

Engineering @McLennan

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Fall 2023

What's Happening

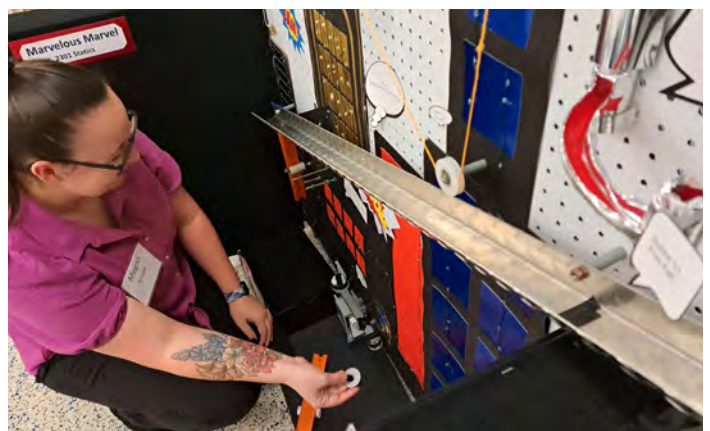


McLennan's Engineering program had a very busy and successful 2022-23 academic year. We are happy to report that the department experienced significant growth, and with it came new opportunities for students to learn and prepare for their future as engineers. Our students stayed very active, going above and beyond their coursework! Among the highlights for this year, we can list a research collaboration with

FreeFlight Systems, our Artemis team once again competing (and winning lots of awards!) in the NASA MINDS competition, hosting the ExtraLife Fundraiser, holding our yearly Engineering Career Mixer, and finally being able to again resume our Engineering Overseas Experience course, this time traveling to Italy. And let's not forget that our own Professor Sidwell earned the NISOD award for Teaching Excellence!

We are always happy to hear back from past students, and this year we had three MCC Engineering alumni come back to share about their industry experience as guest speakers. Karen Rucker, who now works at Ball Engineering, told us all about her path to her current career and gave students recommendations about how to succeed in engineering even when there are hurdles. Hope Wright spoke to our students as a representative of Trane. Hope has been working full-time for Trane while completing her engineering degree, and it is truly inspiring to see how far she's come. We also had Tanner Sparks tell us all about his job in the Public Works department at City of Waco. We have never seen students ask so many great questions at the end of a presentation! Additionally, we had a few former students attend our Career Mixer as recruiters now. This makes the engineering professors feel so happy and also so old!

An important goal of our engineering program is to build a sense of community. We encourage our students to get to know each other, to work on projects outside of class time together, and to attend the events we plan. We had great attendance during our traditional Homework Nights, where students could work together and get help from tutors and our Supplemental Instructors. This year, we want to thank Paloma Pena, Judi Marcos, Maddie Anderson, and Michael Deyo for their hard work and dedication



helping students succeed! Another thing to note is that due to the success of the Artemis group (you can read more about them in this newsletter) the students were given access to a room in the Science building to be used as an engineering research lab. The students put a lot of work into cleaning, organizing, and furnishing this room to make it a great collaborative space. This will help keep momentum going and help get more students interested in undergraduate research!

Student Spotlight – Rendy Drews

Going to MCC for an engineering degree has been one of the best decisions of my life. In the middle of a 10-year career with the Texas Department of Transportation (TxDOT), I applied for TxDOT's Tuition Assistance Program and was approved. In 2019, I started the journey to an associate's degree in civil engineering. Working full-time and going to school part-time, my goal was achieved in four years. Getting it done was pretty tough, and I wanted to quit more than once but having a tremendous support group kept me going. The variety of classes I had to take has already helped in my job duties. I'd say I wish I would have done this sooner but I'm thankful to have met the classmates and professors that I did. I'm continuing my education at MCC to obtain core complete status and look forward to earning a bachelor's next.



Engineering in Italy

Spring 2023 saw the first MCC Engineering student international trip after a long hiatus due to the pandemic. Fourteen students traveled to Italy in May with Dr. April Andreas and Professor Laura Wright. They visited Venice, Bologna, Florence, Pisa, Rome, and Pompeii. Highlights of the trip included rowing lessons in the canals of Venice, visiting cheese and olive oil factories, visiting the Ducati factory, climbing the Duomo and the Tower of Pisa, touring the Colosseum, exploring the ancient ruins of Ostia Antica and Pompeii, and eating tons of gelato. In addition, a makeshift graduation ceremony was held near St. Mark's Square in Venice for eight of the students who earned their degrees in May 2023.



Professor Spotlight – April Andreas

If you ever find yourself talking about Skittles or Hot Pockets when programming, you've probably taken Dr. A's Matlab class. With a Ph.D. in Systems and Industrial Engineering from the University of Arizona and both a BS and MS in Math from Southern Methodist University, Dr. A was originally hired at MCC as a math professor in Fall 2009. With a little finagling, she got permission to offer an Intro to Engineering course, "just in case anyone might want to take it." To everyone's shock, people actually signed up. That spring, she tried offering both Intro and a programming class in Matlab. The students kept coming back, so the next fall and spring saw Statics, Graphics, Dynamics, and Circuits added to the schedule, and a program was born.

Since then, the program has grown from a total enrollment of 60 to 285, and now boasts three full-time engineering faculty. We are proud to announce that Dr. A has been named (officially and for-realzies) the Engineering Department Coordinator, which means she now has even more reasons to send lots of annoying emails and bother people to advocate for the program she loves so much.



Where Are They Now?

Eskindir Abraham (EE, Texas Tech, 2019) is the lead electrical engineer at Brock Solutions, working as a design engineer for baggage handling for airports like DFW, JFK, BDL, and SMF. He is also recently engaged and bought a house in Dallas.

Andrew Acosta (ME, UT Arlington, 2022) started at a defense contractor as an aeronautical engineer focusing on CFD and propulsion. He and his new wife just bought a home in Fort Worth!

Jonathan Beechner (CS, Texas A&M, 2019) is a software developer for Microsoft, working on real-time communication software (Teams). He lives in Waco with his wife and (approximately) 2.584-year-old son with another little one on the way soon.

Barton Courtney (ME, Texas Tech, 2017) continues at Bass Cat and Yar-Craft boats. He and his wife Mikayla welcomed their first baby boy in August!

Brian Dempsey (EE, Texas A&M, 2016) is a lead system design engineer at Texas Instruments doing customer schematic/PCB designs, and currently has two pending patents for PSC motor capacitor predictive failure leveraging current phase between auxiliary and the main winding, and non-invasive refrigerant leak detection. (Yep, totally copy/pasted that, but it sounds amazing!!)

Elijah Espinoza (ME, Texas Tech, 2020) misses his statics class so much he decided to find a job full-time working heavy structural modifications for L3Harris, and is also recently engaged!

Keith Geisler (ME, Texas Tech, 2016) is working at LyondellBasell as a fixed equipment engineer, leading the effort on maintenance planning, and serving on the emergency response team as a firefighter.

Troy Hubbard (ME, West Texas A&M, 2022) is a process engineer at Pantex in Amarillo, assembling and disassembling our nation's nuclear weapons. That doesn't sound scary at all. Please always be well-rested, Troy!

Gary Moore (ME, Texas Tech, 2019) is still at Collins Aerospace as a lead Mechanical Engineer and wants to assure his fans that he has not lost his sparkle!

Andres Olivas (ME, Texas Tech, 2019) is giving back to the community and now working as a Park Ranger at Cameron Park!

Elizabeth Ponce (Psychology, UT Arlington, 2020; MS in Counseling, Tarleton, 2023) is working towards becoming a Licensed Professional Counselor (LPC). She says she loved engineering, but definitely found her calling – we are so happy for her!

Zach Ratliff (CS, Texas A&M, 2018; PhD in CS, Harvard) is a research scientist at a defense contractor in Massachusetts, working on problems related to cryptography, systems security, and privacy.

Albert Ruggles (ME, Texas Tech, 2020) continues to serve in the Air Force Reserve and works on a stress analysis team on equipment for a defense contractor. His dog and cat, Koda and Sox, appreciate the new home Albert and his wife just purchased in Fort Worth.

Garrett Rust (IE, Texas Tech, 2021; MS in IE, Texas Tech, 2023) is an R&D Engineer at Los Alamos National Labs, doing “a bunch” of discrete event simulations for LANL. Baldur's Gate 3 and his cat keep him from exploring the beautiful New Mexico countryside.

Charles Logan Stewart (ME, Baylor, 2023) just started back at Solar Turbines as a product engineer for overhauling industrial gas turbines.

Derrion Thompson (ME, U North Texas, 2022) works in Midlothian at a steel manufacturing plant, Gerar, as a process improvement engineer.

Brandon Trout (ME, Texas Tech, 2020) got a position at an electric utility engineering firm called POWER Engineers, following his wife to sunny Southern California as she completes her residency in family medicine.

Kaylee Wiley (CE, Texas Tech, 2019) is a newly-minted PE and works as a project engineer at TxDOT in the Bryan district. She and Jorge, another MCC engineering alum, recently bought a house together and welcomed their first puppy, Kiba.

Jonathan Bonilla (EE and CompE, Baylor) is looking into grad school as he's finishing up his degree, and is otherwise kept fully busy by Chief, Chewy, Henry, and Fergie.

Mat Groh (ME, Alabama) married his MCC sweetheart, and they welcomed a daughter recently.

Megan Krupa (CE, Tarleton) is working part-time with the design office at TXDOT's Stephenville Area Office.

Blaine Myers (ME, Texas Tech) has made the Dean's List (yet again) and just got married!

Solomon Stern (ME, Mesa University) is enjoying his free time from NASA MINDS exploring the national parks in Colorado, Utah, Arizona, and New Mexico while keeping up with school.

Joey Wright is an Engineering Technician at Terracon, working in construction materials testing and inspections, with plans to go back to school soon.

CE – Civil Engr

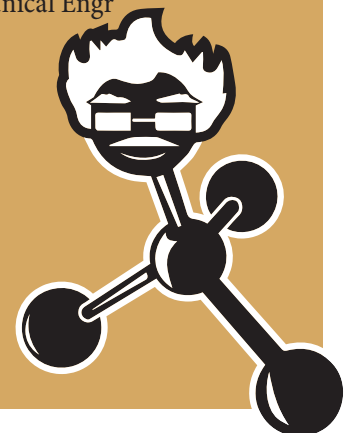
CompE – Computer Engr

CS – Computer Science

EE – Electrical Engr

IE – Industrial Engr

ME – Mechanical Engr



Alumni Spotlight – Esteban Ramirez

Esteban Manuel Ramirez (BME Texas A&M, 2021) began attending MCC as a dual credit student at University High School. He spent two years at MCC following graduation, where he was involved in programs like student council and MDRS in Utah. Esteban transferred to Texas A&M's Biomedical Engineering program in 2018 and was a contributing author in two publications related to a new implantable polymeric biomaterial to assist in bone regeneration. He also participated in an exchange program for Swansea University in Wales where he was awarded the State Department Gilman Scholarship, was a committee member of Council for Minority Student affairs, and became Vice President of the professional organization OSTEM. Following his graduation from Texas A&M, Esteban worked in the medical device industry at as a manufacturing and process engineer.

Esteban credits much of his success at Texas A&M and



after to the lessons and opportunities MCC granted him. “Attending MCC before transferring to a university was the best thing to happen to my education and career. It set a foundation for what genuinely inspiring and informative education should be like.” He continues, “I’m grateful for all the mentorship the professors and people that make up the Engineering, Chemistry, Physics, and Math departments at MCC have given to myself and my peers. I intend to give back as a member of this valuable community in Waco that MCC has created.”



Students Impress at NASA

NASA MINDS challenges students’ skills, creativity, and innovation, as they are asked to conceive and then design and build any product that could serve a need for NASA’s Artemis mission. Students apply for a grant to create a prototype, and then spend the spring developing the product. In addition, they create a research poster, a full paper, and then the top groups present to NASA. This was our second year participating. Both years the MCC team earned first place for best research paper and poster,

and earned second and third place overall for their design and presentation. This is a truly “grassroots” project for the students, who selected the program, created their proposal, and led their research team with entire autonomy.

Nine students participated in the spring of 2023, including Solomon Stern (ME), Paloma Pena (ME), Ollie Wess (EE), Gisela Delfin (ME), Lum Kari (BioE), Dan Alrowaishan (ChemE), Joseph Cameron (EE), Edward Rodriguez (ME), and Judi Marcos (ME). The NASA Artemis project was overseen by Larry Benton and Dr. April Andreas.

Judi Marcos continued an MCC-engineering tradition, traveling to the Mars Desert Research Station (MDRS) and testing the equipment in situ while living in a simulated Martian environment. “Going to MDRS gave me the opportunity to be part of an all-women crew, which was a unique experience! The geographical terrain was so similar to Mars, it felt like one was on the planet. This geographical terrain gave me insight on objectives we sometimes overlook in the design process.”



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Claudette Jackson, Director, Accommodations & Title IX, 1400 College Drive, 254-299-8465, titleix@mclennan.edu.

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