked for F. Jos. Lamb for 34 years. He was survived by his wife, Dawn, a son, and a daughter.

Jack N. Dorrough, BSHu'61, of Washington Township, Sept. 5, 2015. Mr. Dorrough was employed at Detroit Edison for 42 years. He was survived by his wife, Dolores, and two daughters. Joe T. Fowlkes, AMT'61, of Piggott, Ark., Sept. 6, 2015. Mr. Fowlkes worked for 35 years as a tool and die machinist. He was survived by his wife, Alma Jo, a son, and a daughter.

George P. Parker, BSIE'61, of Brighton, Sept. 23, 2015. Mr. Parker was a retired administrative engineer at General Motors. He was survived by his wife, Virginia, and a son.

Jerome B. Zabawski, BSEE'61, of Maple Valley, Wash., April 5, 2015.

Raymond H. Galer, BSME'62, of Northville, Sept. 30, 2005. Mr. Galer was a Ford Motor Co. retiree. He was survived by his wife, Fran, two sons, and two daughters.

Marjorie L. Powell, BSIM'62, of Detroit, Sept. 26, 2014. Mrs. Powell was a maintenance supervisor at St. Paul School and Church. She was survived by a son and a daughter.

Ronald L. Ruth, AMT'62, of Sterling Heights, Oct. 13, 2015. Mr. Ruth worked for Alliance Tool and Machine in Detroit for 40 years. He was survived by his wife, Mary, and two sons.

Donald J. Semancik, BSArE'63, of Rapid City, S.D., Oct. 15, 2015. Mr. Semancik was an architect with Bell Galyardt Engineering. He was survived by his wife, Elaine, and two daughters.

James P. Fraus, BSCvE'64, of Clarkston, Oct. 22, 2015. He was survived by four sons and two daughters.

John H. Kay, BSME'64, of Livonia, Oct. 28, 2015. Mr. Kay was a Ford Motor Co. retiree. He was survived by his wife, Virginia, two daughters, and a son.

Richard L. Allen, AEEtT'65, of Oxford, Sept. 3, 2012. He was survived by his wife, Michelle.

Joseph C. LePera, BSIE'65, BSIM'69, of Shelby Township, May 18, 2014. He was survived by his wife, Diane, a son, and a daughter.

G. Gordon Gulick, BSIM'66, of Imlay City, Oct. 12, 2013. Mr. Gulick was the plant manager at Lear Corp. in Marlette and owner of Club 21 near Emmett. He was survived by his wife, Roxann, and a son.

Stanley J. Hyman II, BSEE'66, of Traverse City, Dec. 17, 2015. Mr. Hyman had a 38-year career at Michigan Bell Telephone Co. He was survived by his wife, Peggy, two sons, and a daughter.

Stanley Roman, AMT'66, of Canton, Aug. 29, 2015. Mr. Roman was a retired senior designer at General Motors. He was survived by his wife, Eleanor, and three daughters.

Robert L. Kelber, BSEE'67, of Portage, May 8, 2016. Mr. Kelber worked at Detroit Edison for 28 years and at Consumer Energy for 17 years. He was survived by his wife, Mary, and two daughters.

William A. Kroczolowski, BSAr'69, of Macomb Township, Feb. 9, 2016. Mr. Kroczolowski was an architect with Giffels/IBI Group. He was survived by his wife, Sheryl, a son, and a daughter.

Raymond F. Wurzer, BSIM'69, of Towson, Md., May 21, 2015. Mr. Wurzer was a retired senior cost analyst with General Motors. He was survived by his wife, Thelma, a daughter, and three stepdaughters.



Luther H. Tanner, AIST'70, of Warren, Nov. 21, 2015. Mr. Tanner was survived by his wife, Betty, a son, and a daughter.



Blaine F. Potter, BSIM'71, of Colorado Springs, Colo., Nov. 27, 2014. Mr. Potter was a compliance agent with the U.S. Treasury Department. He

was survived by two daughters.

Wayne V. Swanson, BSIM'74, of Palm Bay, Fla., Dec. 26, 2014. Mr. Swanson was a reliability representative for General Motors.

Lawrence L. Riley, BSAr'75, of Saginaw, Feb. 24, 2016. Mr. Riley was a partner and vice president in charge of construction at WTA Architects. He was survived by his wife, Connie, three sons, and a daughter.

Michael J. Piper, BSEE'81, of Fraser, Feb. 28, 2015. Mr. Piper was an electrical controls engineer at Mark One Corp.

N MEMORIAM

Bernadine L. Young, ACET'82, BSBA'84, of Cape Coral, Fla., and Lansing, Sept. 19, 2013. Ms. Young broke boundaries in the male-dominated construction profession, with a distinguished career at Michigan State University and a commitment to the revival of urban areas. She was survived by two sons.

James N. Pattison, BSAr'15, of Canton Township, Sept. 19, 2015. Mr. Pattison had recently begun his career at Nudell Architects in Farmington Hills.

DIT IN MEMORIAM

Paul Emelian, BSME'50, of Warren, April 22, 2015. Mr. Emelian was a retired program manager at U.S. Tank & Automotive Armaments. He was survived by his wife, Helen, four daughters, and two sons.

Charles W. Fritz, BAA&S'51, of Traverse City, Dec. 14, 2015. Mr. Fritz held various positions with Chrysler, Letts Drop Forge, Commonwealth Industries, and Harsco before retiring. He was survived by three sons and a daughter. John A. Manoogian, BSME'55, of Plymouth, Feb. 9, 2016. Mr. Manoogian was the retired general manager of Ford Motor Co.'s Alpha Division, whose 200 members solved sticky manufacturing problems and engineering issues, and explored new ways to create, build, and sell Ford products. He was a recipient of the American Productivity Management Association's Leadership Award. Manoogian also received LTU's Alumni Achievement Award in 1989. He was survived by his wife, Rose, two daughters, and a son.

Wayne C. Meech, BSBio'59, of Clinton Township, Jan. 28, 2016. During a long career in medicine, Mr. Meech was chief of staff at Mt. Clemens General Hospital, associate professor of medicine at Michigan State University College of Osteopathic Medicine, and president of the Michigan, Osteopathic Association. He was survived by his wife, Carol Ann, three sons, and two daughters.

Eugene Andrews, BSIM'67, of Livonia, Oct. 25, 2014. He was survived by his wife, Mary.

Roy W. Schenkel, BSEE'51, of Farmington Hills, died Oct. 21, 2015.

Professor of mathematics emeritus, Mr. Schenkel taught the four highest math courses offered at Lawrence Tech for 44 years, helping to develop thousands of future engineers and architects. He retired in 1999. He was survived by his wife, Shirley, two sons, and

two daughters. His family has established the Roy W. Schenkel Scholarship in his memory.

ses of the Roy W Schenkel

Howard Sims, 82, a trailblazing Detroit architect and Lawrence Tech benefactor, died March 31, 2016. In 1964, Mr. Sims founded Sims and Associates, known today as SDG Associates, Michigan's oldest black-owned architecture firm. He played a key role in designing a number of iconic Detroit structures, including the Charles H. Wright Museum of African American History, the renovated Cobo Conference and Convention Center, the Millender Center apartments, and the Wayne County Community College main campus. Mr. Wright and his wife, Judith, established several scholarships for students of color pursuing architecture and planning careers at Lawrence Tech and the University of Michigan. One of the scholarships set up at Lawrence Tech, which honors a former student from Jamaica who died, targets architecture students from that island nation. Mr. Sims also served on the steering committee for LTU's "Proud Heritage, Bold Future" capital campaign. In addition to his wife, Mr. Sims was survived by four children.

Flumo Y. Stevens, 76, of Wilmington, Del., a professor in the College of Arts and Sciences at Lawrence Tech from 1987 to his retirement in 2005, died Nov. 15, 2015. Mr. Stevens was educated in both his native Liberia and the United States. Prior to joining Lawrence Tech, he held various academic positions at the University of Liberia (1969-71, 1977-79), Wayne State University (1974-77, 1979-83), and the University of Michigan-Flint (1984-

87). Mr. Stevens was survived by four children.

THE LAWRENCE TECH FAMILY

Marion Erda Bregi, 100, of Traverse City, the widow of Ben F. Bregi, BME'37, HD'66, died Oct. 12, 2015. After training at the Detroit Business College, Mrs. Bregi became an executive secretary at Chrysler Corp. During 57 years of marriage, the Bregis traveled the world. Mrs. Bregi was a donor to the Trustees Society at Lawrence Tech. At her death, her family suggested contributions to Lawrence Tech or Lutheran Social Services of Michigan.

Keith G. Mickelson, 84, formerly with the College of Architecture and Design faculty at Lawrence Tech, died Oct. 31, 2015. Mr. Mickelson received his bachelor's degree in architecture from the University of Michigan and his master's degree in urban planning from Wayne State University. He retired after a 30-year career as a planner for the City of Detroit. He was survived by his wife, Donna, two sons, and two daughters.



Giving societies S I G I E I I E S

This honor roll recognizes donors who through their generosity have qualified for membership in one of the University's giving societies and clubs. Their support ensures continued educational excellence at Lawrence Technological University.

Leadership Circle

A. Alfred Taubman Society

This Society honors donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$5,000,000 or more.

Recognition is also given for a pledge of \$5,000,000 or more; to donors who have formally notified the University they have included a \$10,000,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit the University, such as a non-term life insurance

policy or a charitable remainder trust, with a value of at least \$10,000,000.

Edward Donley Society

This Society honors those donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$1,000,000 or more.

Recognition is also given for a pledge of \$1,000,000 or more; to those donors who have formally notified the University that they have included a \$5,000,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit the University, such as a non-term life insurance policy or a charitable remainder trust with a value of \$5,000,000.

Russell Lawrence Society

The Russell Lawrence Society honors those donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$500,000 or more.

Recognition is also given for a pledge of \$500,000 or more; to those donors who have formally notified the University that they have included a \$2,500,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit the University, such as a non-term life insurance policy or a charitable remainder trust with a value of \$2,500,000.

E. George Lawrence Society

The E. George Lawrence Society honors those donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$250,000 or more.

Recognition is also given for a pledge of \$250,000 or more; to those donors who have formally notified the University that they have included a \$1,000,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit the University, such as a non-term life insurance policy or a charitable remainder trust with a value of \$1,000,000.

1932 Society

The 1932 Society honors those donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$100,000 or more

Recognition is also given for a pledge of \$100,000 or more; to those donors who have formally notified the University that they have included a \$500,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit the University, such as a non-term life insurance policy or a charitable remainder trust with a value of \$500,000.

Trustees Society

The Trustees Society honors those donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$50,000 or more.



Shown during assembly earlier this year, a signature feature of the Taubman Complex is the spherical stairwell dubbed the "orb." It is one of the first structures built with fiber-reinforced polymer composites. More about the new building will appear in the next issue of this magazine.

GIVING SOCIETIES

Recognition is also given for a pledge of \$50,000 or more; to those donors who have formally notified the University that they have included a \$250,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit the University, such as a non-term life insurance policy or a charitable remainder trust with a value of \$250,000.

Benefactors Society

The Benefactors Society honors those donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$25,000 or more.

Recognition is also given for a pledge of \$25,000 or more; to those donors who have formally notified the University that they have included a \$100,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit the University, such as a non-term life insurance policy or a charitable remainder trust with a value of \$100,000.

Presidents Club (Lifetime)

The Presidents Club honors those donors who have achieved a cumulative record of outright gifts of cash, securities, real property, or gifts-in-kind totaling \$10,000 or more.

Recognition is also given for a pledge of \$10,000 or more; to those donors who have formally notified the University that they have included a \$50,000 bequest to Lawrence Tech in their will; and to those who have established a planned gift to benefit



The job picture for the Class of 2016 was the brightest in recent years. Over 88 percent of the class had jobs or plans to enter grad school as of Commencement on May 7.

the University, such as a nonterm life insurance policy or a charitable remainder trust with a value of \$50,000.

Legacy Society

The Legacy Society honors those donors who have formally notified the University that they have included Lawrence Tech in their will, or that they have established a planned gift to benefit the University, such as a nonterm life insurance policy or a charitable remainder trust.

Donors to the Legacy Society will be recognized at Springsation, the annual donor recognition gala. Legacy Society members will also be invited to participate in a series of seminars covering such possible topics as retirement planning, financial planning, and vacation planning.

Legacy members who provide the University with the substantiated value of their

bequest or planned gift will be eligible for recognition in the appropriate giving society in the annual Honor Roll of Donors.

Annual Giving Clubs

Presidents Club (Annual)

Annual donors to the Presidents Club who make a gift of \$1,000 or more will be invited to and recognized at Springsation, the annual donor recognition gala, and will receive recognition in the annual Honor Roll of Donors.

Deans Club

Named in honor of our academic leadership, the Deans Club recognizes donors of \$500 or more. Annual donors to the Deans Club will be recognized in the annual Honor Roll of Donors.

Blue Devils Club

Named in honor of Lawrence Tech's official mascot and embodying the Lawrence Tech team spirit, the Blue Devils Club recognizes donors of \$250 or more. Annual donors to the Blue Devils Club will be recognized in the annual Honor Roll of Donors.

Century Club

One of the oldest giving clubs at Lawrence Tech, the Century Club recognizes donors of \$100 or more. Annual donors to the Century Club will be recognized in the annual Honor Roll of Donors.

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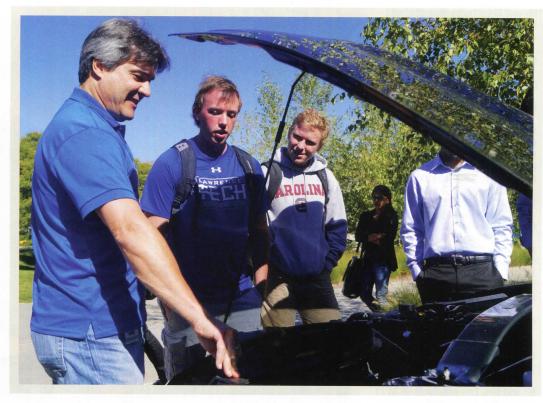
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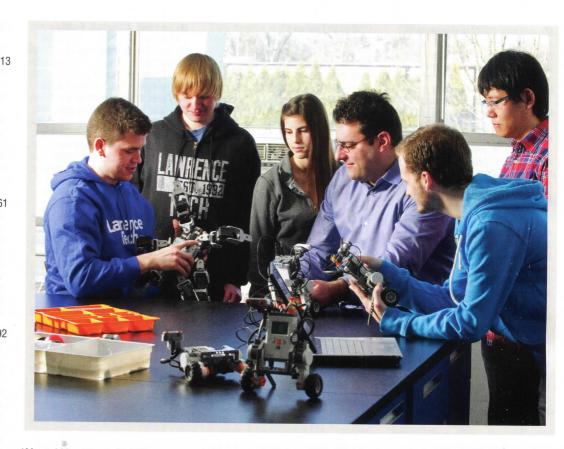
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LTU's 2015-16 RoboFest competition attracted some 2,575 students in 834 teams from nine countries, including Canada, China, Colombia, Egypt, Ghana, Hong Kong, India, and South Korea, in addition to 13 states stretching from Hawaii to New Jersey. Students in grades 5-12 build autonomous robots to complete a variety of tasks, and in the process hone their STEM skills. Prof. CJ Chung founded the program.

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The renovated Wendy's restaurant adjacent to campus on Ten Mile Rd. at Northwestern Hwy. now sports Lawrence Tech swag. The Offices of the Dean of Students and Marketing and Public Affairs are working to expand the program to additional restaurants frequented by students, parents, alumni, and other campus visitors.







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THE BACK PAGE

New Strategic Plan maps LTU's future

awrence Technological University's Strategic Plan 2016 is available online at www.ltu.edu/strategicplan.

"This is the sixth in a series of plans that have guided LTU since we formalized our planning process in 1999," said LTU President Virinder Moudgil. "The plan is updated every few years and helps guide much of the day-to-day activity in Lawrence Tech's offices and departments. The updates reflect the evolution and advancement of the University and provide the 'roadmap' for where we want it to be and how we will get there. Both trustee and campus leadership groups meet regularly to gauge our collective progress."

In 1999 the University's vision was "to be the school of first choice in the region for technology-based professional education

and [be] recognized as a partner to industry, business, and government in Southeastern Michigan." Today, the vision that evolved and has been refined by the campus-wide planning committee is "to be recognized for transformative STEM and Design education that develops leaders with an entrepreneurial mindset and global perspective."

Reflecting contemporary issues in the knowledge-based economy, LTU's revised mission is "to develop innovative and agile leaders through a student-centric learning environment and applied research embracing theory and practice."

Moudgil said that as goals were achieved and new plans developed over the past 16 years, the geographic restrictions of previous plans were eliminated. "Indeed, our ultimate goal is for LTU to be 'best in class' (some might say 'world class') in all manifestations of what we do."

Moudgil said that LTU's overall focus will continue to build on excellence. The plan outlines five strategic directions and provides tactics and metrics for measuring progress.

"We anticipate that the STEM (science, technology, engineering, and mathematics) disciplines will increasingly appeal to students, with increased opportunities in related careers, manufacturing, and design," he said. "Lawrence Tech's physical plant will improve and grow through the creation of new facilities and acquisition of adjacent properties. There will be a paradigm shift to a more vibrant student life with new residential housing and student activities that encourage learning in and outside the classroom. We expect growing national and interna-

tional recognition."

Moudgil added that "we are committed to live by LTU's motto of 'Theory and Practice,' and continue our long-held focus on leading-edge, technology-empowered education with students working in teams with a practice orientation. I've also reaffirmed the operational description that Lawrence Tech is a private university for the public good. In the decades ahead, we expect Lawrence Tech to grow as a contributor to improving the quality of life in the Great Lakes region, the United States, and abroad, preparing graduates empowered with critical thinking in emerging areas of the technology and economic sectors."

The Strategic Plan Planning Committee received input and included members from the University leadership team, deans, faculty, students, and alumni. It was chaired by Trustee Howard Padgham. □ BJA

