

SUMMER 2019 MECHANICAL ENGINEERING NEWSLETTER

MoMEntum

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From the Department Head

Welcome to the MoMEntum Summer 2019 edition of our quarterly newsletter. The mechanical engineering department has had a great 2018/19 academic year as is evidenced by the success of the 2019 graduates, many of whom have transitioned into

employment, graduate school, medical school, law school and into the military. I would like to say congratulations to all our graduates and wish each one of them well in this next phase of their lives. I would also like to thank all the ME faculty and staff for another year of excellent service. To all the alumni who supported the department in any way this last year, thank you so much.

Second, I would also like to thank Dr. Lori Olson for her outstanding service to the department during her five years as department head. She did a fantastic job shepherding the department through our 2018 ABET visit, among other notable achievements. I will be continuing work on the initiatives that Dr. Olson started and adding a few more as we look forward to the 2019-20 academic year. One of the new initiatives that I hope to focus on this coming year is the ME Identity and Awards Program. The goal of this initiative is to develop a strategy for enhancing the professional identity of ME students as well as a coherent ME scholarship and award program for the department. This will involve bringing together a team of faculty members, students and alumni to craft and implement this program. I will provide more details on this and other initiatives in our fall newsletter.

As part of our series on “What ME’s Do,” please **let us know** about some of the very cool things you or a fellow alum are doing so that we can highlight them as we look to enhance our recruitment of the next generation of Rose ME’s.

Richard Onyancha,
Department Head

**What
Do MEs
Do?
Share your story!**

2018-2019 Scholarship and Award Winners

Award winners are accompanied by notes from faculty who supported their nominations.

Steinhauser Award

The Steinhauser award is given in honor of Professor Robert Stienhauser, ME professor emeritus. The award is given by the department faculty to the student considered by the faculty to be most outstanding in scholastic achievement, extracurricular activities, character, responsibility, attitude, and potential for professional growth. The award is given to students in their junior year.

Morgan Hansen

“Marie (Morgan goes by Marie) is a top student academically, but her insight in material beyond the standards expected by the course make her stand out. Her organization and work ethic add to her impressive intellect. She is always prepared and ready with thoughtful comments. In addition to coursework, Marie has demonstrated impressive independent research in a short time, modeling a continuum robot manipulator and building a prototype manipulator. She is always kind and courteous and has demonstrated integrity in her work.”

John D. Winters Scholarship Award

John D. Winters graduated in the 1949 class from Rose’s ME program, having served in the U.S. Air Force during World War II. John had a very successful 40-year career at Caterpillar, retiring as VP and General Manager of Caterpillar’s engine division. During his undergraduate career it was the support of scholarships from alumni that made it possible for him to afford to attend Rose, and he wanted to provide that same opportunity to our students today. He specified that the scholarship be awarded to students who met criteria of financial need, strong academic record, technical ability, future leadership potential in the business world, and high moral values. This year we present his scholarships to four students:

Dean Netzler

“He is one of the most responsible, determined, hard-working students I have interacted with in my time here at Rose. He has come a long way in the few years we have known each other. We all believe that Dean will be an excellent engineer and that this Winters scholarship will be an excellent investment in his future.”

Jalen Gutierrez

“Jalen was in Dr. Cantwell’s ME328 course this past winter quarter, and he was very impressed with Jalen’s professionalism and work ethic. Jalen led his project team well throughout the quarter, in particular on the open-ended project at the end of the quarter. Jalen’s enthusiasm, hard work, and contributions to his team stood out, and we think that Jalen is very deserving of this award.”

Alexa Nutter

“Alexa is a junior ME student who always works very hard and has a positive attitude. She is dedicated to learning and always wants to help others. For instance, during her freshman year she did an MIH project to help the local food pantry. Although she had never welded before, she learned how to do so and put in a ton of hours on the project above and beyond what was required. She is a joy to have in the classroom, and I can’t wait to see what she all achieves in her future after graduation next year.”

Cassie Utley

“Cassie loves fixing cars! She and her dad completely rebuilt a '69 Chevelle SS and her goal is to own a garage fixing cars. Cassie is currently a two-sport varsity athlete competing in basketball and outdoor track & field. For Cassie everything she does, whether it is in class or on the sports field, has a purpose in helping her achieve her goals in life. She works hard, is a good team player and will be an excellent engineer. She is very deserving of this award because of her resilience and ability to bounce back.”

Dr. Darrell Gibson Scholarship

The Gibson scholarship is funded by a generous endowment from Emeritus Professor Darrell Gibson. Dr. Gibson served the institute as a professor of mechanical engineering for 43 years, retiring in 2015. He enjoyed guiding students in graduate studies and senior design and was a strong advocate for, and supporter of the department. Dr. Gibson specified that the scholarship be given to senior mechanical engineering students who meet criteria of financial need and strong academic record.

Nicholas Samra

“Nick Samra is an excellent student with a clear focus on learning and personal growth. He has competed as a member of the varsity swim team for the past four years and is also the treasurer of IEEE HKN. He is currently completing a double major in mechanical and electrical engineering and will be working for Collins Aerospace Systems upon graduation.”

Derek Deimel

“As Derek’s academic advisor, I’ve been very impressed with his proactive approach to his education. He always arrived at our advising meetings with a good course plan, and he asked great questions about which courses would best fit his career goals. I’ve also had Derek as a student in two courses, ES201 Con Aps and (currently) in ME423 Fatigue. He has demonstrated outstanding ability in both courses, which is consistent with his strong overall academic record. Congratulations to Derek on this scholarship!”

Mark Schulz Scholarship

The Mark Schulz Scholarship was made possible through the generous donation of alumnus Mark Schulz. The awardees applied for this scholarship by articulating:

- Their professional goals.
- What they have done so far to set themselves on a path toward accomplishing their goals.
- The challenges that they have faced so far in accomplishing their goals and how they have worked to overcome those challenges.

Devin Williams

“Devin’s goal in life is to improve the quality of life for those around [him]. He is fully immersed in the Rose community by playing football for the fighting Engineers, joining a leadership fraternity, and staying connected with religious organizations to stay strong in his faith. Devin is grateful that Rose has given him a peek into his future and this

motivates him to keep pushing and never stop chasing his dreams.”

Erin Minervini

“Erin’s goal in life is to develop really cool lifesaving medical devices that bring together her love for technology and art. She is currently working to technologically advance an early detection device for breast cancer. Erin has been completely immersed in the Rose experience with her involvement with RHIT Homecoming 2018, being Vice-President of the Blue Key Honor Society and as a member of the RHIT Varsity Softball team. Erin says that Rose-Hulman has not only given her the skills to succeed in life but has made her closer to her family.”

Samantha Starr

“Samantha’s goal is to be a patent attorney after earning her juris doctor degree. Samantha is double majoring in ME and BE and has worked in both the medical field and IP. In spite of the challenges that she has faced, she keeps a smile on her face and an extremely personable attitude. She works hard and is curious and very determined. Because of her stellar academic credentials, she has been accepted to her top choice law schools.”

Shubhankar Gandhi

“Shub is the most outstanding student I've interacted with during my five years at Rose-Hulman. He is academically exceptional, self-motivated, driven, polite, conscientious and an independent thinker. He is also involved in many campus and extracurricular activities. He did undergraduate research with Drs. Cantwell and Jones on creep and fatigue testing for a summer and the following academic year. It's difficult to imagine a more ideal undergraduate researcher. He can do hands-on work and analysis equally well, and he has a level of inner motivation that is extremely rare. [We] will be publishing at least one paper, maybe two, based on Shub’s work. His goal is to be a professor, and I believe he is on track to be an outstanding one. He will begin his career by working for Cummins when he graduates, in their fatigue analysis group.”

Thomas Roberts

“Thomas’s goal is to be a mechanical engineer! Growing up, Thomas says, he had to touch, play with and sometimes break everything. Ever curious, Thomas intends to spend his summer at the Los Alamos National Laboratory working with the Advanced Engineering Simulating and Analysis Group (E-13) and maybe thereafter pursue some graduate school. Thomas is an excellent team player who works hard and who will make a great engineer.”

Cummins Engine Company, Inc. Award

Presented by faculty of the department annually to a mechanical engineering student of senior class standing who is considered by the faculty to be most outstanding based on scholastic achievement, extracurricular activities, character, responsibility, attitude, and potential for professional growth.

Logan Caldwell

“Logan is one of the top mechanical engineering students academically and has

impressed instructors by his near-flawless performance in class. Logan has pursued a challenging curriculum and demonstrates a drive to learn and a maturity in how he approaches the learning process. His insight with material and engagement in the learning process, both for himself and his classmates, is as impressive as his academic success. Outside of the classroom, Logan has served in leadership in the Pi Kappa Alpha Fraternity and Intervarsity Christian Fellowship. However, beyond all of this, what really makes Logan stand out is his humility and care for others. Logan's dedication to seeking the best for others sets an example that inspires not only his peers but the ME faculty as well."

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ME Leadership Award

The Mechanical Engineering Leadership Award is based on student leadership, participation in extracurricular activities, and citizenship. The student receiving this award will have a record of transformative student leadership; substantial improvements to new or existing student organizations; and demonstrated integrity and professionalism.

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Competition Teams: Vehicles for Learning, Adventure, Service

They race. They fight. They're long on innovation and stingy on fuel. The creations of Rose-Hulman's competition teams perform well and score points, but their greatest achievement is conveying lessons that may not be covered in the classroom.

[Learn more about five of our team's results and future competitions.](#)



Staff Transitions and Retirements

Dr. Olson Steps Down

Dr. Lori Olson's role at Rose-Hulman is changing, but her influence on the mechanical engineering department and the overall institution will continue. Dr. Olson has stepped down as department head after five years and will return to teaching full-time beginning

fall 2020. Dr. Richard Onyancha, associate professor of mechanical engineering, is taking over the reins as department head.

Meanwhile, Dr. Olson will be on sabbatical, focusing on her research on breast cancer detection using inverse problems. Several students and her husband, Dr. Bob Throne, will collaborate. (Throne holds the Lawrence J. Giacometto Endowed Chair in Electrical and Computer Engineering.)

During her time as department head, Dr. Olson guided numerous tweaks to the ME curriculum with a goal of “making the curriculum broader and more flexible for the students.” For example, students can now pre-register for classes, and required classes have been broadened and include seven electives.

Susie Denny Retires

At Lori Olson’s side for the past five years has been Susie Denny, serving as administrative assistant for the ME department. Calling Susie “the key person who holds the ME department together,” Olson says Susie “has handled everything we have thrown at her with planning, persistence, and more patience than I could possibly muster.”

After their first year working together, Susie asked for more responsibility. In addition to overall departmental administration, she coordinated retirement dinners and homecoming, as well as most of the departmental student awards. After five years of enjoyable contact with students, Susie is looking forward to spending more time with her husband, children and grandchildren.

Phil Cornwell: On to the Air Force

Dr. Philip Cornwell, professor of mechanical engineering, is retiring from Rose-Hulman, but not from teaching. He will return to the U.S. Air Force Academy near Colorado Springs, where he previously taught while on sabbatical.

Cornwell has been honored with the Dean's Outstanding Teacher and Board of Trustees Outstanding Scholar awards. He is lead co-author of the 12th edition of the book “Vector Mechanics for Engineers: Dynamics” and pursues research interests including structural health monitoring and monitoring of cementless orthopedic implants.

Teaching is Cornwell’s first love, according to Dr. Olson, who calls him “truly passionate about doing what he sees as best for the students.” One student noted that Cornwell “graded an exam in less than 24 hours and brought in fresh baked cookies all on the same day.”



Rick Stamper Named Rose-Hulman's Next Provost and Vice President for Academic Affairs

Alumnus Rick Stamper, a professor of mechanical engineering and engineering management, will step into the position July 1. [Learn more.](#)

Giving Back in Real Time, Year-round

ME Board of Advisors helps guide course offerings and shape students' preparation for changing needs of industry.

Some graduates may pick up a diploma, leave campus and never look back. That's less likely at Rose-Hulman, where the culture engages students in campus life, holistic learning and an expectation of giving back.

Many alumni acknowledge what R-H faculty, staff and donors have provided them and gratefully return the favor. For Rebekah Forsyth Wojak (ME '08), service means chairing the ME Board of Advisors (BOA).

"Rose-Hulman has always had a culture of being like a family in addition to being an excellent institution," she says. "The faculty and staff are very dedicated to the success of the students. Serving on the board is one small way we can give back and help those coming behind us."

The board—comprising mostly alumni, but also a few engineering department heads from other institutions—serves as a sounding board for the ME department. Members offer perspectives on trends in various industry sectors and what skills and classes will best prepare students for the workforce. "The board is thankful for the opportunity to utilize our

experience in industry and academia to support the culture and mission of Rose-Hulman,” explains Wojak.

Brian M. Jones (ME '96) has served on the Board of Advisors since it was created about two decades ago. “I was originally the youngest member of the board...and now find myself one of the most ‘experienced,’” he says. He recalls urging the department “to look into more modern things such as CAD, modeling and rapid prototyping,” leading to the Design for Manufacturing class. Sam Beck (ME '14), says “It’s exciting to take aspects learned in industry and help shape the future generations of engineering professionals.”

The board meets on campus annually for presentations by, and discussions with, faculty and for candid talks with students. Members consult through phone calls and emails throughout the year. Wojak hopes to increase those meetings to twice a year as well as establish an interactive Catalog of Offerings for those serving on the board and other alumni to assist the department in additional areas. Other ideas include expanding awards to ME students, whom Wojak calls “the best and the brightest of the next generation.”



The image shows the cover of the 'Echoes' newsletter, Digital Edition. The cover features a photograph of a person's legs in a hammock, with a tablet displaying the newsletter's content. Text on the cover includes 'Echoes', 'All the latest on the download!', 'DIGITAL EDITION', and 'ROSE-HULMAN INSTITUTE OF TECHNOLOGY'.

Check out the special, all-digital summer edition of Echoes.

READ IT

NEWSLETTER ARCHIVES

View archives of **previous newsletters as well as other alumni news.**

CONTACT US

We welcome your feedback, so please

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don't hesitate to **contact our faculty and staff** with questions and comments.

to Mechanical Engineering. To designate your gift to a specific competition team, please indicate the name of the team.

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