SECS INFORMER

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

MOREHEAD STATE UNIVERSITY

Volume 24 Issue 2 May 2023

Preparing Students for Success in the 21st Century Workplace

Over the past 26 years, the advisory board, representing industries in the region, have 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 in the Advisory Board, aided the school's efforts to improve and modernize curricula and facilities. The Advisory Board companies have also strengthened cooperative education and internship opportunities, which enhance students' academic achievement, career placement, and professional growth.

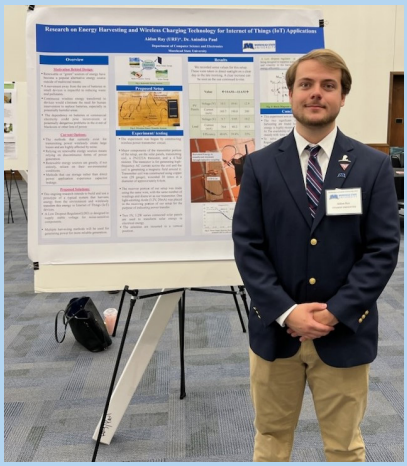
The construction of a new Science and Engineering building on the MSU campus and possible merger of the School of Engineering and Computer Science with Physics, Earth Science & Space Systems Engineering will create synergistic opportunities among the programs and will enhance student's success. Also, the advisory board scholarship plus generous $3,000,000 Dr. Staley F. Adams and Grace C. Adams Memorial Scholarship, will provide us with an exceptional opportunity to recruit, retain, and graduate more students who will be capable of solving complex engineering and technical problems.

The SECS faculty, with expert input from our advisory 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. In response to the regional and national need for Cybersecurity and Data Science professionals, the computer science faculty have proposed two new tracks of Data Science & Artificial Intelligence and Cybersecurity to the Master of Science program in Engineering & Technology Management.

The revised online completer program that includes the three tracks of Engineering Management, Information Systems, and Technology Management targets a broader range of KCTCS graduates who are employed in business/industry. This program provides non-traditional learners with an exceptional opportunity to earn a baccalaureate of science degree and become capable of answering the call for an advanced workforce in the Commonwealth.

Utilizing the 21st Century Center for Manufacturing Systems, established with the James Graham Brown Foundation matching grant and funds from Advisory Board companies, faculty intend to forge community outreach efforts in order to support manufacturers by creating an Advanced Manufacturing Engineering Training Center. Through preparation of a highly skilled workforce, SECS has the potential to induce more industries to locate in Eastern Kentucky.

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



Aidan Ray, Engineering Technology (Electronics/Computer Eng. Area) student and Undergraduate Research Fellow, performed research under the supervision of Dr. Anindita Paul and received an Exceptional Merit Award for his poster presentation during MSU's Celebration of Student Scholarship on April 20th.

Other SECS students recognized were Dalton Hensley, John Reichenbach (Certificate of Merit), Jon Jenkins, Mann Patel, and Tyler Ward (Certificate of Exceptional Merit) as well as Ryan P. Justice (Merit)

ATMAE The Association of Technology, Management, and Applied Engineering
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SECS AT THE ATMAE CONFERENCE

SECS Students and Faculty Recognized at ATMAE Conference

The School of Engineering and Computer Science faculty, students and alumni had an impressive presence at the November 2022 ATMAE conference in Louisville…

Students Recognized

- Connor Maxam, MSETM graduate, received the "Service to the Board of Directors" award related to his 2021/2022 appointment as the Student Representative on the ATMAE Board of Directors.
- Tyler Ward, who was awarded the Dr. Clois E. Kicklighter Doctoral Student Scholarship of $2,500 to encourage further higher education. Tyler was also voted to represent student members 2022/2023 as the Student Representative on the ATMAE Board of Directors.
- John Hoskins, Jamie Ramirez-Angulo, Tyler Ward and Anish Raut were named as contributing to research presented at the conference.

Faculty Presentations

- Assistant Professors of Engineering and Technology Management, Drs. Kouroush Jenab, Anindita Paul, Tathagata Ray
- Associate Professors of Engineering and Technology Management, Drs. Jorge Ortega-Moody, Qingzhou Xu
- Professors of Engineering and Technology Management, Nilesh Joshi and Ahmad Zargari

Zargari Receives Charles W. Keith Award

Dr. Ahmad Zargari, Professor and Associate Dean of the School of Engineering and Computer Science, was honored with ATMAE's prestigious Charles W. Keith Award. The Charles W. Keith Award is a special award named in honor of the man whose vision and action resulted in the foundation of the National Association of Industrial Technology (NAIT), ATMAE's predecessor association. The award honors individuals who have significantly contributed to the association's development. The nominee must be one whose contributions to the organization have been consistently outstanding and who has made exemplary accomplishments toward the significant development of ATMAE.

Dr. Zargari established his relationship with the organization more than 30 years ago. He served as the NAIT (ATMAE) Board of Directors Chair in 2005, was recognized as an ATMAE Senior Fellow in 2019, and currently serves as the Chair of ATMAE's Board of Accreditation. He joined MSU as an Assistant Professor in 1994. In 1998, he led the preparation of MSU's Industrial Technology programs toward NAIT accreditation. Currently, five programs in the School of Engineering and Computer Science, including the Bachelor of Science in Construction and Civil Engineering Technology, Electronics and Computer Engineering Technology, Mechanical and Manufacturing Technology, Bachelor of Science in Technology Management, and Master of Science in Engineering and Technology Management has been ATMAE accredited/reaccredited through November 2026.

"Due to my association and involvement with NAIT/ATMAE, when I joined MSU in 1994, I was able to build a team of motivated MSU faculty to prepare for ATMAE accreditation, and our programs have maintained accreditation since 1998," Zargari said. "I am pleased that I have contributed to ATMAE's mission of promoting academic program accreditation, personal certification, and the professional development for educators and industry professionals, and I am humbled and pleased that the Association of Technology, Management, and Applied Engineering (ATMAE) professionals have recognized my continued contributions."

SECS AT THE ATMAE CONFERENCE

Programs Accredited

Five programs in the School of Engineering and Computer Science (SECS) were officially reaccredited and/or newly accredited in November 2022 as part of the 2022 Annual Association of Technology, Management and Applied Engineering (ATMAE) conference in Louisville, KY. Nilesh Joshi represented MSU during the ATMAE accreditation hearings held at the conference. Those five ATMAE SECS programs, accredited through November 2026, are:

- BS in Construction & Civil Engineering Technology
- BS in Electronics & Computer Engineering Technology
- BS in Mechanical & Manufacturing Engineering Technology
- BS in Engineering & Technology Management
- MS in Engineering & Technology Management

Faculty Awarded

Assistant Professors of Engineering and Technology Management, Drs. Anindita Paul and Tathagata Ray, were among recipients of the 2022 ATMAE/EPT Alvin Rudisill Award, each receiving a $500 scholarship related to the award. Recipients are selected by the Board Chair to recognize exemplary contributions to ATMAE. They were also inducted into Epsilon Pi Tau, a leading international honor society for technology.

Robotics Team Awarded

Members of the MSU Robotics Team, from left to right: Quang Le, Ethan Hernandez, Coach Jorge Ortega-Moody, David Bischofberger, Christina Childs and Hayden Hall.

MSU's Robotics Team was presented with the People's Choice Award in the Student Division Robotic Competition at the November 2022 ATMAE Conference in Louisville. The team was led by Dr. Jorge Ortega-Moody, Associate Professor of Engineering and Technology Management. Members of the team are:

- David Bischofberger, a freshman visitor exchange student from Switzerland;
- Christina Childs, a senior from Hillsboro majoring in Mechanical and Manufacturing Engineering Technology
- Hayden Hall, a senior from Hippo majoring in Systems Engineering
- Ethan Hernandez, a junior from Paris majoring in Mechanical and Manufacturing Engineering Technology
- Quang Le, a senior from Vietnam majoring in Mechanical and Manufacturing Engineering Technology
- Zachary Sapp, a junior from Mt. Sterling majoring in Mechanical and Manufacturing Engineering Technology

Teams were tasked with designing, developing, and demonstrating a semi-or-fully-automated robotic system to perform a user-defined function. The team's robot is designed for implementation in a greenhouse setting, using machine learning algorithms to identify problems with plants, such as harmful insects and diseases. The robot then sprays plants with appropriate pesticides and fertilizers. For the mechanical aspects of the robot, the team used all recycled parts that were no longer used on campus. The team competed for two days against ten other teams at the conference.

Alumni Presentations

Also to be noted is that three SECS alumni presented at the conference.

SECS STAFF spotlight

JAMES BRADLEY

Mr. James Bradley was hired as the Lab and Facilities Manager for the Department of Engineering Technology in January 2023. This position was previously held by Jason Stepp.

James received his BS degree in Industrial Technology with an area of concentration in Electronic Technology from MSU in December of 1990. Since starting to work at MSU James has been accepted into the ETM Master of Science program.

As the Lab and Facilities Manager, James will continue the work of Jason and will focus on equipment readiness in the labs as well as student readiness and interaction. He will make sure the labs are sufficient for students and faculty to safely and properly operate equipment. His duties will also include preparation and maintenance of manufacturing, electronics and equipment inventory, ensuring the relevance and functionality of lab equipment including upgrading software, hardware, and advanced technological equipment. James will also be involved in administering promotional materials for ETM programs and the SECS Informer. He will work with faculty, staff, students, and the SECS Advisory Board to make sure that labs have` adequate furnishings, equipment, and other amenities sufficient for achieving department objectives. He will also work with Facilities Management on any projects that may involve Lloyd Cassity or Reed Hall to ensure that there is enough power and space when needed.

James has held many positions prior coming to work for MSU. He served in the U.S Navy for 6 years as an Electrician's Mate Second Class on board the U.S.S. Nimitz. After that he worked at Sealmaster Bearings for 10 years working his way up from entry level to Electronic Technician in the maintenance department after receiving his BS degree from MSU. After leaving Sealmaster he went to work for Guardian Industries/SRG Global, and worked for them for over 25 years as a Facility Electrician.

James has a lifetime of work experience on a large variety of equipment and control systems and brings this knowledge and experience with him. He is ready to teach and engage our students into becoming more problem solving and critical thinking individuals. It is his hope that this will help stimulate and increase student recruitment and interest in technical fields.

SECS NEWS

Newly revised BSSE and BSETM programs

The Department of Engineering and Technology Management has made significant changes to the Systems Integration Engineering (BSSIE), Technology Management (BSTM), and Engineering Management (BSEM) programs currently offered by the department. These revisions were based on input from the department's advisory board member companies and will prepare future graduates for 21st century technology and engineering jobs.

The BSSIE program has been renamed "Systems Engineering (BSSE)". The revised program will have three new tracks: 1. Industrial Systems, 2. Civil Engineering Systems, and 3. Mechatronics Systems. These program changes will make the program attractive to a broad cohort of students with interests in varied engineering areas, and will help the department increase the student enrollment numbers for the program.

The new joint program titled, "Bachelor of Science in Engineering & Technology Management (BSETM)" is developed by combining the traditional BSTM and BSEM programs. The revised program will have three tracks: 1. Engineering Management, 2. Technology Management, and 3. Information Systems. The BSETM program will be offered fully online, and will provide opportunities for non-traditional students working full time to complete the bachelor's degree on a flexible schedule. The program also acts as a 2+2 completer program admitting students from KCTCS and other community colleges and allowing them to transfer their coursework to MSU.

Both of these programs will be operational from Fall 2023. For more information, contact: Dr. Nilesh Joshi, Professor of Engineerng and Technology Management, at n.joshi@moreheadstate.edu

SECS NEWS

MSU Engagement Fellows Working on Project for AppHarvest


Andrew Combs

MSU undergraduate students Andrew Combs and Nick Anderson have received Engagement Fellowships through MSU's Center for Career Development and Experiential Education to work on a project for AppHarvest creating model tomato crops to teach new hires proper harvesting practices during training/ onboarding.

These training models will allow new employees to be sufficiently prepared once they begin greenhouse work and lessen the possibility of damaging crops with improper technique and unfamiliarity. Currently, real tomato plants are used in the AppHarvest training program, resulting in the destruction of the crop. This project will design and produce the required training models and prevent future product waste at the company. A prototype will also be 3D printed, and different weights may be used to simulate the variety in a real harvest.

Instructor of Engineering and Technology Management, Jason Stepp, was contacted by AppHarvest Operational Training Manager Shelby Roberts with the request. After a few meetings and a tour of the facility, Andrew and Nick have started working on the project, completing the initial plan for the training models. They are in the process of creating 3D models using Solidworks and printing samples of the models for testing.

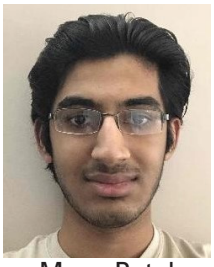

Nick Armstrong

Elgazzar and Patel to Present Published Paper


Heba Elgazzar

Assistant Professor of Compter Science, Dr. Heba Elgazzar, along with her student, Mann Patel, authored a paper that that they presented in March at the 2023 IEEE 13th Annual Computing and Communication Workshop and Conference. The paper entitled 'Classification of Road Objects using Convolutional Neural Networks' was named "Best Paper" at the conference. The paper is also accepted for publication in IEEE Xplore digital library and was presented at the 2023 Posters at the Capitol in Frankfort.

In this work, deep learning is used to classify road objects since driving is the primary means of transportation for many people around the world. Whether the use is to assist human drivers or create autonomous driving, the use of machine learning can create safer road conditions. Drivers must consider other objects on the road, most commonly other vehicles, and pedestrians. Road signs, pedestrians, and vehicles are three components that make up a large majority of objects that a driver will encounter when on the road. This research applies machine learning algorithms, specifically Convolutional Neural Networks (CNN), to classify these road objects. The goal is to create a classification model that can reliably classify road objects and classify the different road signs into individual classes. The results showed high accuracy in classifying the objects, even at lower resolutions and poor conditions. An accuracy of 99.13% was achieved on the test set of all classes and an accuracy of 97.45% on the German Traffic Sign Recognition Benchmark competition dataset from the 2011 International Joint Conference on Neural Networks (IJCNN).


Mann Patel

Rashad, Elgazzar and Ward Publish and Present


Sherif Rashad

Professor of Computer Science, Dr. Sherif Rashad along with Dr. Heba Elgazzar and MSETM graduate student, Tyler Ward (pictured on page 10) authored a research paper entitled "Machine Learning Based Pedestrian Detection and Tracking for Autonomous Vehicles". The paper was accepted for publication as a full paper and presented in March at the 2023 IEEE 13th Annual Computing and Communication Workshop and Conference.

New Ed.D. Track in Career and Technical Education

The new track, Ed.D. in Career and Technical Education, will be offered in the Fall of 2023. It is designed for students who have demonstrated superior scholastic ability and special interest and aptitude in educational leadership. This Doctor of Education program will prepare students to become practitioner educational leaders. Admission requirements can be found at https://moreheadstate.smartcatalogiq.com. The deadline for admission materials is April 1st annually. For more information contact: Dr. Steve Stubbs at s.stubbs@moreheadstate.edu, Dr. Joyce (Wogoman) Stubbs at j.stubbs@moreheadstate.edu, or graduate@moreheadstate.edu.


Steve Stubbs


Joyce Stubbs

SECS NEWS

Students Increase Civic Engagement through the Technology Student Association (TSA) Regional Competition

In March, Morehead State University students in all majors had opportunities to learn the importance and impact of civic engagement through MSU's March for Service Initiative. MSU faculty have designed community and civic engagement volunteer projects throughout March to increase MSU students' civic engagement while incorporating skills developed within their respective majors.

Left to right, Sam Peck, James Parmley, Anindita Paul, Samuel Lucas and Jason Stepp.

As part of this March for Service Initiative, SECS hosted the 26th annual Technology Student Association (TSA) Regional Competition on March 10, 2023. Attendees included 268 students and faculty advisors from 12 regional high schools and one middle school from Fleming, Mason, Morgan, Rowan, Powell, Carter, Russell, and Woodford counties, as well as Highlands High School, Bryan Station, Ashland Paul Blazer, Raceland-Worthington High School, and Raceland-Worthington Middle School.

The students participated in various events based on the concepts covered in courses in Engineering Technology Education. The Regional competition allows the students to improve their projects for state competition based on the feedback they receive from SECS faculty and staff.

The event began with the EKTSA regional student officers conducting the TSA opening ceremony before dispersing through the Adron Doran University Center and the Lloyd Cassity Building to compete in different events. Students set up and ran various events that tested competitors' abilities to design a CO2-powered "dragster" model, pilot a drone, construct a wooden bridge that can bear weight, and more. During the competitive events, students mingled with their friends and interacted with and received feedback from the SECS faculty, staff, and student volunteers. The EKTSA Regional Student Officers closed the regional competition by holding an awards ceremony and extending thanks to the School of Engineering and Computer Science and to Engineering Consultant & Director of KYTSA. Mark Harrell.

"Volunteering for the TSA competition was a fulfilling experience that gave me the opportunity to be more engaged with my fellow classmates, my instructors, and younger students across Kentucky," said Samuel Peck, a junior majoring in Mechanical and Manufacturing Engineering Technology from Frenchburg.

The March to Service Initiative stems from the Council on Postsecondary Education's Kentucky Graduate Profile. This endeavor ensures that students graduating from Kentucky colleges will develop 10 skills to prepare them for life, including communication, cultural competency and civic engagement.

Community partners interested in working with Morehead State University for future service projects can complete the following survey: https://forms.office.com/r/ZHnqPCvvZy.

SECS NEWS

Study Abroad Program – Yucatán, México

The Department of Engineering and Technology Management is proudly offering a new study abroad program aimed at promoting experiential learning as one of the options for completing ETM 300 – Technology & Society. Associate Professor of Engineering and Technology Management, Dr. Jorge Ortega-Moody, is teaching the 2023 Maymester course and will head the trip along with MSU Spanish Instructor, Miescha Bycura. During this trip, students will learn how different technological advances throughout history have transformed society in the Yucatan Peninsula, Mexico. ETM 300 presents a study of the issues that arise as technology becomes a creative human enterprise. The Yucatan is an ideal site for such a trip as it has witnessed many historical events during its long history

Students will have rich learning experiences including:

- Beginning with the site of the meteorite impact that extinguished the dinosaurs, they'll study how this singular event set in motion the geographical changes in the subsoil of the peninsula that would enable it to become the cradle of one of the oldest civilizations in the Americas, the Mayans.
- Students will learn about technological advances in Mayan civilization that led to sophisticated developments in the areas of mathematics, astronomy and construction engineering as well as technology related to gastronomy that is still used worldwide.
- Students will observe how these ancient technologies, present in the Mayan ruins, remarkably remain accurate and relevant even by today's standards.
- Other important developments in technology occurred during the Spanish conquest as a product of the cultural exchange between different civilizations meeting for the first time. Students will learn how various technologies in use during this time period were optimized for mass production and exportation to Europe (i.e. chewing gum, chocolate and henequen used for textiles).
- As a result of the Yucatan becoming an international trade hub, another key element that students will learn about is the advancement of construction engineering developed to protect cities such as Campeche from the famous Pirates of the Caribbean who were as legendary as they were a real threat to the free trade and safety of its inhabitants.
- Students will get to tour the "walled city" with its forts and balustrades and tour museums that detail the intricate plans for their construction designed to keep their citizens safe.
- Finally, students will tour museums which detail the history of Mexico from ancient times to present day and learn how society has evolved thanks to the mix of different cultures and their technologies.

Paul Elevated to IEEE Senior Member

The Institute of Electrical and Electronics Engineers (IEEE) Circuits and Systems Society (CASS) has elevated Dr. Anindita Paul to the grade of IEEE Senior Member as a result of her research and professional achievements. The CASS mission is "To foster technological innovation and excellence in fundamentals, emerging directions and application of circuits and systems". IEEE bylaws set forth the criteria for elevation to Senior Member grade as follows:

- A candidate shall be an engineer, scientist, educator, technical executive or originator in IEEE-designated fields
- Candidates shall have been in professional practice for at least ten years
- Candidates shall have shown significant performance over a period of at least five of those years.

In addition, candidates for Senior Member grade must supply three references from current IEEE members holding the grade of Fellow, Senior Member, or Honorary Member.

Paul Visits Rowan County Senior High School

On Thursday, March 30, Dr. Paul visited Rowan County Senior High School and met with a group of students interested in world languages and cultures. Dr. Paul shared information about the customs, arts, food and demographics of India, her home country. Dr. Paul also spoke to the students about her role at MSU and about the School of Engineering and Computer Science.

SECS NEWS

Associated General Contractors MSU Student Chapter

Associated General Contractors (AGC) is a construction contractor's professional organization with a regional chapter based in Lexington. Meetings of MSU's AGC student chapter held 2023 spring semester meetings on February 22nd and March 2nd 2023 in Reed Hall. At the Feb. 22nd student chapter meeting, officers were elected (pictured) with student Jackson Lanier (Engineering Tech/Construction Mngt & Civil) elected President for the remainder of the spring semester.

Richard Vincent, Vice President and CEO of AGC, visited MSU on March 2nd. He met with members of the student chapter and gave a presentation providing information about AGC and upcoming AGC activities.

Left to right, Shawn Warren, Alejandro Herra, Matthew Dials, Jason Lanier, Richard Vincent, Ahmad Zargari

USFS District Ranger Visits MSU

The Cumberland District Ranger for the United States Forest Service, Jonathan Kazmierski, recently visited the ETM-ECC 204 (Codes, Contracts and Specs) class, taught by Instructor of Construction & Civil Engineering Technology Joe Curd. Mr. Kazmierski gave a presentation to students on the USFS and its activities in the Morehead region. Mr. Kazmierski also provided information about local student internships and summer and full-time employment opportunities for MSU students.

Left to right are Jonathan Kazmierski and Joe Curd

Principles of Surveying LevelUP Class

The ECC-310 (Principles of Land Surveying) class, taught by Joe Curd, was offered to MSU students as a LevelUP class in the fall of 2021. The students focused on teamwork skills and several students were honored with meeting the" Distinguished" requirements. Level UP is an initiative to ensure students can engage in experiences to prepare them for success, including undergraduate research, education abroad, service learning and internships. It includes courses that build students' communication, professionalism, critical thinking and teamwork skills. Level UP further focuses on training students to convey evidence of these highly desirable career skills.

Structural Design LevelUP Class

ECC-402 (Structural Design) will be delivered as a Level UP course in the 2023 fall semester. In addition to the usual content, students will develop critical thinking skills through active participation in critical thinking. In addition, they will learn the STAR method, that will allow them to explain how the pursuit of critical thinking skills helped them develop those skills. Students will complete a research project that is divided into multiple steps. At several points, students will practice skills that make them competent in critical thinking. The steps will include:

a) Organizing basic information from literature articles about their project topic (designing a single-family home in Morehead, KY) into a research outline

b) Using Mecawind and RISA for the design. The research and the resulting report will become the basis for a critical understanding of building components, load calculations following national and local codes, mechanisms of load transfer from the roof to the foundation, designing components of the building based on their capacities, etc. After completing this activity, students will practice writing how their critical thinking skills improved through the project.

c) Preparing a design report (truss and porch rafters) which will be implemented within the building design research project using softwares Mecawind and RISA. This represents student progress as of the halfway point. Students will use the STAR Method to articulate how their preparations improved their critical thinking skills and will write a STAR Method to articulate how the multiple phases of preparing the research laboratory experiment improved their critical thinking skills.

d) Preparing a final report of their design research project near semesters end. Students will use the STAR Method to illustrate how the whole project impacted critical thinking skills. The report will be collected into a portfolio alongside a written reflection about the process throughout the project.

SECS NEWS

MSU Receives Multi-Million-Dollar Estate Gift for Construction Management

The MSU Foundation has announced an estate gift valued at nearly $3 million dollars, the largest estate gift in the school's 135-year history. The donation is from the estate of Dr. Staley F. Adams and his wife, Grace Adams.

Dr. Adams, professor emeritus in the civil engineering deptartment at UK, passed away in 2016. Beloved by his former students who called him brilliant in his field, Adams left behind his wife, Grace, who passed away in 2022. After her death, the couple's estate informed MSU of the planned gift. The gift establishes the Dr. Staley F. Adams and Grace C. Adams Memorial Scholarship, providing scholarships to Eastern KY students majoring in engineering. Recipients must be full-time undergraduate students from MSU's 22-county service region majoring in engineering technology, construction management option.

Scholarship preference includes students who demonstrate a personal commitment to helping fund their education by holding a part-time job during college. A committee of faculty members from the Department of Engineering &Technology Management selects recipients, and scholarship renewal is possible from year to year.

"Our program has grown and developed over the last several years, and the Adams' estate gift is monumental in ensuring our growth continues," said Dr. Ahmad Zargari, Associate Dean in the School of Engineering and Computer Science. "Through this generous estate gift, the faculty will have the opportunity to recruit and educate the next generation of civil engineers and construction management professionals who will contribute to the further development of modern construction industry in MSU's service region."

"Planned giving is such an important, impactful and everlasting gift," said Rick Hesterberg, CEO of the MSU Foundation. "We are honored to be the recipient of the Adams' generosity and the support it will give MSU students for generations to come." Individuals who support MSU through planned gift commitments are members of the Visionary Society. The Visionary Society builds and encourages a heritage of giving at MSU by acknowledging planned gifts and celebrating the generosity of planned-gift donors. For more information, contact the Office of Alumni Relations & Development at 606-783-2033.

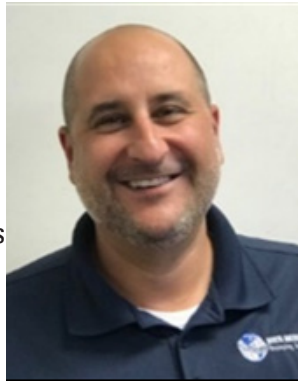
ADVISORY BOARD spotlight

Shelly Legge

Michelle "Shelly" Legge is the Senior Reliability Engineer and GE APM Global Program Manager on the Performance & Asset Management Team for the AES Corporation. She has been working in the Power Industry for 20 years. She started out as an Engineering Intern with Black & Veatch at the Dayton Power & Light Generating Stations in Aberdeen and Manchester, Ohio and was hired by DP&L (now AES Ohio) as a maintenance scheduler. She's held several positions since she began working for AES: scheduler, Planning Manager of both DP&L sites, outage audit facilitator globally and most recently she has held the role of US Reliability Manager and the GE APM Program Manager.

Shelly is a graduate of MSU and holds a Certified Maintenance and Reliability Professional certification (CMRP) and a Reliability and Maintainability Implementation Certification (RMI from the University of Tennessee Tickle College of Engineering as well. When she is not traveling around the world to facilitate audits and implement software, she enjoys going to NASCAR races, camping, hunting, watching sports in general, drawing, painting, and Genealogy. She has three wonderful sons and five grandchildren, and all her children will tell you that she's a Planner/Scheduler by nature.

Steve Defazio



Steve Defazio is now the new Chief Operations Officer (COO) for Sonny's Enterprises, the largest manufacturer of conveyorized car wash equipment, parts, and supplies in the world. In this new role, Steve will be overseeing all Manufacturing for Equipment & Chemical, as well as Catalog Operations, Procurement, Safety and Facilities for Sonny's.

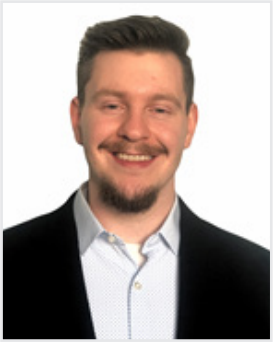
Steve is a two-time graduate of Morehead State University earning his Bachelors in 1996 and Masters of Science in 2001. His career includes work in the automotive Tiers 1 and 2 supply chain supporting all OEM customers and in executive leadership positions focused on strategic growth and continual process improvements centered around safety, quality, productivity, delivery, and human resource development. Congratulations, Steve, on this latest accomplishment!

STUDENT spotlight

Alberta Manning

Alberta Manning is from Ashland Ky and is the daughter of Andrew Frazier and Judy Sutton, both of Huntington WV. She has been a student at Morehead since 2017, completing her BSETM in 2020 and MSETM in 2023. She says she decided to further her education at MSU because she wanted a career of her own after having been a stay-at-home mom most of her life. She wanted to set the example that education is important and a degree is possible for anyone with the right determination and motivation. She wanted to inspire her children and others so they know that if she can do it, they can also. There were many challenges along the way, especially with Covid being present during her time at MSU. She, like everyone else, had to adjust to what was the new normal, and for her, that was homeschooling six children while continuing her education and pushing through all of those challenges. She said, "There were times I struggled, but I did not give up, as it was too important to me to not see it through. I had an amazing support system, both at home and at school. My instructors and advisors were immensely helpful and understanding. I learned so much during my time at MSU, and I am excited to rejoin the workforce so that I can apply the knowledge and skills I have learned to my future career".

She hopes to obtain a career in either quality or project management. She says she hopes her story inspires others to take that next step in achieving their own success. Two of her daughters are continuing in her footsteps as MSU students, and she says she could not be prouder.



Seth Brooks

Seth Brooks is a soon to be graduating senior at Morehead State University. He's from the humble yet ever growing town of Raceland, Kentucky. Since a young age, he has always been interested in the construction processes. Therefore, pursing a degree in Construction Management was nothing short of perfect.

Seth will be graduating with a Bachelor of Science in Engineering Technology, Construction Management & Civil Engineering Technology area. He has plans of pursing an internship during the summer of 2023 as an Engineering Inspector at Consulting Services Incorporated located in Lexington, Kentucky. After graduation he has hopes of continuing his role at CSI while working towards a Master of Science Degree in Engineering and Technology Management here at MSU."

Tyler Ward

In May of 2023, Tyler Ward will complete his Master of Science 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. He completed his bachelor degree in Computer Science and minors in Computer Information Systems and Film Studies at MSU in May 2021.

Tyler has served as a Graduate Assistant working on computer science and electronics projects as well as on research involving the use of supervised and unsupervised machine learning algorithms in maintenance engineering. He is also involved with work related to the NSF ESCoR funded Virtual Reality Lab. Tyler is a part of the KCV Impact Grant developing virtual reality software for STEM education and workforce training purposes. He recently presented one of his research papers entitled "Machine Learning Based Pedestrian Detection and Tracking Systems for Autonomous Vehicles" at the 13th Annual IEEE Computing and Communications Conference (CCWC), and had another paper, "Intelligence Based Condition Monitoring Model" accepted at the Industrial Artificial Intelligence (IAI) Conference. Tyler has recently been elected to serve a year-long term as a student representative on ATMAE's Board of Directors.

Zhensen Wang

Zhensen Wang, from China, is a graduate student in the Engineering and Technology Management master's program. He will complete his graduate degree in July 2023 and has been accepted to the Computer Science doctoral program at University of Texas at San Antonio with a full financial support package. Zhensen 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 has served as a judge at a Technology Student Association competition.

STUDENT Spotlight

Lakusum Pokharel

Latakusum Pokharel is an international student at MSU from Nepal (Asia). She is currently in her last semester of her master's in Engineering and Technology Management with her core in Quality and Project Management. In her master's, she worked on PLC, Robots, NC Machines, and Quality.

Latakusum is currently working as in intern at Ignite Marketing solutions in Cincinnati, Ohio where she is holding the position of team leader. Her office trusts her to look after a small team of 4 to 5 people and teach them about the energy choice industry in Ohio. She is also developing a lot of leadership skills including training new employees and participating in interviewing. Her main role to set a goal for her team for the week and work toward it. She previously worked for MSU as a residential counselor for the Craft Academy and was also involved as a supervisor for a summer camp in Morehead.

Due to her interest in physics, her bachelor's major was in Applied physics where she got engaged working toward the industrial application of plasma. Due to her research in plasma applications, she won various fellowships for conferences in Korea and Singapore. Her wish is to manage an enterprise where she can flourish her managerial and leadership skills.

fun fact about Lakusum is that she loves to write novels in her free time and has 8 novels published online with thousands of readers.

Danielle Kossler

Danielle Kossler is from Waynesville, Ohio. She is a Computer Science major set to graduate in the fall with minors in Mathematics and Computer Information Systems. She says her time in the Computer Science program at MSU has been positive and she feels she was provided with a good and comfortable learning environment. She said "The professors I've had are clearly very supportive of all their students and I've been able to make a few good friends within the major".

Danielle decided to major in Computer Science after taking a programming class in high school and found interest in learning more about computers and programming. She says her family was supportive of this last-minute decision, especially her father who also studied Computer Science in college and now works as a software consultant.

She says her biggest project right now is her capstone project during which she is creating a new website for her employer. The goal is to have the project completed by her graduation. Her employer will be able to use what Danielle has created as a official website for her company, Symmetry Advisory Solutions, an online CPA firm. Danielle has been working for Symmetry for over four years and says she has gained experience in working in a professional setting and working with others that have different perspectives and problem-solving methods. Much of her responsibilities are related to network and computer security and determining the best ways to keep client information safe. Danielle says her capstone project has been a fun and beneficial experience. She says "I've had an amazing time at Morehead and can't wait to experience the rest of my time here". Danielle is interested in web development and design and will be looking for employent in the Cincinnati or Dayton area.

Anish Raut

Anish Raut will complete his masters degree in Engineering and Technology Management in May 2023. He completed his undergraduate degree in Applied Physics during which 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's been recognized as an outstanding poster presenter by the KY NSF EPSCoR community. He is looking forward to working in the field of manufacturing or engineering management shortly.

FOR YOUR INFORMATION

The 2022 ATMAE Annual Conference was held November 9-11, 2022 in Louisville, Kentucky. Inside this issue, find out how SECS influenced those proceedings!

Morehead State University students demonstrated their experience with hands-on research at Posters-at-the-Capitol on Thursday, March 2, at the State Capitol in Frankfort. MSU had 12 posters on diverse topics at the event, and nearly 20 students shared their research.

MSU President Dr. Jay Morgan is leading efforts to enhance the campus for faculty, staff, current and prospective students. Through strategic budgeting, state funding and some generous private gifts, renovation projects will improve the campus experience. Future projects include the construction of a new $98 million Science & Engineering Building!

Morehead state has been named "Affordable College of Distinction". See the listing at collegesofdistinction.com. Last year, MSU was named a 2022-2023 College of Distinction, Kentucky College of Distinction, and Public College of Distinction!

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