SECS INFORMER

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

MOREHEAD STATE UNIVERSITY

Volume 24 Issue 1 October 2022

Partnership with Industry for Student Success

The SECS advisory board was established in 1997 to provide input and recommendations for continuous improvement in a variety of areas including course curricula, assistance in validating program learning outcomes, help with strategic planning and defining program goals, assistance in the development of new graduate and undergraduate programs/courses, cooperative education/internship experiences for students, placement of graduates, and professional development for faculty/staff.

Over the past 25 years, the advisory board has demonstrated the true worth of a dedicated and insightful Advisory Board. The companies that the School of Engineering and Computer Science has worked with have, through their participation, aided the school's efforts to improve and modernize curricula and facilities. The companies have also strengthened the cooperative education and internship opportunities, which enhance students' achievement, career placement, and growth.

Because the technology, engineering, and computer science fields of study are moving targets, the SECS faculty, with expert input from the board, continues to develop and implement advanced and in-demand programs/courses such as Cyber Security, Data Science, Computer Engineering, Mechatronics Engineering, Civil Engineering Systems, and Industrial Engineering Systems. Teaching advanced topics and industry certifications such as Fanuc, Siemens, Six-Sigma provides our graduates with a competitive advantage in the workforce.

The online completer Technology Management program, which has submitted a proposal to include Engineering Systems, targets the Kentucky Community and Technical College System associate-level graduates who are employed in industry and provides those non-traditional learners with an opportunity to earn a BS degree and answer the call for an advanced workforce in the Commonwealth of Kentucky.

SECS, in collaboration with the Advisory Board companies and the Kentucky Association of Manufacturers (KAM), intends to forge community outreach efforts and support manufacturers in the region by creating an Advanced Manufacturing Engineering Training Center and Research Laboratory within our 21st Century Center for Manufacturing Systems. This training center will incorporate integrated workforce education and certification programs alongside MSU course offerings as an extension of the 21st Century Center for Manufacturing Systems. With this initiative, SECS has the potential to induce more industries to locate in the Eastern Kentucky region.

Sincerely,
Ahmad Zargari, Professor and Associate Dean
School of Engineering and Computer Science

Attending the 2022 Kentucky Association of Manufacturers (KAM) Convention on October 2022 in Lexington, Ky are: (rleft to right) Secretary Jeff Noel (Kentucky Cabinet for Economic Development), Mr. Walter Pozgay (MSU alumna, Senior Manager of GE), Dr. Kouroush Jenab, (MSU Assistant Professor of Engineering and Technology Management) and Frank Jemley (KAM President & CEO).

Inside this issue...

ATMAE The Association of Technology, Management, and Applied Engineering
LEAD • INNOVATE • COLLABORATE

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NEW FACULTY spotlight

Anindita Paul, Ph.D.

In the fall of 2022, Dr. Anindita Paul joined MSU as an Assistant Professor of Engineering and Technology Management. She received her Ph.D.in Electrical Engineering from New Mexico State University and a Master's in Technology in VLSI Design from the Institute of Radio Physics & Electronics, University of Calcutta. In 2019, she received a Graduate Assistant award for Academic & Research Achievement from the College of Engineering, NMSU. Dr. Paul is the lead author of 12 scholarly articles. Her professional experience includes working as a Lecturer in several engineering colleges in India, as an Analog Integrated Circuit Designer Intern in the semiconductor industries, and as an Assistant Professor at Manhattan College, Youngstown State University, and Oregon Institute of Technology.

In her short time with MSU, Dr. Paul has already arranged a donation of electronic test and measurement equipment from Keysight Technologies for our Electrical Engineering laboratories. These donated instruments have a value of $5000 and are essential elements of electrical engineering labs. Exposure to these instruments will help students employ critical thinking to solve real-world problems. Moreover, familiarity with these instruments will benefit the students in getting jobs in modern electronic industries.

Dr. Paul's teaching areas include CMOS Analog VLSI Circuit Design, Digital VLSI Circuit Design, Microcontroller System Design, Circuit Analysis, Signals & Systems, Digital Signal Processing, Solid-State Electronic Devices, Microelectronic circuit design, Analog & Digital Electronics, Analog & Digital Communications and Wireless Communications. Her current research focuses on designing low-voltage, low-power analog integrated circuits for portable electronic equipment, biomedical applications, Internet of Things applications, and renewable energy.

Besides work, Dr. Paul loves to spend time with her family in her free time. She loves to read books, listen to music, and cook delicious foods.

Tathagata Ray, Ph.D., EIT

Dr. Tathagata Ray joined Morehead State University as an Assistant Professor of Construction and Civil Engineering in the fall of 2022.

He received his B.Tech. degree in Civil Engineering from the Indian Institute of Technology, Roorkee, and Ph.D. degree in structural and earthquake engineering from the State University of New York, University at Buffalo.

He has served as an Assistant Professor at New Mexico State University, adjunct faculty at Oregon Institute of Technology, and Structural Design Engineer at PSE Consulting Engineers in Oregon.

Dr. Ray teaches construction and civil engineering fundamental and design-related courses using state-of-the-art software tools and laboratories. Dr. Ray made arrangements to use software like RISA, WoodWorks, and Mecawind in his classes, giving the students a competitive edge in the job market.

His research interests include designing buildings that can withstand extreme earthquakes and windstorms. He has published articles in mainstream journals.

He spends his leisure time enjoying natural beauties like fall colors, rain, and snowfall; and listening to music.

NEW FACULTY spotlight

Jason Stepp

Mr. Jason Stepp has moved into the role of Instructor of Engineering and Technology Management in the 2022 fall semester . He previously held the position of Lab and Facilities Manager for the MSU's Department of Engineering and Technology Management since 2008.

Mr. Stepp received a BS degree in Industrial Technology with a Construction Management Technology area from MSU in May 2008 and in 2010 he completed a MS in Engineering Technology from Morehead State.

As Lab and Facilities Manager, Jason made sure the labs were sufficient for students and faculty to safely and properly operate equipment. His duties also included preparation and maintenance of manufacturing, electronics, and construction equipment inventory, ensuring the relevance and functionality of all lab equipment, upgrading software, hardware, and advanced technological equipment as well as administering promotional materials for ETM programs and the SECS Informer. He worked with faculty, staff, students, and the SECS Advisory Board to make sure that labs had adequate furnishings, equipment, and other amenities sufficient for achieving departmental objectives. He also worked with Facilities Management on major renovations of multiple labs in Lloyd Cassity and Reed Hall to make certain they met the space and power requirements of the equipment in the labs.

Before working with MSU, Mr. Stepp worked with Packs, Inc in Morehead as a Project Manager after receiving his BS. With Packs, his duties included project estimation, composing and modifying CAD drawings, and developing bid documents and specifications for projects.

Mr. Stepp also worked for Frontier Housing as Construction Operations Specialist where his duties included managing the day-to-day construction operations, dealing with construction crews and sub-contractors, scheduling inspections, performing inspections, taking warranty claims, and following-up on warranty work.

SECS NEWS spotlight

Dr. Sherif Rashad and Undergraduate Research Fellow Publish Paper

Dr. Sherif Rashad, Professor of Computer Science, co-authored a new journal paper with the Undergraduate Research Fellow (URF), Jon Jenkins, on "LeapASL: A platform for design and implementation of real time algorithms for translation of American Sign Language using personal supervised machine learning models". The paper was published in May 2022 by Elsevier in the Software Impacts journal.

Abstract: "There is a need for a system that is easy to use, accurate, and portable to translate from American Sign Language (ASL) to English. The proposed innovative system combines Unity's usability with Python's machine learning capabilities to create a platform for real time translation of ASL. The Leap Motion Controller is used to capture hand movements and information to create supervised machine learning models. This system will be able to work in an adaptive way to learn from the signer how they sign individual words to allow for a more robust accuracy than a general model for sign language recognition."

SECS NEWS spotlight

ETM's ROBOTICS TEAM SCHEDULED TO COMPETE

The 2022 ATMAE Annual Conference will be held in November in Louisville, Ky. MSU's Robotics Team, advised by Dr. Jorge Moody, will compete at the conference in ATMAE's national Student Division Robotics Competition.

Competing teams are tasked with designing, developing, and demonstrating a semi-or-fully-automated robotic system to perform a user-defined function. The robot our team is presenting is designed for implementation into a greenhouse setting to spray plants with chemicals such as pesticides and fertilizers. The robot uses machine learning algorithms to identify problems with plants such as harmful insects and diseases. The mechanical aspects of the robot are all recycled from different parts that were no longer used on campus.

Pictured are: David Bischofberger, Quang Le, Hayden Hall, Zach Sapp Christina Childs, Ethan Hernandez and Dr. Jorge Moody.

DR. HEBA ELGAZZAR AND UNDERGRADUATE RESEARCH FELLOW USE MACHINE LEARNING TO PREDICT FUTURE CRYPTOCURRENCY

Dr. Heba Elgazzar and her Undergraduate Research Fellow student, David Mayo, presented a paper entitled 'Predicting Cryptocurrency Price Change Direction From Supply-Side Factors via Machine Learning Methods' in IEEE World AI IoT Congress 2022(AIIoT 2022) and were awarded the best paper award. The paper was also published in IEEE Xplore digital library.

The goal of this research project is to design and implement machine learning models to predict future cryptocurrency price change direction based primarily on supply-side factors. Different unsupervised machine learning techniques are used to build the predictive models. These techniques include K Nearest Neighbors (KNN), Artificial Neural Networks (ANN), Support Vector Machines (SVM), Naïve Bayesian Classifier, and Random Forest Classifier.

Abstract: Cryptocurrency prices are highly variable. Predicting changes in cryptocurrency price is a hugely important topic to investors and researchers, with much existing research on demand-side factors. The goal of this research project is to design and implement machine learning models to predict future cryptocurrency price change direction based primarily on supply-side factors. Different unsupervised machine learning techniques are used to build the predictive models. These techniques include K Nearest Neighbors (KNN), Artificial Neural Networks (ANN), Support Vector Machines (SVM), Naive Bayesian Classifier, and Random Forest Classifier. A dataset of 10 daily supply-side metrics for three prominent cryptocurrencies (Bitcoin, Ethereum, and Litecoin) at four different time horizons (ranging from one day to 30 days) are used to build and test the machine learning models. The outputs of these models indicate the predicted direction of the price movement over the time horizon (i.e., whether the price would go up or down), not the magnitude of the movement. Experimental results show that predictions were very unreliable for the shorter time spans but very reliable for the longest time spans. The Artificial Neural Network and Random Forest classifiers consistently outperformed the other techniques and achieved a prediction accuracy of over 90% in most models and over 95% in the best models. Experimental results show also that there is no significant difference in predictability between the three prominent cryptocurrencies.

SECS NEWS spotlight

NSF-EPSCOR: KENTUCKY ADVANCED MANUFACTURING PARTNERSHIP FOR ENHANCED ROBOTICS AND STRUCTURE IN FOURTH YEAR

The University of Kentucky, University of Louisville, Morehead State University, Western Kentucky University, and Eastern Kentucky University jointly conduct a research program on Kentucky Advanced Manufacturing Partnership for Enhanced Robotics and Structures (KAMPERS) that has been awarded $500K by Kentucky NSF-EPSCoR.
The MSU research team, composed of Dr. K. Jenab (PI), Dr. J. Ortega-Moody (Co-PI), Anish Raut (GA), Mykelti Wheatley (URF), and Quang Le (URF), is in its fourth year and is responsible for two projects: 1- Develop algorithms for failure prediction and condition-based maintenance and, 2- Configure augmented virtual and physical laboratories (AVRL) for workforce training in advanced condition-based maintenance, robotics, and control of industrial infrastructure.

In year 3, the MSU team successfully formulated algorithms for maintenance and developed training modules for the manufacturing technician workforce which are aligned with the objectives of the 4th year. As a result, three papers have been developed that have been accepted for the ATMAE Conference to be held in Louisville, KY, in November 2022. Also, three posters were presented at the NSF SuperCollider conference in April 2022 and one of them ranked as top poster.
In the 4th year, MSU's team will formulate algorithms for remaining life time, and simulate a robotic system comprised of multiple co-robotics systems. Currently, the team is setting up two new universal robots in a complex manufacturing process equipped with vision systems. The MSU team nested in 21st Century Center for Manufacturing Systems is planning to deliver a series of workshops to regional industry based on the outcomes of their research in Year 4. Also, they have been invited to deliver workshops in University of Querétaro, Mexico in November 2022.

SECS NEWS spotlight

JENAB WINS INNOVATION COMPETITION AND WILL ATTEND WORKSHOP

Dr. Kouroush Jenab, Assistant Professor of Engineering and Technology Management at Morehead State University, has been named a runner-up in the Kentucky Commercialization Ventures (KCV) Innovative Mobile, Public Health and Community-Oriented Technologies (IMPACT) competition.

Jenab was recognized for his idea to use virtual reality (VR) software to create STEM and workforce training platforms to be implemented in K-12 schools in the Commonwealth. The programs would aid in the recruitment and retention of K-12 students into STEM fields.

To learn more about the KCV IMPACT program, visit www.kycommercializationventures.com/post/kcv-impact-competition-awards-six-innovative-projects.

On a separate note, Kouroush Jenab has been invited to join the program committee of "The 7th International Congress and Workshop on Industrial AI and eMaintenance 2023" (IAI2023). The congress and workshop will be held on June 13-15, 2023 in Luleå, Sweden.

The scope of IAI2023 encompasses and integrates the themes and topics of three conferences, namely Industrial AI & eMaintenance, Condition Monitoring and Diagnostic Engineering Management (COMADEM), and Advances in Reliability, Maintainability and Supportability (ARMS) on a single platform. This congress intends to explore both opportunities and challenges, and to foster fruitful discussions between AI creators and industrial practitioners.

SENIOR STUDENTS GAIN SKILLS USEFUL IN THE JOB MARKET

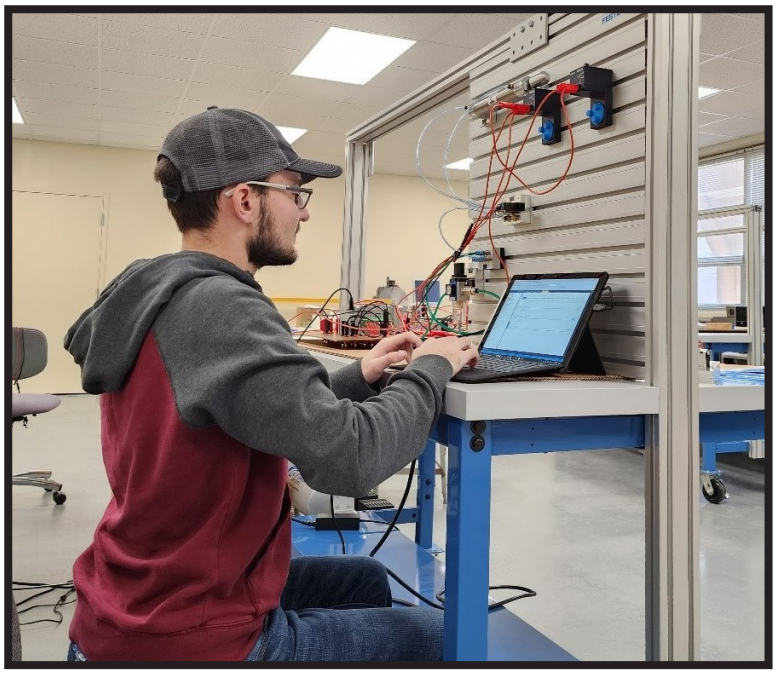
SECS partners with the Center for Career Development and Experiential Education to prepare our students for career success. Megan Boone, Director of Career Services, spoke to our senior students about how to showcase the hands-on skills gained from our program on their resume. She also talked about how to articulate one's skills in a professional interview setting by using the STAR Method and taking the time to research the organization. About the visit with SECS students, Megan said, "The engineering students always have strong co-op and internship experiences but need help figuring out how to best represent themselves on paper and in the interview. I always enjoy speaking to the seniors and they had lots of really good questions this year."

Many of our students attended MSU's Fall Career & Internship Fair where over 100 employers and graduate programs came to campus to recruit.

Employers interested in attending our career and internship fairs to recruit can **email careerservices@moreheadstate.edu** to be added to the invitation list.
The Spring 2023 fair is scheduled for Wednesday, March 1st.
Open jobs and internships can always be shared to that same email!

SECS NEWS spotlight

HYDRAULIC/FLUID SYSTEM TRAINERS DESIGNED & BUILT BY XU & STUDENTS



Fluid power is a technology that uses a pressurized liquid (hydraulics) or gas (pneumatics) to drive, lift, dig, rotate and control virtually all the machines or mechanisms in industry. It has the distinctive advantages over electrical and mechanical power systems, such as ease and accuracy of control, multiplication of force, constant force or torque, and simplicity and economy. Although fluid power offers distinctive advantages over other technologies, its full potential can only be tapped by combining with other technologies. Electrical controls are the most important. A concurrent trend is that, as time enters the 21st century, industry becomes more automatic and computerized. As a result, engineering students today need sound skills in electrical control, automation, robotics, and PLC programming. Accordingly, there is a strong need that the teaching of fluid power includes the contents of automatic controls in response to these increasing demands.

Fluid power has become the essential knowledge for most engineering students to study. Engineering is an applied science and a practical profession. The teaching of fluid power needs to emphasize engineering theories, hands-on skills and real problem-solving abilities. The problems that frequently happen in our teaching are that the existing lab equipment is neither suitable nor adequate for offering the needed lab trainings; sometimes, the devices and components for implementing advanced lab activities are simply nonexistent. These inadequacies and shortages often times hamper efficient, effective teaching and learning. There are various pneumatic and hydraulic power student training systems on the market. Many of them are too basic for college students. Some are good but their prices are prohibitive for financially struggling departments.

Given the students' need and the financial difficulty, our faculty member, Dr. Qingzhou Xu, decided three years ago to design, machine and build by himself six pneumatic and hydraulic power student training systems with electrical relay and PLC control boards. He has finished four pneumatic prototypes, written an entire set of lab activities, and incorporated them in fluid power teaching. Dr. Xu is now finalizing the training systems and building another two systems. The building process has become a venue for student learning. A number of senior students, four undergraduate research fellows and one Master's student selected research topics on it to learn pneumatics, hydraulics, G-code, CNC, relay control and PLC.

The photo above shows an undergraduate research fellow, Noah Scott, working in front of a newly-built pneumatic power system. Six computers have been purchased. Mr. Scott will first learn how relays, PLCs and the software for running PLCs work, then start to make six integrated relay ladder circuits and PLC control boards on polypropylene panels (which will be the final products), then build links between the computers, the control boards and pneumatic/hydraulic power systems, and finally develop relay programs and PLC codes to operate pneumatic/hydraulic power systems.

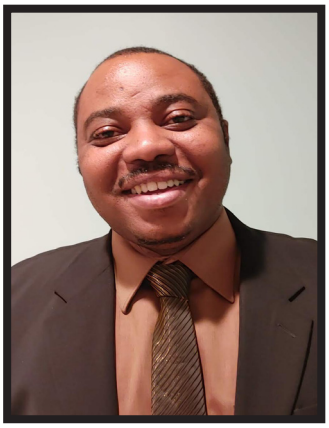
STUDENT spotlight

Dalton Hensley

Jon Jenkins

Two Computer Science URF students, Dalton Hensley (URF Mentor: Dr. Heba Elgazzar) and Jon Jenkins (URF Mentor: Dr. Sherif Rashad) were accepted and participated successfully in the National Science Foundation (NSF) Research Experience for Undergraduate (REU) Program that was hosted at the University of Louisville in the summer of 2022. The students worked on research projects based on the knowledge and experience they gained during their work at MSU as undergraduate research fellows.

Lawrence Fraction



Lawrence Fraction is a graduate of Morehead State University with a Bachelors in Computer Science and a minor in Business. Continuing his education as a Graduate student with the Department Of Engineering and Technology Management, he is now applying his degree to the engineering side of technology. Lawrence is an active member of the ATMAE community and is serving as a student member of the ATMAE Board of Accreditation.

Lawrence is using engineering and computer science to study how to make waste collection for cities more efficient, by denoting when a waste receptacle is full and signaling for pickup.

As a Graduate Assistant/Teaching Assistant, Lawrence is assisting in courses with Mr. Stepp and Dr. Cheng.

Latakusum Pokharel

Latakusum Pokharel is an international MSU student from Nepal (Asia). She is currently working on her master's degree in Engineering and Technology Management with her core in Automation and Quality. In her program she has worked on PLC, Robots, CNC Machines, and project management. She also works as a residential counselor for the Craft Academy.

Latakusum's bachelor degree was in Applied physics where she got engaged in plasma physics. Due to her research in plasma applications, she won various fellowships for conferences in Korea and Singapore. Her wish is to work in the field of project management in the future for a manufacturing company where she can fill the bridge between the technical and non-technical aspects of the company.

She has also realized she is interested in leadership roles after working for Upward Bound during the summer. She loves to read and write stories during her free time. She has 8 novels published online and has thousands of readers.

STUDENT spotlight

Anish Raut

Anish Raut is pursuing a masters degree in Engineering and Technology Management at MSU. He completed his undergraduate degree in Applied Physics where he researched plasma physics for industrial purposes.

Anish is a Graduate Assistant and says, "It has been an honor for me to get a Graduate Assistantship in the ETM department funded by the National Science Foundation carrying out various projects related to virtual reality, robotics, and manufacturing. I have been in the US for a year and I have learned so many things carrying out projects and participating in various project presentations from NSF and ATMAE which helped me a lot to boost my confidence."

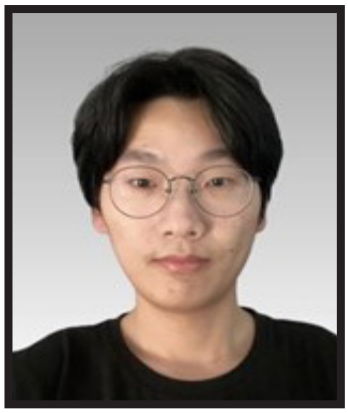
The subject of his current project and research is Virtual Reality and Welding using Artificial Intelligence for defect detection using UNITY. He has been recognized as an outstanding poster presenter by the KY NSF EPSCoR community. He will complete his masters degree next year and says he is looking forward to working in the field of manufacturing or engineering management shortly.

Christina Childs

Christina Childs is from Hillsboro Kentucky. She is currently a junior student at MSU majoring in Mechanical and Manufacturing Engineering. She has worked as a part-time co-op student with the industrial engineering unit at Stober Drives in Maysville, Ky for the past year and a half, working full time during summer and winter break. She has even been asked to increase her hours during the coming semesters.

While working at Stober she is involved with such projects as conducting time studies, creating parts for assembly in SolidWorks, programming a Loctite robot, helping assemble servomotors, designing new tool foams and most recently programming a Panasonic Assembly Tool controller which will help improve the quality of boxes. She is very grateful to Stober for the opportunity ans says she has learned a lot and has gained valuable real-world experience.

Zhensen Wang



Zhensen Wang, from China, is a graduate student in the MSETM program. He previously graduated from Wuhan Textile University in spring 2020 with a bachelor's degree in Computer Science. He is currently working on a research paper on Portable Sensors. Zhensen is also a Graduate Assistant and assists in computer aided design and manufacturing courses. He also assists with office management and has served as a judge at a Technology Student Association competition.

Tyler Ward

Tyler Ward graduated from MSU in May 2021 with a bachelor degree in Computer Science and minor in Computer Information Systems and Film Studies. He is currently pursuing a master's degree at MSU in Engineering & Technology Management with a concentration in Information Systems & Analytics. His thesis covers the development of improved algorithms for human activity recognition and prediction for self-driving cars.

As a graduate assistant, Tyler works with professors and students on topics related to computer science and electronics. He is currently working on three papers for publication involving the use of supervised and unsupervised machine learning algorithms in maintenance engineering. He is working with the NSF ESCoR funded Virtual Reality Lab. He also is a part of the KCV Impact Grant developing virtual reality software for STEM education and workforce training purposes.

Tyler has also recently been elected to serve a year-long term as a student representative on ATMAE's Board of Directors.

ADVISORY BOARD spotlight

Andrew David

Andrew David is an Industrial Engineer for SRG Global in Morehead. He has been in that position for one year. Prior to moving to SRG Global, he was a Quality Engineer for Mitsubishi Electric in Maysville, KY for five years.

Andrew is from Maysville, KY. He started his education at Maysville Community and Technical College with a focus in Electrical Technology. After graduation from MCTC he transferred to MSU into the Technology Management program. He graduated with his undergraduate degree in 2018 then continued his education with MSU, earning his Master of Science degree in Engineering and Technology Management in 2020.

Antonia Comer

Antonia Comer is the Director of Talent Development for Tenneco. In her role she works globally to develop talent and strategically address talent related issues. She has over thirty years of Human Resources, Training, Coaching and Executive Coaching Experience. She has worked for large companies such as General Electric, Emerson Electric and Cincinnati Bell. She has also worked for smaller corporations such as Crane Currency, Belden and General Cable.

Antonia began her career being selected and graduating from the highly regarded General Electric Human Resources Training program. She has held a variety of leadership positions in Human Resources, Operations, Training, Organizational Development and Talent. She was featured on IHeart Radio in a segment on developing high potential talent.

She graduated from Purdue University with a Bachelor's Degree. She has also graduated and been certified from two coaching schools: Coach University and Goal Imagery Institute.

She has achieved her PCC certification through the International Coaching Federation and has coached several hundred leaders and individuals. Her passion is to provide a framework where people can grow and develop themselves from within to be the best version of themselves. She specializes in Leaders and teams who have issues and need coaching and intervention.

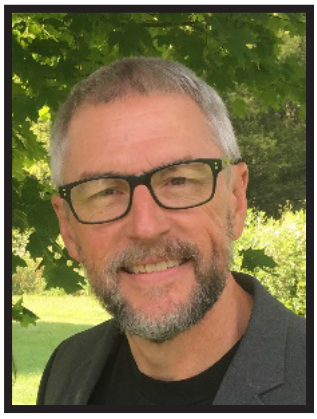
Paula Wilson

Paula Wilson was born and raised in Dayton, Ohio. She received a Bachelor of Arts in International Studies with a minor in Chinese from Wright State University. Upon graduating, she moved to China for one year to teach English. When she returned to the U.S. she enrolled at Morehead State University where she obtained her Master of Science degree in Engineering and Technology Management.

While at MSU, Paula interned with Regal Beloit in Morehead. After graduation, she was able to work full-time as a Continuous Improvement Specialist with Regal in Monticello, Indiana where they make ball and roller bearings. In the fall of 2021, she took a job with Wabash in Lafayette, Indiana as a CI Specialist. Wabash manufactures semi-trailers at the Lafayette locations.

Paula says she is passionate about improving manufacturing processes and creating safe environments for employees in manufacturing. She IS trained in Lean Methodology and Six Sigma.

Troy Kantola



Troy Kantola has been married for 39 years and is father to four sons. He currently serves as Product Director for Tenneco Powertrain and manages two technical centers consisting of 155,000ft2 , 61 laboratories, and 21 dynamometers. He has over 35 years of experience in engine testing. His industrial experience includes 31 years with tier 1 suppliers, including Sealed-Power, Dana, Federal-Mogul and Tenneco Powertrain.

He graduated in 1987 from Michigan Technological University with a Bachelor's of Science Mechanical Engineering (energy and thermal fluids emphasis). Throughout his career, he has secured 18 Patents, and authored four publications in the field of internal combustion engines.

ALUMNI spotlight

Saihiranmitra Mudiki

Saihiranmitra Mudiki (Mitra), from Hyderabad, India, is a Six Sigma Black Belt certified professional with 4.5 years of experience in the fast paced automotive manufacturing environment with expertise in MES (Manufacturing Execution System), SAP, Allen Bradley & Siemens PLC's, KUKA Robots, SCADA HMI, IIoT, Cycle Time Improvement, Process Design, Data Analysis and Program Management.

Mitra is currently working as a Systems Engineer at KUKA Body-In-White assembly plant to lead design, configuration, installation, integration, testing of MES application packages to manufacture Jeep Wrangler (PHEV) and Jeep Gladiator. Previously he worked at Rockwell Automation as a Systems Design Engineer where he primarily designed and developed MES applications for KUKA, RIVIAN (EV), LUCID Motors (EV), Navistar. At Rockwell Automation he was recognized as "Automation Integration Specialist" for his subject matter expertise in smart manufacturing and evolving IIoT.

Alejandra Figueroa Lopez

Alejandra Figueroa Lopez graduated in December 2021 from the Masters program of Engineering and Technology Management at Morehead State University. She is currently working for Connolly Consulting Engineers as an Electrical Designer. She is performing energy analyses, engineering of electrical systems including lighting, power, data, security and access control and other electronics systems. She is responsible for quality control in the engineering process for these systems, and she will be advancing into a project management engineering role in the future.

Saikrishna Kanumuru

Saikrishna Kanumuru is currently working as a Full Stack Developer at Collabera LLC, where he provides services for his client Bank of America and his job primarily focuses on Python web-based applications. He received his MS in Engineering Technology Management at Morehead State University and a Bachelors in Electronics and Communication Engineering. Krishna Worked as a GA in the ETM department during his master's program. Krishna is also interested in electronics, automation and machine learning systems.

Andy Buteyn

Andy Buteyn is a recent graduate of MSU receiving bachelor degree in Computer and Electronics Engineering Technology and a Master of Engineering and Technology Management. Andy is the founder of Buteyn Technology LLC and worked on multiple robotics deployment projects in Appharvest's flagship facility in Morehead. Buteyn Technology was contracted to work with Arugga AI Farming to deploy and test an automated pollination robot in the 60-acre tomato farm. After deployment, Andy joined the in-house robotics team at Appharvest working with Virgo, an automated system to pick small varieties of tomatoes.

After graduation, Andy took a job with Summit Biosciences in Lexington KY. Summit specializes in formulation, filling, and packaging of prescription nasal sprays. He is involved with the historization and storage of all production data, production and batch reporting, existing and new equipment installation and maintenance, and all other requirements needed in the pharmaceutical industry. Andy credits MSU with preparing him for the workforce with hands-on instruction, leadership roles, and teaching opportunities. These opportunities allowed him to grow and become a well-rounded employee at Summit.

Learn much more at **www.moreheadstate.edu/secs**

FOR YOUR INFORMATION

The 2022 ATMAE Annual Conference will be held November 9-11, 2022 in Louisville, Kentucky at the Galt House Hotel

The Department of Engineering and Technology Management hosted the annual EKTSA Eastern Regional Competition on Friday, March 4, 2022.

Morehead State University has ranked among the top public regional universities in the South for 19 consecutive years. This year, MSU earned its highest ranking to date, moving up to the "Top 15" as the #15 ranked public school in the South.

MSU qualified to be listed in the web resource Colleges of Distinction this year under multiple categories. The University was designated a College of Distinction in the several areas for 2022-23.

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