Engineering @McLennan

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What's Happening

McLennan Engineering has another successful year in the books. It was undoubtedly a unique year and one we are incredibly proud of. The pandemic presented new challenges, and with it, lots of opportunities to problem-solve – and isn't that what engineering is all about? We were able to continue offering courses in online and blended formats that allowed students to continue with their studies uninterrupted. There were a lot of Zoom meetings and Slack chats involved, but our students managed to complete their courses successfully and graduate. It is of note that a higher percentage of students passed the Certified SolidWorks Associate Exam (CSWA) than in non-online semesters, so clearly, our students found a way to make it work. We even had Engineering & Physics Club host Homework Nights through Zoom. And thanks to Slack, students kept in touch and worked on team projects.

Among our many successes, we are proud to share that we began a monthly guest speaker series called Industry Spotlight. We invited local engineering industry leaders to present information about their company and potential employment opportunities to our students. We had Sonoco, FreeFlight Systems, and L3Harris presenting this year. Our students deeply enjoyed these presentations and got a lot out of them.

We are also excited to announce a new transfer agreement between McLennan Community College and Texas State University. Students wishing to transfer to TXST can go to our website to find the agreements for Electrical, Civil, Manufacturing, and Industrial engineering. They have an excellent engineering program, and our students will greatly benefit from having a clear transfer path to this university.

Additionally, our alumnus Charles Stewart, who helped healthcare workers at the beginning of the pandemic by 3D printing facemask straps and face shields, generously donated four 3D printers to our program. These are already being put to great use by our students in Engineering Graphics and those doing special research projects. We are so grateful for this substantial donation that will make a big difference for years to come.

Engineering Scholarships

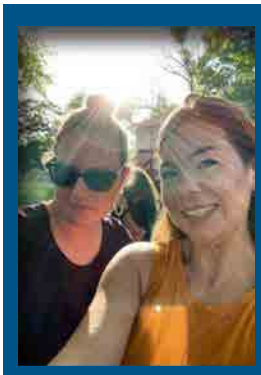
We are proud to say that we have added two new engineering scholarships this year, bringing the total to five! All of these scholarships have been established within the last three years thanks to our wonderful supporters and alumni. Each is worth about $1000 per year. Scholarship applications are accept Oct 1 Jan 15 and May 1 15 for consideration for the 2022 23 academic year.

- **Capstone Mechanical Engineering**
  Any Mechanical or Electrical Engineering student
- **Mr. and Mrs. Bronston B.T. Eden Engineering (2)** Any engineering student, based on high merit and need
- **Proven Scholar in Engineering –**
  Specifically for returning students who are within two semesters of completing an AS in Engineering. Must have earned a B or better in MATH 2414, Calculus II, and PHYS 2425 University Physics
- **E.C. Curly Tabor Engineering**
  Preference to engineering students in their second year planning to transfer to Texas Tech

For more information on contributing to these or other awards, contact **Kim Patterson** kpatterson@mclennan.edu **at the MCC Foundation.**

Student Spotlight – Sierra Sullwold

In Sierra Sullwold's last year of high school, she decided that she wanted to do architectural engineering. Upon graduating, she went to MCC to get her Associate's in Civil Engineering. While here, she joined the Honors College where she learned about traffic engineering. From this, Sierra decided that there was so much more that she wanted to do within civil engineering than just architectural. At MCC, she was also a math tutor and the supplemental instructor for statics and dynamics. Now, Sierra is continuing her studies at Texas A&M University on the general track for Civil Engineering and has recently joined the American Society of Civil Engineers (ASCE). "I highly recommend that everyone come to MCC for engineering. At MCC, I got to meet amazing people and form close connections with wonderful professors since I had a max of 20 students per class instead of 100 students per class," Sierra says. "The smaller classes allowed me to better understand my foundation classes and ask questions whenever I didn't understand something. Plus, I got to see if this is what I really wanted to do while staying closer to home."



Celebrating Our Graduates

The 2020-21 academic year was certainly a tough one, with most of the college shifting to some kind of online/Zoom system. This only makes the accomplishments of our graduates this year all the more impressive! We celebrated our graduates with a socially-distanced party in Dr. A's backyard. We couldn't be more proud of these folks!

Where Are They Now?

Jamie Andriot (ME, UT Dallas, 2020; MS Sys Engr, SMU) is working at a defense contractor as a Project Engineer Associate and recently married Bre, a Chemistry and Biomedical Sciences nerd he met at MCC.

JW Balch (CE, Texas Tech, 2018) is working in Hydrology and Hydraulics at Westwood Professional Services working on flood studies, CLOMR/LOMR's, detention pond design, storm sewer design, and water quality basins. He's now a licensed Professional Engineer and Certified Floodplain Manager.

Jordan Barry (MS Math, A&M Central Texas) works as a math prof at ACC, and focuses his research on optimization and Fast Fourier Transforms.

Mark Berry (BS in CE, UT Arlington, 2015; M.Engr. in CE, UT Arlington, 2017) is at the Harris County Flood Control District. He and sweetie Marcia have been married 13 years and their three boys are continuing to keep them busy.

Barton Courtney (ME, Texas Tech, 2017) is the mechanical engineer (and a Six Sigma Green Belt!) at Bass Cat and Yar-Craft boats in Mountain Home, Arkansas. He and his new wife recently bought their first house to raise their dogs and chickens.

Elijah Espinoza (ME, Texas Tech, 2020) is working at a defense contractor.

Kyle Flaherty (EE, Texas A&M, 2018) is working as a Ground Station RF Engineer at CesiumAstro, a space startup.

Ragan Forrest (ME, St. Mary's University, 2020) has leveraged his ME knowledge into construction management and is a project manager for Lasco Acoustics and Drywall in Austin. He is recently engaged.

Keith Geisler (ME, Texas Tech 2016) works with LyondellBasell as a fixed equipment engineer. He and his wife are expecting their second son soon!

Gabriel Gonzalez (ME, Texas Tech, 2021) just graduated with highest honors. "Spoiler alert, us MCC students were always ahead of the curve here at Tech… Thanks to this, I was able to stand out in all of my classes." With a passion in thermal sciences, he has plans for grad school in aerospace engineering.

James Grisham (Ph.D. in Aerospace Engr, UT Arlington, 2017) recently joined a new startup: Starfish Space, working on their 6DOF simulation, Monte Carlo analysis, and flight algorithms. Should be a lot of fun!

Jaxom Hartman (EE, Texas Tech, 2019; MS Engr, ASU) just bought a house with his wife in Greenville that is keeping them busy.

Julio Herrera (ME, U of Houston, 2021) completed a capstone project, designing a mechanical brush to clean industrial-sized heat exchangers.

Reagan Hughes (ME, Baylor, 2020) is a Launch Specialist at SpaceX down at Boca Chica.

Sam Lawrence (Urban Planning and Design, Arizona State, 2018) owns and operates Narrowpath, LLC, a full-service Architecture and Design Build firm.

Jacob Lockhart (Mechanical Engr Tech, Tarleton, 2017) is currently a senior project engineer with Kohler in Union City, Tennessee.

Josh MacFie (EE, Texas Tech, 2017) has moved from Intern to Principal Engineer and is now CEO of Group NIRE. With a patent pending and a second baby, he definitely has his hands full.

Thomas McCarthy (Physics, Rensselaer Polytechnic, 2021) is living in Phoenix working as a Health Physicist for the Arizona Department of Health Services.

Gary Moore (ME, Texas Tech, 2019) is at a defense contractor in Dallas, spending his days designing airplanes and the stuff that goes on them.

Dave Moran (ME, Arizona State, 2019) is in Florida, working as a Payload Operations Engineer at Blue Origin, processing and integrating payloads to the New Glenn launch vehicle.

Kristen Petree (BS in CE, UT Arlington, 2021; MS in Structural Engineering, UTA) is part of a research team working on topics related to buried infrastructure. "Out of sight? Not out of our mind!"

Karen Rucker (EE, Texas Tech, 2019) is still talking to things in space. Sometimes they listen. She's looking forward to launching her first space mission this December.

Garret Rust (IE, Texas Tech, 2021; MS in IE, Texas Tech) is loving his operations research classes, especially Stochastic Processes and getting to work with Time Markov Chains.

Saul Torres (ME, Texas Tech, 2018) is living in Arizona working at Jacobs in the building and infrastructure department. He's loving the hiking in the desert!

Brandon Trout (ME, Texas Tech, 2020) is an EIT at Oncor in the Transmission Standards group dealing with a lot of reliability, maintenance strategy, and regulatory projects and has a new cat, Lucy!

Victor Trujillo (EE, Texas A&M, 2016; MS Systems Engr, SMU) is working for a defense contractor in DFW as a member of the Chief Engineers Office with plans to transition to System Safety department and conduct System Safety Analysis.

Michael Vorderkunz (ME, Texas A&M Kingsville, 2016) is at the Corpus Christi Army Depot as a Facilities Engineer and got hired on by the 303rd Fighter squadron to go fly A-10s for the Air Force Reserves!

Marcus Wauson (ME, Texas Tech, 2019; PhD in ME, Texas Tech) is a research assistant, working with artificial cilia-like structures, and hopes to have a paper or two published by next year.

Hope Wright (ME, Tarleton) working at Trane as a Manufacturing Engineer Tech, creating method sheets for unit redesign with plans to add programming parts on the sheet metal punching equipment.

Maddie Anderson is back at MCC after finishing two of our AS Engr degrees (ME and IE) and is back to pick up two more (CE and EE). She's the department tutor this year and is heading to Texas Tech in Fall 2022.

Tyler Ashley (ME, Tarleton) has teamed up with Austin Davidson to restart the school's Aeronautical and Rocketry Team, and they are currently competing in the NASA university student launch initiative, competing against 44 other universities around the nation. He's planning to start an MS in Aerospace after graduation.

Austin Davidson (ME, Tarleton) and his MCC buddy Tyler Ashley are working on the preliminary design report for the 2021-2022 NASA USLI competition, fabricating Unmanned Aerial Vehicle. Austin and his wife have a new baby engineer on the way.

Troy Hubbard (ME, West Texas A&M) is working as a research assistant, looking at techniques to improve 3D metal printing in titanium. He and his wife, Danielle, have a new baby who is helping Dad study by keeping him company at 3 am. "I'm thankful for the good foundation MCC built for my engineering college career. I have like a 3.9 here and it's a result from the good habits built at MCC."

Charles Stewart (ME, Baylor) completed an internship with Solar Turbines in DeSoto. He also runs his own company, Prominence Plumbing LLC, in Waco.

DD Thompson (Mechanical and Energy Engr, UNT) has completed engineering internships recently at both City of Dallas and at Hilti North America.

Josh Wojciechowski is Batch Operator at Niagara Bottling in Dallas.

Andalina Darmastuti (CE, Texas State)

Asher Hopewell (ME, UT Arlington)

Taylor Neilson (ME, U North Texas)

Cade Pledger (Architecture, Texas A&M)

Trevor Roche (Industrial Distribution, Texas A&M)

Andrew Riddle (EE, Texas A&M)

Chase Rudolph (EE, Tarleton)

Riley Samford (ME, UT San Antonio)

CE – Civil Engineering
EE – Electrical Engineering
IE – Industrial Engineering
ME – Mechanical Engineering

Alumni Spotlight : Caleb Li

Caleb Li (ECE Baylor University, 2019) attended MCC right after high school as an engineering student. While at MCC, he worked as a math tutor, gave campus tours as a student ambassador, and participated in many fun activities hosted by MCC engineering such as 24-hour gaming marathon, movie night, etc. He also went to the Mars Desert Research Station (MDRS) in Utah with fellow researchers from MCC engineering. Upon graduating from MCC, he transferred to Baylor University to study Electrical and Computer Engineering. While attending Baylor, he completed an internship with the drop tower project of the Center for Astrophysics, Space Physics and Engineering Research (CASPER) at Baylor as a software and electrical engineer, and he worked as an undergraduate researcher with Dr. Johnathan Hu in the photonics lab. He is pursuing his PhD at Baylor in the Baylor Energy and Renewable System (BEARS) Lab, looking at power electronics and strategies to reduce common mode voltages in different applications. Caleb attributes his success at Baylor

University and so far in his education to the engineering program at MCC. "The Mars trip was the first time I realized that I love doing research and wanted to go to graduate school. I am really thankful for the resources and opportunities that MCC engineering program has provided that make me to discover what I love and enable me to enjoy what I am doing now! Plus, MCC engineering taught me how to become a critical thinker and a problem solver with integrity, creativity, and humor!"

A Trip to the Moon

photo by Cassandra Klos

With pandemic travel restrictions in 2020, Karen Rucker (EE Texas Tech, 2019) couldn't exactly go to Mars, so she went to the Moon instead. In November 2020, Karen completed a two-week lunar analog astronaut simulation at the Hawai'i Space Exploration Analog and Simulation (HI-SEAS) as the SELENE II Crew Systems Engineer, studying the analog's communication systems.

As a spacecraft communications engineer and now three-time analog astronaut, Karen knows all too well the importance of reliable communication technology in remote environments. She credits MCC's Dr. Smith and the Mars 101 amateur radio license requirement as sparking her interest in this field.

In addition to the SELENE II experience being the subject of several writeups published on space.com, Crew Journalist Cassandra Klos was a talented photographer tasked to document the experience for Smithsonian Magazine. The crew's mission was featured on the cover and as an article in the November 2021 edition, "Inside the Experiment to Create Mars on Earth."