

SEIS INFORMER

SCHOOL OF ENGINEERING AND INFORMATION SYSTEMS

M O R E H E A D S T A T E U N I V E R S I T Y

Volume 18 Issue 1

October 2016

Promoting Success for Students: Partnerships with Industry

In 2015, through the transformation of the College of Business and Public Affairs into the new College of Business and Technology, the university made a strategic investment in the future of its technology, engineering, and business programs. Specifically, the new School of Engineering and Information Systems (SEIS), which includes the Departments of Engineering and Technology Management (ETM) and Computer Science and Information Systems (CSIS), has been directed to elevate the ETM, Computer Science, and Computer Information Systems programs by strategically grouping these programs to meet the demand of contemporary industries. SEIS plans to modify and strengthen the existing programs' curricula and develop new program opportunities in Computer Science, Information Systems, Software Engineering, Informatics, and Data Analytics.

The companies that the Department of Engineering and Technology Management has worked with over the last 19 years have, through their participation in the Advisory Board, aided the Department's efforts to improve and modernize curricula and facilities. The Advisory Board companies have also enhanced the co-operative education/ internship opportunities which directly impact student/ graduate career placement, career development and academic performance. To support the STEM-focused Engineering Management program, the Advisory Board has established a merit-based scholarship with funds now at approximately \$60,000.

In response to the Kentucky Work Ready Skills Initiative, the School of Engineering and Information Systems, in collaboration with the Innovation Launchpad and the School of Business Administration, intends to create an Advanced Manufacturing Engineering Training Institute and Research Laboratory within the 21st Century Center for Manufacturing Systems. The institute will provide advanced manufacturing opportunities for a wide range of participants including high school and area technical center teachers and students, KCTCS faculty and students, industry partners and their employees, and unemployed adults (including displaced miners/workers) in the Eastern KY region. This training will incorporate advanced integrated workforce education, training, and certification programs alongside MSU course offerings as an extension of the 21st Century Center for Manufacturing Systems.

The faculty offers workshops on Design and Animation, Virtual Robotics Labs, OSHA Certification and Fanuc Certification workshops for your employees and KCTCS programs. Our graduates are prepared to fill positions such as engineering manager, quality engineer, and production engineer, among others, which require stronger quantitative and analytical skills in order to solve complex problems encountered in the engineering workplace.



From left to right: Evan Ferrell (MSETM GA), Justin VanHoose (ETDM Undergraduate), Heather Abbott (Hitachi Human Resources), Damon King (Engineering Physics Undergraduate), and Jacob Sommer (ETEC Undergraduate)

Student success, high career placement rate, and employers' demand for advanced skills, and MSETM graduates' success in pursuing doctoral degrees, has resulted in an increase in student enrollment in ETM programs from 217 in 2011 to 420 in fall 2016. Major accomplishments have become possible with the Advisory Board's dedication of time and expertise as well as strong financial support for the programs. Our faculty, students and graduates wish to thank the donors for their contributions to MSU's 21st Century Center for Manufacturing Systems, as we plan, with the board's support, to expand the center to create an Advanced Manufacturing Engineering Training Institute and Research Laboratory.

Dr. Ahmad Zargari, SEIS

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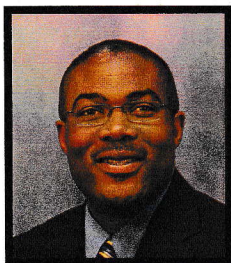
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FACULTY spotlight

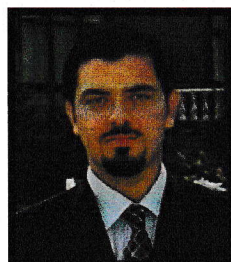


Hans Chapman

Dr. Chapman has been selected as a member of the newly formed MSU Ambassadors for Excellence in Teaching. The Ambassadors initiative coordinated by the Center for Leadership and Professional Development (CLPD) in consultation with the offices of the Associate Vice President of Academic Affairs/

Academic Programs and the Provost. This past summer, Dr. Chapman served as engineering faculty at the 2016 Governor's Scholars Program (GSP), on the Northern Kentucky University (NKU) Campus at Highland Heights, KY.

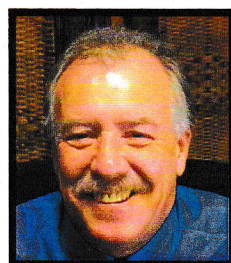
In the upcoming ATMAE Conference Dr. Chapman will be collaborating with other SEIS faculty and graduate students to present three papers. In the area of research, Dr. Chapman and Undergraduate Research Fellow, Robbie Rowlett are stepping up efforts to present their work on "Mechanical to Electrical Energy Converter" at the Kentucky Academy of Sciences (KAS) Conference in November 2016 and the Posters at the Capitol Conference in February 2017.



Shahrokh Sani

Dr. Shahrokh N Sani received a B.S. in electrical engineering from Tabriz University, in Tabriz, Iran, an M.S. in electrical and computer engineering from Urmia University, in Urmia, Iran, and a Ph.D. in electrical and computer engineering from Clarkson University, in Potsdam, NY. He was a Post-doctoral Fellow at the University of Arizona.

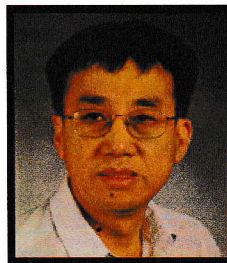
He is currently an assistant professor in the Department of Computer Science and Information System. His research interest and area of specialties include digital signal processing (DSP), data mining, machine learning, biomedical signal processing, bioinformatics and computational biology, artificial intelligence and fuzzy logic. Dr. Sani has authored many refereed publications in various journals and serves as a reviewer for several journals and conferences. He has been a licensed professional engineer (PE) in Maryland since 2014.



Joe Curd

Joe Curd, a new ETM faculty member, earned both a bachelor and master degree from Virginia Tech with an emphasis on studies in urban planning, land use regulation, land surveying and mapping and civil engineering. He is pursuing a Ph.D. in Technology Management, Construction Management option, from Indiana State University.

Mr. Curd has owned and managed a land surveying and civil engineering firm in the Morehead area since 1985. Before assuming his current role as an instructor in the ETM Department, he was an adjunct lecturer at MSU in both the Geography and ETM Departments.



Qingzhou Xu

Dr. Xu, a new member of the ETM faculty, received a bachelor's degree in materials science and engineering from Harbin Institute of Technology in China in 1989. He earned a master's degree in materials science and engineering from Beijing University of Science and Technology in 1992, and his Ph.D. in materials science and engineering

from the University of California, Irvine in 2000. He has worked as an engineer in the Chinese Academy of Science Mechanics Institute in Beijing, China and the Chinese National Engineering Center of Composites, both in Beijing, China and the RF Integrated Corporation in California.

His early study and work experience includes structural materials, engineering functional materials and thin films. His recent study is on semiconductor materials and processing, III-V compound device passivation, high-speed transistor processing and characterization, micro-electro-mechanical systems (MEMS), magnetostatic actuators and electrostatic switches, nanolithography and nano-devices. He has first authored more than 20 journal and conference papers.



Steve Stubbs

Dr. Steve Stubbs, a new faculty member in the Department of Engineering and Technology Management, was born and raised in Newport, Kentucky, where he attended the Newport Independent Schools and graduated from Newport High School.

While in high school Dr. Stubbs main focus of study was in the Career and Technical Education field of Graphic Arts. Dr. Stubbs went to a 2yr college, Antonelli Institute of Art and Photography, and received an associate's degree in photography. After graduating he worked for various companies in the field of photography and printing, such as Proctor and Gamble as a field photographer, Blue Arrow as photographer and press operator.

Dr Stubbs then ran his own photography business and worked part time for a local print shop. He was then employed by the Newport school system as Graphic Arts Instructor and went to Northern Kentucky University and obtained his B.S. in Industrial Education Technology.

He then went to Eastern Kentucky University and received a master's in Career and Technical Education with an administration emphasis. He was hired as the Principal at Carter County's Career and Technical Center where he transformed the outcome of students to be one of the highest achieving College Career Ready Technical Centers in the state for 3 years in a row.

During his time as principal he completed his Doctorate of Education in Administrative Leadership at Morehead State University. Dr. Stubbs is currently the Career and Technical Education Teacher Educator and field base teacher resource.

SEIS NEWS spotlight

Certified Education Robot Training: Real-World Training on the Go

There are three to four times more FANUC robots working in manufacturing and industrial facilities than any other brand. FANUC Robotics is the leading brand in the industry for supplying intelligent robots, which is why Morehead State University is now pleased to offer Certified Education Robot Training (CERT) as a part of its robotics classes.

With CERT, students receive training to work on industry-standard FANUC robots in real-world applications.

As more companies incorporate robotics into their operations, the demand for professionals trained in the design, implementation and use of industrial robots is increasing. Learning to work with FANUC robots can translate to a high-paying manufacturing or industrial career. The FANUC CERT program certifies instructors to train students to program FANUC robots through on-line and hands on courses.



Dr. Jorge Ortega-Moody training ETM students on the Fanuc CERT robots.

Morehead State University Assistant Professor Dr. Jorge Ortega Moody, of the Department of Engineering and Technology Management (ETM), is a certified FANUC Robotics CERT instructor. Dr. Ortega Moody teaches a course in Robotics Interfacing Engineering that when successfully completed will result in a CERT diploma for ETM students that boosts both their knowledge and their resumes with its inside perspective of the robotics industry.

The FANUC Robotics CERT program is an Authorized Provider of Continuing Education Units (CEU) by the International Association for Continuing Education and Training (IACET). All CERT training meets eligibility requirements for IACET CEUs according to the national ANSI/IACET 1-2007 Standard.

For more information on the Fanuc Certified Education Robot Training (CERT), contact Dr. Jorge Ortega Moody in the Department of Engineering and Technology Management at 606-783-2410 or j.ortegamoody@moreheadstate.edu.

ETM Students Achieve 92% Pass Rate on the Certified Technology Manager (CTM) Exam

Morehead State University's Engineering and Technology Management (ETM) Spring 2016 graduating class achieved a 92 percent pass rate on the Certified Technology Manager (CTM) Exam, with 35 out of 38 students attaining a passing score. The CTM Exam is nationally administered through the Association of Technology, Management and Applied Engineering (ATMAE) to certify graduates of ATMAE accredited programs. The Department of Engineering and Technology Management has been accredited by ATMAE since 1998, with reaccreditation achieved through 2020.



A minimum score of 95 out of 160 in the categories of Leadership, Self-Management, Systems, Processes, Operations, People, Project, Quality, Risk and Safety is currently required to qualify for certification. CTM is the initial certification status awarded to applicants who meet ATMAE's requirements for certification. CTM certification holders may report continuing education activity to qualify for Certified Senior Technology Manager (CSTM) status. ATMAE Certification recognizes expertise in a specific field, a mark of distinction that sets the certification holder apart. ATMAE Certification provides external validation of knowledge and competence in the discipline.

"MSU's Engineering and Technology Management students take the Certified Technology Manager (CTM) exam prior to graduation in their senior year. The Chair of the ATMAE Board of Certification reports that the historical average national pass rate for the CTM exam is 65% and MSU's ETM students earned a 92% pass rate in spring 2016. We are proud of ETM faculty and graduating seniors for their success," said School of Engineering and Information Systems Associate Dean Dr. Ahmad Zargari.

SEIS NEWS spotlight

Newly Designed Masters in Engineering & Technology Management

The recent re-structuring of academic units has resulted in the current college structure becoming the College of Business and Technology, making for the alignment of several technology-related programs of study. The computer science discipline, formerly in another college, and the information systems discipline, formerly in the School of Business Administration, were merged into a new Department of Computer Science and Information Systems.

Additionally, the Department of Engineering and Technology Management (ETM) and the Department of Computer and Information Systems (CSIS), were merged into a newly designed School of Engineering and Information Systems (SEIS). One of the goals and objectives of the reorganization was to better align university resources and faculty expertise for related programs.

Once the merger was finalized, it became evident that a revision and update of the Master of Science program of study in Engineering & Technology Management was required to provide opportunities for interdisciplinary educational career tracks - in not only Engineering and Technology Management but also in Information Systems

and Analytics, which also provide opportunities and a venue for graduate studies in Healthcare IT and Data Mining.

The literature is replete with evidence showing the critical need and importance for an Engineering, Technology Management and an Information Systems skilled workforce for organizations that are witnessing the exponential pace of technological change. Today, all businesses and public organizations are managed with and through technology. Understanding not only the technological facets but also the managerial aspects are essential to professional leadership in this Era of Big Data, Automation and the Internet of Things (IoT).

The Information Systems & Analytics track is warranted as business and industry as well as the healthcare ecosystem recognize the strategic importance of information systems and the need for new hires with abilities to apply technologies for improving business processes. For more information, visit the School of Engineering and Information Systems in the College of Business and Technology at <http://www.moreheadstate.edu/seis>.

SEIS Approved to Submit Full Application for grant through KY Work Ready Skills Initiative

Sam Mason and Jason Stepp of the School of Engineering and Information Systems (SEIS) recently submitted a pre-application for a grant of \$1,593,745 (with \$166,745 in matching funds) from the Kentucky Work Ready Skills Initiative. The SEIS proposal was one of 91 pre-applications that were selected to submit a full application for a grant through the Initiative.

The Kentucky Education & Workforce Development Cabinet announced the Kentucky Work Ready Skills Initiative in July 2016. The \$100M statewide bond program is aimed at building a highly trained, modernized workforce in the Commonwealth to meet the needs of employers and promote sustainable incomes for Kentuckians. Applicants must include partnerships between private sector employers, high schools or secondary technical schools, postsecondary institutions, local elected officials, workforce development agencies, and economic development partners collaborating on a project designed to provide the necessary facilities, equipment, programs and curriculum to train and educate workers to meet the workforce needs of Kentucky's employers now and in the future.

MSU has established the 21st Century Center for Manufacturing Systems to help meet the employment challenges of the region. The Center for Manufacturing Systems is helping to propel industry in our region to a new level, as the University has committed to expanding and modernizing its programming and facilities to meet the needs of a changing economy and job market. With the

guidance of a committed industrial advisory board, MSU has implemented a multidisciplinary curriculum based on systems design principles and built collaborative partnerships with regional industries.

In response to the Kentucky Work Ready Skills Initiative, SEIS in collaboration with the Innovation Launchpad and the School of Business Administration intends to provide advanced manufacturing opportunities for a wide range of participants. Training will be provided to KY High School teachers, high school students (including dual enrollment courses), KCTCS faculty and students, industry partners and their employees, and unemployed adults including displaced miners/workers in the Eastern KY region. This training will incorporate advanced integrated workforce education, training and certification programs alongside MSU course offerings as an extension of the Center.

The advanced technical trainings that will be offered will specifically serve to retrain those who have lost jobs in the coal mining industry, as well as high school students in the region. This area also serves as a base point and a springboard for small business development through the Innovation Launchpad at MSU. The Center will assist in the design and development of products from idea to concept for aspiring entrepreneurs in the region. By utilizing the existing equipment and facilities within the Center, the request for additional necessary software and equipment meets the needs of supporting industry partners with a research and development production facility.

ADVISORY BOARD spotlight

JSB Industrial Solutions Inducted into Pacesetter Business Recognition Program

Shane Wallingford, a two time graduate of the Department of Engineering and Technology Management, and a Lewis County business owner, was recently honored as one of six high performing second stage businesses in Kentucky.

JSB Solutions, located in Tollesboro, manufactures machinery to make pallets, according to JSB Owner Shane Wallingford. The company partners with Universal Machinery, out of Indiana, to create machinery for their company.

JSB was inducted into the 2016 Pacesetter Business Recognition Program on Tuesday in Frankfort, according to Wallingford. The recognition was presented by Kentucky Gov. Matt Bevin.

According to Wallingford, JSB employs 11 people at the facility.

"I was excited," he said. "It's a tremendous honor to receive this recognition. Sometimes, as a small business owner, you become so inundated with the day-to-day business that it's not hard to get bogged down. So, it was a breath of fresh air to receive this. And, it puts Tollesboro on the map. It shows that you can come to this area and be successful. And, none of this would be possible without my team. I'm the face of the company, but they are the company."

Wallingford said the award is to recognize high performing small businesses that have shown growth. It is awarded through the Kentucky Small Business Development Center.

"We've done that," he said. "We've had 120 percent increase in sales, we've had to add employees and more space. We've experienced tremendous growth over the last few years."

The company is an original equipment manufacturer, according to Wallingford. It began operations in 2013.

"I was kind of a late bloomer," Wallingford said. "But, I saw a need for a company like this in this area. Back in 2011,



I noticed a trend of businesses in the area declining. You have people with reasoning skills who are good with their hands, but most don't have a higher education degree. That's because when our high school students go off to get their degrees, they don't come back because there are no jobs. I want to utilize the workforce we have in this area."

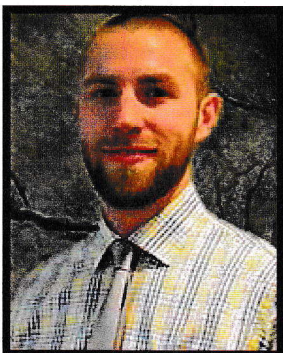
Also in attendance at the ceremony Tuesday was Lewis County Judge-Executive Todd Ruckel and Vanceburg Mayor Matt Ginn.

"This is a great accomplishment for Shane and his company. He has used his experience, knowledge and dedication to showcase success for himself, his employees and our community. Shane should be applauded for taking risks and making sacrifices to chase a dream and prove to others that creating a business and jobs here in Lewis County can have success," Ruckel said.

Ginn echoed Ruckel's words.

"It's great that we could go to Frankfort to honor a business in our area that has only been in business three years, but has shown tremendous growth," he said. "It shows that a business can grow and be successful in a remote location. We're honored to have this business in our area."

John Haughery



John Haughery completed an MS in Engineering and Technology Management from the ETM Department in Spring 2014. He received his BS in Industrial Technology-Electronic/Control Systems from Millersville University of PA, May 2006. After his undergraduate degree, Mr. Haughery spent six years in industry working for Multi-Dimensional Integration as a project engineer. He is currently ABD in Iowa State University's PhD in Industrial and Agricultural Technology, where he has is also a lecturer, teaching electrical power, automation/controls, and design courses.

Says John, "MSU's graduate school afforded me an education on par with top-ranked engineering and technology programs across the nation. The rigor with which ETM administers its MSETM program gives students the skills, abilities, and knowledge necessary to excel in advanced positions in industry and academia."

ALUMNI spotlight

MSETM Graduates Have Success Being Admitted into Ph.D. Programs

In the past year, the MSETM program has had success with Graduate Students being accepted to Ph.D. programs. Caiwen Ding, Armin Maragehmoghaddam, Fatemeh Davoudi Kakhki, and Caiwu Ding are four of the ETM Department Graduate Assistants who have have received multiple acceptance letters to different Universities.

Caiwen Ding is now studying at Syracuse University with a full scholarship in the Ph.D. in Electrical Engineering program.

Armin Maragehmoghaddam was admitted and is now studying in the Ph.D. in Electrical Engineering program at Clemson University.

Fatemeh Davoudi Kakhki, another recent MSETM graduate, was admitted to the Ph.D. program in Agricultural and Industrial Technology at Iowa State University with a Research Assistant position.

Caiwu Ding is a former Graduate Assistant in the ETM Department who was admitted to the Ph.D. program in Mechanical Engineering at the New Jersey Institute of Technology.

The Department of Engineering and Technology Management is proud to have had all four of these highly successful students in the Master of Science in Engineering and Technology Management.

Kyle Wattula and Priya Shekar Wattula

Department of Industrial and Engineering Technology Graduates Kyle Wattula and Priya (Shekar) Wattula have announced the birth of their daughter, Eva Ahimsa Wattula, who was born on August 21, 2016.

Kyle Wattula graduated in 2008 with a minor in Industrial Technology. Since his graduation, he has worked at Dixon Electrical and The Nelson Stark Company doing Building Information Modeling coordination. His role with these companies was to represent the plumbing and electrical trades (respectively) on large commercial construction projects. He is now employed at Sellen construction, further honing his technology initiative with the largest construction management company in the greater Seattle area.

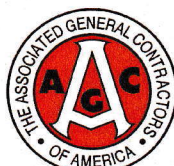


Priya (Shekar) Wattula graduated from Morehead State University in 2007 with a Master of Science degree in Industrial Technology. She has held QA Manager position in a highly dynamic and complex manufacturing environment. She worked at Emerson for seven-plus years and Fluke Corporation for a year. She is currently enjoying motherhood.

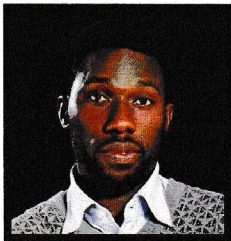
STUDENT organizations

AGC Student Chapter Update

This semester, the AGC student organization, (Association of General Contractors of America) has been invited to take part in a number of AGC of Kentucky activities. On Friday, October 7th, the AGC invited Morehead State University AGC Student Chapter members to attend their annual Keeneland Tailgate event. The event included bourbon tasting with 8-10 exclusive bourbons to choose from and outstanding food ranging from charbroiled oysters and smoked quail to grilled salmon and gulf shrimp tacos. On October 21st, the AGC will hold their 8th Annual AGC Safety Day hosted by Hilti at the Crown Plaza in Louisville. This one day conference will offer 16 seminars, over 20 exhibitors and several special events throughout the day. Labor Cabinet Secretary Derrick Ramsey will kick off the event and topics will include Safety & Health, Business Operations, OSHA Standards Updates and industry specific training. On November 11th, MSU has been invited to attend the AGC Annual Meeting Dinner hosted by Thermal Equipment Sales at the Brown Hotel in Louisville. Education and Workforce Development Cabinet Chief of Staff Andy Hightower will be a highlighted speaker and AGC goals for 2017 and accomplishments for 2016 will be shared.



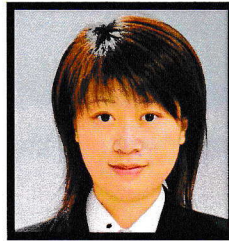
GRADUATE ASSISTANT spotlight



Femi Oyeniran

Femi Oyeniran is a Graduate Assistant in the Department of Engineering and Technology Management pursuing a MS degree in Engineering and Technology Management. Femi obtained his BS degree at Obafemi Awolowo

University in Nigeria from the department of Electronics and Electrical Engineering.



Linya Shu

Linya, a web/graphic designer in Japan, took two years of Graphic Design, after which she pursued a bachelor of Digital Art and Animation from Osaka Electro-Communication University in Japan.

Linya has a comprehensive understanding of Photoshop, Illustrator, Dreamweaver, InDesign and the latest web technologies. In 2015, she decided to come to the United States to study English as her third language. She is now a Graduate Assistant in the ETM Department and a first year student in the MS Engineering and Technology Management program.



Ethan Rowley

Ethan, a 22 year old student from Lynchburg, Ohio, graduated high school in a class with 86 other students. He received an associate's degree before receiving a high school diploma.

Ethan enjoys farming, mechanic work, hunting, fishing, shooting sports, boating, dirt biking, and archery. He has been at Morehead since graduating high school. His father is the Automated Warehouse Manager for Coca-Cola Refreshments in Cincinnati and his mother is the owner operator of Sunlight Photography LLC.

Ethan's professional interests include CAD/CAM software, Kaizen, Facilities Planning, Materials Handling, Packaging, Supply Chain Management, Scheduling, and Management. His goal is to eventually own an engineering consultation firm and an outdoor sporting goods store. He would also like to have his own hunting product company making custom products.



Saihiranmitra Mudiki

Mitra (Saihiranmitra) Mudiki, from Hyderabad, India, received a BS in Electronic and Computer Engineering with Honors from Lovely Professional University, in India. A Graduate Assistant in ETM, he is pursuing his Masters in ETM.

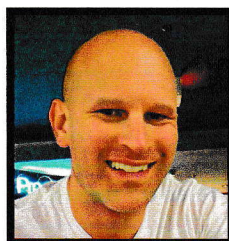
Mitra's interests are in digital electronics, D.C circuits, A.C circuits, microprocessors, microcontrollers, and PLCs. His goal is to become a programmer in embedded systems, PLCs and also Quality Engineer while also completing a Ph.D. in the Electronics field. Mitra's Master thesis is regarding image calibration using Visual C#.



Victoria (Xiaotong) Pang

Victoria (Xiaotong) Pang is an Engineering and Technology Management Graduate Assistant from China pursuing an MS in Engineering and Technology Management. She previously spent two years at MSU and graduated

with a Master degree in Social Science in 2016. Victoria is now pursuing a second master degree in ETM. She is very excited to be working and studying in the ETM Department.



Evan Ferrell

Evan, a Graduate Assistant in the Department of Engineering and Technology Management, completed his bachelor's degree at the University of Central Florida. While completing his bachelor's degree, he worked with children with autism for

several years. Evan spent the summer of 2016 completing an internship at Hitachi in Berea. Upon graduation, Evan would like to work in their leadership program.

For his research proposal last semester, Evan developed a method for ensuring quality counseling in MSU Counseling Services. Evan plans to establish tool life standards for the lathes at Hitachi Automotive Systems Americas, Inc. in Berea, KY for his master's thesis.

The annual conference of the Association of Technology, Management and Applied Engineering will take place November 2-5, 2016 at the Double Tree by Hilton in Orlando, Florida

The Department of Applied Engineering and Technology is now the Department of Engineering and Technology Management.

The Department of Engineering and Technology is now in the newly formed School of Engineering and Information Systems in the newly formed College of Business and Technology.

The revised MSETM proposal (administrative approval pending) will allow for two technical concentrations - Engineering and Technology Management and Information Systems and Analytics.

The ETM Department will host the 2017 TSA Regional Competition in March.

The Annual Mathematics, Physics, and Advanced Technology Exploration Day will be held on November 3, 2016.

For Your Information



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