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College of Engineering and Applied Sciences

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2018 Alumni Excellence Academy Award Recipients

WMU's College of Engineering and Applied Sciences will be inducting the following five graduates into the Alumni Excellence Academy during the fall 2018 Alumni Weekend and Homecoming festivities. Congratulations to all!

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2018 Night of Excellence Honorees

WMU will be holding its first-ever Night of Excellence gala on Friday, Oct. 5, 2018 at Read Fieldhouse. At the event, each of the university's academic colleges is represented by one to three alumni who have used their time and talent to innovate, create, educate, and advance their fields.

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Please join us for our next Custer Leadership Lecture on Oct. 10 featuring Sonya Looney
College Snapshot: Breaking Records in 2017-18

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JOHN BAYHA, B.S. CIVIL ENGINEERING ‘06, M.S. CIVIL ENGINEERING ‘09

John Bayha is District Floodplain Engineer/Environmental Engineer for the Michigan Department of Environmental Quality (MDEQ) Water Resources Division. His responsibilities include enforcing environmental regulations for a wide variety of construction and development projects, reviewing construction permits and working with local governments on efforts related to the National Flood Insurance Program.

Following his formal education, John worked for Jones & Henry Engineers, based out of the firm’s Kalamazoo office, in the design and field services group for seven years. During his time at Jones & Henry, he worked on a wide variety of municipal projects from large water towers to wastewater treatment plants, and gained important field experiences working on many construction sites as the site engineer.

John joined the MDEQ’s Kalamazoo District Office in 2013 as the District Floodplain Engineer, covering the eight counties in Southwest Michigan. He has been involved in many permitting and compliance projects with the MDEQ and has recently been striving to strengthen his outreach and training efforts. He continues to have a strong connection to WMU and routinely teaches civil engineering courses at the university. He is a Professional Engineer for the state of Michigan.

**Favorite Bronco Memory:** Spending long hours on Saturdays in the lab working on our senior design project.
Rob Missman currently works at Amway in Global Sales as a Senior Marketing Specialist. A trained Expert & Master Speaker, Facilitator, and Moderator, Rob now uses these skills to grow business and product knowledge across Amway’s global direct selling business. Working with global partners in the US and around the world, Rob has had the opportunity to experience global culture and develop competency and organizational strategy.

Rob began at Amway in 2009 as an associate scientist in the water filtration department. During his seven years in Research & Development, Rob worked on product development for water filtration technology, technology investigation, and university and industry partnerships. Rob’s responsibilities centered on Amway’s eSpring brand, developing water filtration technology, which culminated in 2012 with his support of the largest product launch in company history.

Whether through science or education, Rob has a passion for helping others. At Amway, the ability to positively impact people’s lives gets Rob excited to go to work every day.

**Favorite Bronco Memory:** Waiting outside Lawson Arena hours ahead of the hockey games to watch the Broncos take on U of M, MSU and Notre Dame and the many long nights spent at the Parkview campus.
Alex Porter is the Global Director of Engineering at Intertek. He has been with the company since 1992, holding additional positions in materials testing, finite element analysis, sales and engineering development.

Starting in 1996, Alex began working with automotive, furniture, industrial and appliance manufacturers to develop accelerated test methods that could quickly identify design inherent failure modes and reduce development time. He has three patents related to accelerated testing equipment, and is the author of Accelerated Testing and Validation as well as more than 40 articles and technical papers on accelerated testing.

In his current role, Alex serves as principal architect for Intertek’s current global qualification system that tracks engineering qualifications across three continents. He also has deployed a global system for tracking non-standard and benchmark testing. Alex has personally tested everything from robotic babies, kitchen sinks and parts of the International Space Station.

Alex is a member of the Society of Automotive Engineers (SAE) and is a Professional Engineer in the state of Michigan.

**Favorite Bronco Memory:** Flying with Art Hoadley in the experimental Cessna 182 doing zero g parabolic flights to test the liquid cooling capability of a data acquisition system being developed for NASA for high angle of attack airflow study on the F/A-18.
After earning his bachelor’s degree in Industrial Engineering, Tim Schultz started his career at the Perrigo Company in Allegan, Michigan. From 1989 to 1999, Perrigo, a leading global healthcare supplier, was experiencing significant growth and Tim quickly advanced through positions in engineering, purchasing, shift supervision, plant management and eventually became the Director of Graphics Services, overseeing all functions for Perrigo’s printed packaging needs. During this time he also earned his MBA at Western.

In 1999, Tim facilitated the sale of Perrigo’s printing operations to The John Henry Company and then became President of the The John Henry Packaging Division, supplying printed packaging components, primarily to the healthcare industry. In 2005, The John Henry Company was purchased by a private equity group and became a new entity, Multi Packaging Solutions (MPS). Tim served in a variety of leadership roles with the company, helping grow the business to $1.6 billion, and culminating in an IPO in 2015.

In 2015, Tim moved back to his hometown of Alpena, Michigan, to join the family businesses, where today he is the President of Terra Caloric, LLC, a startup that manufactures a unique hybrid geothermal system. He also provides oversight and advising to his family’s construction company and wood manufacturing business.

Favorite Bronco Memory: While my academic foundation from WMU has served me well, the opportunity to play for Western’s men’s club volleyball team led to years of enjoyment both playing the game (to this day) and coaching my kids’ travel volleyball teams.
Rick Sutton serves as Vice President of Operations and is responsible for manufacturing operations, lean manufacturing and change management across the Waupaca Foundry enterprise. Waupaca Foundry is North America’s leading supplier of iron castings to the automotive, commercial vehicle, agriculture, construction, and industrial markets, producing gray and ductile iron casting components using state of-the-art processes and technology. Headquartered in Waupaca, Wisconsin, Rick leads the manufacturing operations of Waupaca’s seven strategically located manufacturing sites in five states, employing some 4,400 people.

Prior to joining Waupaca Foundry, Rick completed a 30+ year career at General Motors where he held a number of manufacturing executive positions in casting, machining and engine assembly operations.

Rick is featured in the Jon Katzenbach book titled “Why Pride Matters More Than Money,” on pride building and motivational leadership. His awards include receiving the “William Grede Award” from the American Foundry Society for major contribution in the field of management and education resulting in expanding the effective use of metal castings.

**Favorite Bronco Memory**: Bilbo’s Pizza, Knollwood parties, Friday night guitar playing and Professor Pridgeon’s casting lab.
2018 Distinguished Alumni Award
Recipients

FARSHAD FOTOUIHI, B.S. COMPUTER SCIENCE ‘81, M.S. COMPUTER SCIENCE ‘82

Dr. Farshad Fotouhi is currently Dean of the College of Engineering at Wayne State University. He joined the Wayne State University Department of Computer Science faculty in 1988 after receiving his Ph.D. in Computer Science from Michigan State University. He was appointed department chair at Wayne State in 2004 after serving as associate chair, and was named dean in 2011.

Farshad’s current research interests include Biomedical Informatics, Semantic Web and Multimedia Systems. He has published over 180 papers in refereed journals and conference proceedings. His research has been supported by NSF, NIH, National Institute of Drug Abuse, Michigan Life Sciences Corridor, Ford Motor Company and many other industries.

Farshad has served as a program committee member of various conferences related to his research interests and is currently a member of the Editorial Board of IEEE Multimedia.
Magazine and a member of the editorial board of the International Journal of Semantic Web and Information Systems. He also serves as a member of several boards of directors, including Michigan-Shenzhen Trade, Investment & Innovation Cooperation Center, the Engineering Society of Detroit and TechTown.

**Favorite Bronco Memory:** I have many fond memories from my years studying at WMU. I recall spending many late night hours with my friends at the computing center working on my class projects. These activities allowed me to find lifetime friendships not only with my classmates but also with some of the Computer Science professors.

**TIM HAGENBUCH, B.S. PAPER ENGINEERING ’94**

Growing up in the recycled paperboard industry, Tim Hagenbuch knew from a young age he wanted to run a paper mill. A third-generation papermaker, today he is General Manager of WestRock’s 100% recycled paper mill in Eaton, Indiana, where he is responsible for the facility’s safety, quality, production and culture.

Tim’s career also has taken him to Michigan, Massachusetts, Ohio and Georgia, and his work experience spans positions from front-line leadership to maintenance and engineering management, to production. He has earned a Black Belt in Lean Six Sigma and spent time as a divisional Master Black Belt supporting 11 different paper mills, driving team based- and data-based decision making to improve safety, quality, production and cost.

In 2012, Tim joined the WMU Paper Technology Foundation (PTF) Board of Trustees, where he currently is President-Elect and chairman of the Recruitment and Scholarship Committee. He serves as an industry mentor to many paper engineering students, allowing him to pass along much of his 25-plus years of industry knowledge, experience and key learnings.

**Favorite Bronco Memory:** Being part of a small and dedicated group of paper engineering students who took six credits of Process Instrumentation in four weeks before Dr. Raj went on sabbatical. It was intense and I retained the most knowledge from that class!
Tonya Noble is an Executive Director for The Boeing Company - Global Services – International Government Services in St. Louis, Missouri. In this role, she is responsible for global portfolio of defense products and services. She previously held director responsibilities for the sustainment of military aircraft in Southeast Asia, India and Australia, and has held senior leadership and technical roles for other Boeing military and space programs.

During her 20+ year career at Boeing, Tonya has maintained her connection with WMU through her involvement on the Electrical and Computer Engineering Industrial Advisory Board (1999-2005), Engineering Board of Visitors (2003-2005), and the WMU Alumni Association’s Board of Directors (2010-2015).

Tonya fulfills her passion of promoting females in STEM and women in leadership through her role as Executive Champion for Boeing Women in Leadership and the STEAM Committee and Board Director for the Greater Missouri Leadership Foundation, a leadership program for Missouri women.

Prominent honors she has received include 2014 Outstanding Woman in Technology, 2012 Technology All Star, and selection as a ‘Top 40 Under 40’ award recipient by the St. Louis Business Journal.

**Favorite Bronco Memory:** My senior design group and I worked on a project to convert a battery-powered car from being steering wheel controlled to a joystick-controlled vehicle for a disabled child. We delivered the finished project to the school and to see the recipient’s face light up the way it did was nothing short of gratifying. It was that moment that I was more proud than ever to be a Bronco and the education I received at WMU. It was also then I realized the impact engineers can have on making the world a better place.
AMP Lab @ WMU opens in Grand Rapids

The AMP Lab @ WMU opened its doors in Grand Rapids in September, ready to cultivate the next generation of engineers, designers and other skilled individuals to serve the manufacturing industry. The instructional manufacturing facility is a collaborative effort between WMU, Grand Rapids Community College, Autocam Medical, and West Michigan manufacturers. The 15,000-square-foot Advanced Manufacturing Partnership Laboratory occupies the first two floors of WMU’s downtown Grand Rapids location at 200 Ionia Ave SW.

The AMP Lab combines prototyping, training and small-scale manufacturing with the opportunity for individuals to earn college credits to be used toward a degree or certification. The facility includes 3D printers and scanners, a CAD/CAM lab, plasma cutter, laser cutter, welding station, metrology equipment and prototyping tools.

In January, WMU will offer courses for a certificate program in integrated design and manufacturing. In addition, manufacturing engineering technology, engineering design technology and engineering management technology courses will be offered at the facility for students in the engineering technology degree programs.

"At full strength, the space can be used for six to eight WMU undergraduate courses a semester with class sizes of 16 to 24," says Dr. Steve Butt, professor and chair of the Department of Engineering Design, Manufacturing, and Management Systems. "Grand Rapids Community College will also be offering associate degrees and manufacturing courses. In addition to college courses, workshops, specialized trainings, product design and manufacturing consulting will occur in the space."

The $2.7 million AMP Lab development was partially funded through private investment efforts and the machining equipment it houses was purchased by GRCC through funding from the Michigan Economic Development Corporation. Opportunities exist for the facility to be used as a makerspace for entrepreneurs and manufacturers needing technical assistance.
“Stuff the Bus” brings in 2,000 pounds of food

Western Michigan University’s College of Engineering and Applied Sciences recent “Stuff the Bus” event at the D & W Fresh Market grocery store was a tremendous success, bringing in 2,158 pounds of food to benefit WMU’s campus food pantry.

Western’s ‘Invisible Need’ food pantry was established to help students who are hungry. In recent years, campus communities across the nation have discovered that there are large populations of students who go hungry. These include both non-traditional students, such as those with families, as well as independent students. Campus food banks have become a critical resource for students in need.

Many students volunteered at the event, including members of the American Institute of Chemical Engineers (AiCHE) and from the college’s Sunseeker solar car, Formula SAE and Baja teams, who displayed their vehicles and provided WMU giveaways to shoppers.

“Our student volunteers are wonderful,” said Jamie Long, who coordinates the food drive for the college several times a year. “We simply couldn’t do it without their help and hard work.”

Students in need have access to “shop” the pantry as often as every two weeks. For more information about the Invisible Need food pantry or to donate, contact Shari Glaser at (269) 387-4820 or shari.glaser@wmich.edu.
State of the College

At the first “All Hands” Meeting of the academic year, Dean Houssam Toutanji provided faculty and staff with an update on the state of the college, including an introduction of new faculty and staff, an overview of enrollment trends, faculty accomplishments and the participation of a number of Registered Student Organizations in competitions and conferences. He also gave an introduction of the University’s new budget philosophy – the Strategic Resource Management model – and reviewed the timeline. The timeline calls for implementing the new budget model in fiscal year 2021-2022.

Among the highlights:

- Overall enrollment in the college is at a record high of 3,026 – including the largest number of undergraduates ever, totaling 2,453.
- Research activities and expenditures for the fiscal year 2017-18 totaled $4.7 million, a record high.
- The curriculum for a bachelor’s degree in biomedical engineering has been developed by a working group of faculty members from the College of Engineering and Applied Sciences, the College of Arts and Sciences and the WMU Homer Stryker School of Medicine. The inaugural class is slated for fall 2019. The program will offer four different tracks: biomolecular, instrumentation, biomechanics and health care systems.
- Infrastructure upgrades included merging a classroom and lab to create a larger classroom that will better meet the needs of students.

Toutanji also thanked the faculty and staff for their many contributions to the success of the students and the college.

Corrugated Packaging Design Lab opens

The College of Engineering and Applied Sciences has opened a new corrugated packaging design lab to expand its offerings to specifically address corrugated packaging and give students an opportunity to obtain more-hands on experience in corrugated board and other packaging design. The lab was made possible by the International Corrugated Packaging Foundation (ICPF), which has been instrumental in initiating or expanding over 25 packaging design labs at universities across the nation.

Professor Alexandra Pekarovicova in the Department of Chemical and Paper Engineering headed up the team that worked with ICPF in establishing the lab, “The new packaging design lab, that has been jumpstarted by ICPF and Arden Software, is the first step in our plans to expand corrugated packaging curricula at WMU,” she said.

WMU’s Graphic and Printing Science program features laboratories equipped with standard pulping digesters, paper making and paper testing laboratories, recycling and deinking equipment, ink making, color management, prepress, and standard printing pilot plant and
WMU students from the paper engineering program had the opportunity to go on a field trip sponsored by Ts'ai Lun, the registered student organization for paper engineers, and the Paper Technology Foundation. The 31 students and two staff members first visited Albany International in Kaukauna, Wisc., where they received an informational presentation from Mario Galan, plant manager, on the company and its products. Albany International employees provided students with a tour of their facilities, allowing a behind-the-scenes look at the manufacturing process.

Alumni from Western’s paper engineering program also hosted a networking dinner, giving students a chance to make industry connections and learn more about the field.

The final stop of the trip was New-Indy Containerboard in Hartford City, Ind. Students were given a tour through the paper mill and had the opportunity to get a closer look at the paper making process.
Battery research project supports clean energy

Consumers Energy ushered in a new technology in September at Western Michigan University by starting operation of a new large-scale battery that should store enough energy to power 1,000 homes at any time. The battery facility, which is unique to Michigan, is housed on the Parkview Campus at the home of the College of Engineering and Applied Sciences.

"Advances in battery storage technology have now reached the scale that they power entire communities on demand," Tim Sparks, Consumers Energy's vice president of electric grid integration, said before the event began. “The Parkview Battery Project begins the next groundbreaking chapter in the story about how clean and reliable energy reaches Consumers Energy customers.”

The Parkview Campus was selected as the site for the new battery facility through a statewide search conducted by Consumers Energy in consultation with Michigan State University. In the coming year, the company and MSU consultants will study data generated at the facility to better the potential for battery storage use around the state. WMU engineering students also will have opportunities to participate in partnerships with Consumers Energy on electric battery research and operations.

So far this year, WMU has earned more than $132,000 in energy efficiency rebates, an amount Consumers Energy recognized during the Parkview battery facility event by turning over a mock rebate check to the University.

Consumers Energy joined with WMU in 2016 to open its second solar power plant—an 8.5-acre array of solar panels on the Parkview Campus that produces enough electricity for 200 Michigan homes and businesses. The 1-megawatt solar power plant was the energy provider's second large-scale solar project in Michigan and the first actually located on a college campus.
As part of the project partnership, Consumers Energy contributed funds for WMU to construct a small, two-unit solar garden for use by faculty and students for research and to purchase Solar Learning Modules. The modules allow WMU to use the solar facility to educate WMU students, expose area K-12 students to solar energy, and train emergency first responders and other government and community groups in solar arrays and related energy systems.

**Make a gift. Make an impact. Get the socks.**

WMU Giving Day is today, Wednesday, Oct. 3 and your participation is key to our success! Together, College of Engineering and Applied Sciences alumni and friends can help current students by providing funds for professional conferences, competitions, financial hardships, scholarships, programming and more.

Make your gift at MYWMU.com/GivingDay by Saturday, Oct. 6 to count toward WMU Giving Day.

*Get your pair of Broncos Give Gold socks with a gift of $55 or more.*

http://www.mywmu.com/givingday
Please join us for our next Custer Talk on Oct. 10, featuring Sonya Looney, electrical engineer, world champion mountain biker and entrepreneur. Custer Talks feature a variety of speakers throughout the year focusing on engineering-related topics. Talks are open to all students, faculty and staff, as well as the general public.

MORE INFORMATION

College Snapshot

Breaking Records in the 2017-18 Academic Year

A record number of bachelor's degrees awarded: 377
A record number of doctoral degrees awarded: 22
Record research expenditures: $4.7 million