Did you know?

The National Association of Industrial Technology (NAIT) changed its name to the Association of Technology, Management, and Applied Engineering (ATMAE).

The NAIT Board of Accreditation granted MSU's Industrial Technology program and its options unconditional full accreditation until 2014 without a follow-up report.

The Morehead State University Curriculum Audit recommended Engineering Technology program to be enhanced and the Industrial Technology program to be enriched.

The Master of Science in Industrial Technology (MSIT) has been changed to the Master of Science in Engineering Technology (MSET).

What are you waiting for?

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Of Interest...

2009 ATMAE Conference - Louisville, KY
November 10-14 at the Hyatt Regency

The Inaugural Morehead - Rowan County Repair Affair
April 4, 2009

Spring 2009 IET Advisory Board Meeting
March 13, 2009

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Department of Industrial and Engineering Technology

IET Informer

ACCREDITED
NAIT BOARD OF ACCREDITATION

Morehead State University

Volume 10 Issue 2

Looking Forward!

The NAIT Board of Accreditation conducted hearings on accreditation requests and visiting team reports on November 18, 2008 in Nashville, TN. The board granted Morehead State University's Industrial Technology program/options reaccreditation through November 1, 2014. The accredited program/options are:

- Construction Management
- Computer Aid Design and Graphics
- Electronics, Telecommunication and Computer Technology
- Manufacturing Technology

The Industrial Technology program was initially accredited in 1998 and reaccredited in 2002 and 2008. The IET faculty plan to request the Bachelor of Science degree in Engineering Technology (BSET), Bachelor of Science in Technology Management (BSTM), and the Master of Science in Engineering Technology be reviewed for accreditation in the next NAIT visit.

In a progressive move toward the future, the NAIT membership voted to change the organization's name to the Association of Technology, Management, and Applied Engineering (ATMAE). The Association of Technology, Management, and Applied Engineering (ATMAE) better represents the demographics, background and characteristics of faculty, students, alumni and industry professionals who are prepared to solving complex technological problems and developing the competitive applied engineering workforce.

The faculty continues to improve academic programs to ensure that we extend higher education opportunities to all learners and stay on the leading edge of the profession. In order to meet the needs of KCTCS graduates, IET offers an online Bachelor of Science "Completer" program in Technology Management (BSTM). The MSIT program was decidedly developed to meet the needs of industrial/business organizations for technologically adept employees, as well as to continue our significant role in contributing to the region's economic development. With the addition of new programs/laboratories and support of the companies represented by the Advisory Board, IET has proposed an Integrated Engineering program in order to stay on the cutting edge of the profession. IET faculty members are experts in their discipline and they stay current in their fields. Our graduate and undergraduate students continue to earn national recognition among their peers. IET alumni successfully function in a wide range of positions in industry, business, education, and government. Systematic alumni surveys indicate excellent placement rates of IET graduates with local/regional/national industry and businesses. We are also fortunate to have a very committed advisory board composed of leading experts who represent companies throughout the region.

Ahmad Zargari, IET Chair

Inside this Issue ...

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New Faculty Joins IET

Dr. Nilesh Joshi

Dr. Nilesh Joshi obtained his doctoral degree in Systems Engineering from the University of Virginia in 2007. His dissertation research addressed the diversification of infrastructure investments for emergent risks of extreme events.

During his PhD, he published archival papers in various journals including IEEE Transactions on Engineering Management, Systems Engineering, Public Works Management and Policy, and Accident Analysis and Prevention. He received best paper awards from the Society for Risk Analysis in 2007 and the Virginia Transportation Conference in 2006.

He also holds a ME degree in Manufacturing Engineering and a MBA degree from the University of New Mexico. Before joining the IET department, he worked at the risk management division of KPMG International in Richmond, Virginia. As part of his job, he worked with various Fortune 500 and other companies to analyze business technology issues within their business.

Dr. Sanjeev Adhikari

Dr. Sanjeev Adhikari joined the department of Industrial and Engineering Technology in January 2009. He obtained his doctoral degree in Civil Engineering from Michigan Technological University in 2008. He holds a MS degree in Civil Engineering and a BS degree in Civil Engineering from Tribhuvan University, Nepal. He also attended Texas A&M University, Kingsville as a MS student of Civil Engineering.

Dr. Sanjeev Adhikari's research is in computational mechanics of highway pavements and transportation materials, specifically incorporating modeling approaches to determine mechanical properties such as resilient modulus, dynamic modulus, and creep stiffness that are used to predict the rutting, fatigue cracking, and low temperature cracking of asphalt concrete material. Dr. Adhikari's career awards include gold medals from both the King and Prime Minister of Nepal for attaining the topmost position in the MS program. This accomplish won him a 1-year fellowship program by the Japanese government. Additionally, he has served as an assistant professor in the Department of Civil Engineering at Tribhuvan University, Nepal, for three and a half years. He served as the lead instructor of Engineering Mechanics, Civil Engineering Material, Soil Mechanics, Foundation Engineering, Surveying, Concrete Materials, Mechanics of Materials, Structure Engineering, and Design of Steel Structure. He has also served as a teaching assistant for civil engineering material courses at Michigan Technological University.

IET Visits Versailles Osram Sylvania

Recently, James Taylor, Dr. Sanjeev Adhikari, Dr. Nilesh Joshi, Dr. Ali Alavi, and Jedidiah Reader, (left to right) were fortunate to attend Osram Sylvania in Versailles, KY. Osram, the German parent company of Sylvania is one of the two largest lighting manufacturers in the world, while on a national level Sylvania is America's largest linear light manufacturer. This stimulating visit was inspirational for the IET graduate students because within this major company our visitors were introduced to IET Alumni, Willie Boggs and Paul Wheeler. The IET department would like to thank everyone at Versailles Osram Sylvania for making the trip possible.

James Taylor, Dr. Sanjeev Adhikari, Dr. Nilesh Joshi, Dr. Ali Alavi, and Jedidiah Reader, (left to right)

Alumni Highlights

Lowell E. Cantrell

Lowell entered Morehead State University in 1980 after graduating from Morgan County High School. He earned an AAS in Welding Technology at in 1982. He was offered several positions in industry, but was bitten by the teacher education bug. Following the advice of his close friend and advisor, John Sam VanHoose, Lowell entered the teacher education program and earned a BS in Industrial Education and his Kentucky Teaching Certification in 1984. While enrolled at Morehead State, Lowell was an active member and officer of the Sigma Tau Epsilon (STE) Professional fraternity, a student member of the University Senate, and a four-year work study student for the IET Department Chair, Dr. Robert Newton. Dr. Newton offered Lowell a position in the IET Department as a Graduate Assistance to help finish the implementation of the new Robotics Technology program; but he declined the GA position to pursue a teaching career in the public secondary school system at Morgan County.

Lowell graduated from Morgan County High School just four short years prior to accepting a position as an Industrial Education teacher at the same facility. He saw this as an opportunity to bring the schools' Industrial Education program out of the "shop" era into a modern facility to adequately prepare secondary students for future success. The challenges were overwhelming at times; modifying and updating curriculum and equipment was easy. Changing local administration and student attitudes from viewing the program as a last resort "shop" class into a program that would add value to the overall success of the student was daunting at times. However, his persistence and perseverance paid off with the implementation of a modern, up-to-date Industrial Education program that was preparing students for future success in what used to be a "just keep them busy" shop facility. Through Lowell's never-ending "adapt" ideology, the program continually up-graded and changed. He seemed to never be satisfied with the "status-quo", there was always room for improvement. The program saw wide-spread changes with the implementation of a Technology Education curriculum and later a conversion to Modular Technology Education as well as the incorporation of school-based student entrepreneurship programs in the areas of manufacturing and graphics. The greatest and most beneficial change to date was the opportunity to transition to an engineering program.

The opportunity became a realization with the implementation and later certification of the national Project Lead The Way (PLTW) High School Pre-Engineering program. PLTW provides high school students an opportunity to study engineering through a rigorous college curriculum and earned college credit in the process toward helping to fill the engineering vacancies in our modern society. The Morgan County PLTW was the pilot program in Kentucky and the first in Kentucky to receive national certification. It is helping to adequately prepare secondary students to pursue future careers such as Engineers, Architects, and Technicians. According to Lowell, it has been a long journey from "just keep them busy" to a nationally certified Engineering program; but a journey well worth traveling because of the success at his school and the influence of the Morgan County PLTW program on both the region and state levels.

Along the journey, Lowell has served as an advisor for the Technology Student Association (TSA) with local, region, state, and national affiliation. Over the twenty plus years as a TSA advisor, Lowell has seen student members learn and mature to hold regional and state offices as well as

winning numerous regional, state, and national awards. He has also had the opportunity to help guide young people toward very successful teaching careers in the field of Technology Education. His chapter has been recognized as one of the top high school TSA chapters in both the state and nation.

The journey continues for Lowell as he is still teaching at Morgan County High School and serving as a PLTW and TSA resource in the region and state. He resides in the Woodsbend area of Morgan County. He and his wife Wanda will celebrate their twenty-third wedding anniversary this year. They have one son, Travis, who resides in Hillsboro with his wife Mattie. He is an ordained deacon in the Walnut Grove Privative Baptist Church in West Liberty and operates a beef cattle farm in his spare time. He credits Morehead State University IET Department for providing him a very successful foundation upon which he has built his career in education.

Student Relations

Performance Contracting Group Donates $2000 to the Advisory Board Scholarship

IET faculty and students express appreciation to Performance Contracting Group (PCG) management for their $2,000.00 donation to the IET Advisory Board Scholarship. The board's scholarship endowment will help us to recruit and prepare qualified IET graduates who will be capable of functioning in the advanced organizations such as PCG.

As a member of the IET Advisory Board, PCG management has our sincere appreciation for taking the time to visit Morehead State University and interview our students for co-op/internship and employment positions. PCG's corporate recruiter, Robyn Danbury, traveled form her office in Kansas to MSU to interview Construction Management students on Tuesday, February 3rd, 2009. Robyn says "Always one of my favorite university visits!" Construction Management students say, "One of our favorite employer visits!"

MSU Student Chapters of AGC and ABC

The student chapters of AGC and ABC have been busy this year. In March 2008, four students (Jason Stepp, Juan Melendez, Edward Ratliff, and Donald Gray) represented Morehead State University at the ABC National Convention in San Juan, Puerto Rico. That was followed by an AGC of KY sponsored OSHA training event covering Construction Safety and Health that saw 14 people receive a 10-hour OSHA certification. Early in the spring 2009 semester, Mr. Darrin Eldridge from the KY Transportation Cabinet came to MSU and gave a presentation to introduce students to the work that the cabinet performs.

ABOVE: Steven Glass and Jason Stepp at the AGC Build KY Awards.

AGC student members (Steven Glass, Jason Stepp, Ryan Cox, Greg Fickey, and Todd Butler) and faculty (Sanjeev Adhikari and Dana Greenfield) were invited to attend the AGC of KY's annual Build Kentucky Awards at the Lexington Center on February 7, 2009. On a final note, the AGC, ABC, ATMAE, and SME student chapters are preparing to join the Morehead-Rowan County Chamber of Commerce Leadership Academy (in conjunction with Frontier Housing, Gateway Community Action, and the MSU Center for Regional Engagement) in a community-wide initiative that will address the minor repair needs of low-income, elderly, and disabled homeowners in Morehead and Rowan County. The inaugural Morehead-Rowan County Repair Affair will take place on April 4, 2009.

IET Robotics Team

The IET Robotics Team is preparing for the ATMAE robotics competition that will be held at the 42nd annual National Conference in Louisville, KY during the week of November 10-14. The team plans to design a robot based on the conference's theme of green design.

The goal for this year's competition is to design a robot that will be able to pick up and carry four racquetballs and one bocce ball and deliver them to a taped off 12" by 12" square. The task will be a head-to-head competition with two robots competing at one time. Points are awarded for the number of balls that are delivered inside the square (without going out of bounds). The robots can push or pull each other forcing the teams to design a robot that can perform their task and also defend itself.

Tod Barhorst

Mr. Tod Barhorst, the president of Abner Construction Company, is a founding member of the IET Advisory Board. Abner Construction has been dedicated to serving the general and mechanical construction needs of Morehead since 1972 with services that include heating and air conditioning, general construction, mechanical, and steel fabrication.

Newest Member to IET Family

ABOVE: Guri Joshi; Dr Nilesh Joshi's Daughter - **January, 2009.**

Graduate Assistants

James R. Taylor

Hello, my name is James R. Taylor. This is my second semester as a Graduate Assistant in the IET department at Morehead State University. I am from Canada, KY, near Pikeville, and I attended Belfry High School. I am very proud to be a C.I.T. (Certified Industrial Technologist), and a member of the Gamma Mu Chapter of Epsilon Pi Tau; the international honor society for professions in technology. After achieving a Bachelors of Science in Telecommunications/Computer/Electronics Technology from the IET department in the spring of 2008, I decided to stay a bit longer. I am now pursuing a Masters of Science in Engineering Technology. I am assisting Dr. Krijestorac with her courses. In addition to this, I am an adviser for the IET robotics team and the vice president of NAIT. While not working on course work I am performing research to be used in my thesis, which covers the use of hybrid Wi-Fi networks for underground coal mine communications. I hope to have another productive and enjoyable experience

Jedidiah Reader

He is Currently a graduate student in the Engineering Technology program here at Morehead State, I received my undergraduate Computer Science degree in December 2008. My mathematics minor from my undergraduate studies made the transition to Engineering Technology a lot easier. I'm still looking for my particular field of choice, but I expect any field to be benefitted by an increased understanding of technology.

He Shi

He Shi, is a graduate student of Industrial Technology Department and also I am a Graduate Assistant of IET. He received his Bachelor degree of Computer Science and Technology from Shandong University of Science and Technology in May 2002. Before he joins IET, he has a six years work experience as an engineer of Taian Special Vehicles Company. Presently he is working as a teaching assistant in ITMT 370, ITEC 141, and ITEC 144. He is very proud to be a graduate student of IET.

Marc Beck

I am from Frankfurt, Germany and have been in the United States since August 2003. I have earned my B.S. in Computer Science at Brescia University in Owensboro, Kentucky in 2007 and I am currently working on my Masters degree in Industrial Technology at MSU. I am a graduate research assistant in the Space Science Center and a member of the Kentucky Space (former KySat) team that is building Kentucky's first satellite, KySat-1. I am currently writing my masters thesis on remote control and automation of the VHF/UHF system that will be used to track and to command the satellite. I anticipate graduating from MSU in May 2009 and have been accepted to the University of Louisville where I plan to earn a Ph.D. in Computer Science and Engineering beginning in August 2009.

Graduate Assistants to defend their theses:

Santosh Kurella has finished his thesis on "Enhancing Engine Block Quality by Reducing metal Chips in Porosities- A Case Study" at Toyota Motor Manufacturing Kentucky, Inc.

Arjun Tummuri's thesis title is "Optimization and stress analysis of a single stage rotary compressor shaft".

Marc Beck's thesis title, "Remote Operation and Automatization of the VHF/ UHF System for Tracking and Controlling KYSAT-1".

Devender Banner, "Comparison of Coal-fired boiler and Natural gas fired boiler at Morehead State University Power Plant" scheduled to defend on 03/26/09.

Pavan Kumar Kurmagadda's thesis title "Design optimization of a rotary compressor."

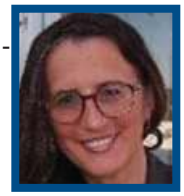
Siva Krishna Nannapaneni thesis title is "Remote Motion Control System with help of LabVIEW" and he is scheduled to defend his thesis on March 26th.

Faculty News and Activities

Dr. Ali Alavi is the student's NAIT/ATMAE chapter advisor and works with the students on various activities, including field trips, and robotics team activities. Last semester, NAIT/ATMAE organized a field trip to the Toyota plant in Georgetown, KY. This semester, the chapter is organizing a plant tour at Sylvania, which will be on March 6th. Dr. Alavi has also attend a 3-day workshop on systems engineering, sponsored by the International Council of Systems Engineering (INCOSE) in San Francisco, CA. There he attended several workshops including lean systems and complex systems. Also, NAIT/ATMAE helped administer the Technology Student Association (TSA) competition that was held on February 27th at MSU. The chapter initiated upgrading the buzzer system used in the Technology Bowl activity and after evaluating various options, decided to purchase a new buzzer system for the activity. Dr. Alavi also co-presented with two other colleagues at the annual conference of NAIT/ATMAE in November, 2008 in Nashville, TN. Along with other colleagues, he is preparing three proposals for the upcoming NAIT/ATMAE meeting which will be held in Louisville, KY in November, 2009.

Dr. Joyce (Wogoman) Stubbs and **Dr. Dan Connell** are in the process of finalizing a statewide articulation agreement with Nicole McDonald at KCTCS central office. The agreement is between MSU's IET Technology Management BS and KCTCS's Applied Science and Science AAS. Hopefully the agreement will be in place by the 2009-2010 school year. Dr. Joyce (Wogoman) Stubbs has recently met with the University Undergraduate Curriculum Committee to discuss Type III, II and I curriculum changes. The Type I course CTE 185 name change was approved at the January meeting and is awaiting the provost's signature. The cirriculum proposals include a Type III Industrial and Technical Education (ITE) option added to the Industrial Technology Associate degree and a Type II course, CTE 396 Evaluation in CTE. The Type II course and Type III option were approved at the meeting February 11th.

Dr. William R. Grise' and **Dr. Sadeta Krijestorac** of the IET Department have recently submitted, along with **Dr. Qingzhou Xu** of the MSU Space Science Center as the Principal Investigator, a proposal to the National Science Foundation's (NSF) Major Research Instrumentation (MRI) program to fund the acquisition of an Agilent semiconductor device analyzer and a Cascade probe station to support research and education in semiconductor devices. Drs. Grise' and Krijestorac are proposing to use this equipment to perform Capacitance-Voltage (CV) scans of MOSFETs that use novel high dielectric constant materials to replace the standard gate oxide material, SiO2. The use of new high dielectric constant material promises to solve the problem of lower reliability of semiconductor devices that has been encountered more frequently as device sizes have been scaled down to submicron dimensions.



Dr. Sadeta Krijestorac I worked with my Graduate students on research paper presentations for NAIT (ATMAE) and the Technology Interface Journal. This resulted in a proposal for NAIT, the student work conference, and also for the research paper to be submitted to the Journal of Industrial Technology. "Comparison and Overview of Congestion Control Mechanisms in Computer Networks" was completed for the 2009 NAIT Conference, November 10-14, 2009. She also gave a lecture at the University of Louisville, KY on February 13, 2009 on the topic of "Passive Optical Networks with a New Bandwidth Allocation Algorithm In EPON"

Dr. Yuqiu You will present her paper, "A project-oriented approach in teaching robotics application engineering", at the annual conference of American Society for Engineering Education (ASEE) at Austin, TX in June 2009. She also submitted two presentation proposals, "Integrated media service for online teaching on Blackboard" and "Teaching industrial-certificated program in lower-level manufacturing courses", for the annual conference of the Association of Technology, Management, and Applied Engineering (ATMAE) at Louisville, KY in November 2009. Her research, "Performance analysis of TCP/IP sockets in a remote commanded robotic system", received a university internal grant of $4,923 for the year of 2009. Dr. You was also selected as a faculty for the Kentucky Governor's Scholars program and will teach in this program in this coming summer on MSU campus.

Dr. Wahed Wasel is currently working on attaining certification for a Professional Engineering license (P.E.). By October 2009, he anticipates receiving his license as a P.E. He is working on a research project to add carbon nanotubes to aluminum to improve its thermal and mechanical properties. He presented, along with Dr. Charles Patrick, at the ATAME (NAIT) 41st annual convention in Nashville 2008 on the topic "Modified Method to teach AutoCAD course based on Academic and Industrial Training Experience". He attended the true colors training at MSU and received the True Colors Certification.

Advisory Board Highlights

George Harperink Retires

Mr. George Harperink, Mazak Corporation's Manager of Employment and Plant Services retired in March 2009. As a founding member and former chair of the Industrial and Engineering Advisory Board, George has made significant contributions to Morehead State University and the Department of Industrial and Engineering Technology.

George helped establish an ongoing partnership between IET and Mazak Corporation that resulted in offering multiple advanced technology workshops to IET faculty with no cost, providing co-op/ internship and full time employment opportunities to IET students and graduates. In addition to his involvement with NAIT accreditation and program revisions, George helped Mazak to donate a Computerized Vertical Milling Machine, and made a monetary donation to the advisory board scholarship endowment. For his continuous support, 15 IET graduates hold engineering management positions at Mazak.
Mr. Harperink also made arrangements for IET faculty and students to have access to highly sophisticated equipment in Mazak's training facilities in order to enhance our ability to provide quality instruction to IET students who will be leaders in the field in years to come.

As a strong advocate for IET graduates, George has provided remarkable service to IET, speaking to our classes, visiting on weekends, assisting the department in the faculty hiring process, interviewing IET students for cooperative education, and offering valuable insight to faculty to establish programs. George believes that IET graduates are well prepared to fit the needs of industrial organizations such as Mazak for advanced technical management positions. We are truly grateful for his dedication and continuous support.

Twelfth Annual TSA Regional Competition

On February 27, 2009, Morehead State University's (MSU) Department of Industrial Education and Technology (IET) and Eastern Kentucky Technology Education Association (EKTEA) hosted the 12th Annual TSA competition on the campus of MSU.

Approximately 160 high school students from the MSU's service region participated in 27 technology events. The competition events were held to enhance the students' technological problem-solving skills in order to prepare them for more challenging and competitive events at the state TSA conference to be held in Louisville, KY on March 15-17, 2009.

The competition events began with an official TSA ceremonial opening by Regional Student President, Colby Jones with other opening remarks made by Dr. Ahmad Zargari, the IET Chair, Mr. Sam Mason, EKTEA TSA 2009 Coordinator. The EKTEA TSA competition was established based upon recommendations from members of the Eastern Kentucky Technology Education Association (EKTEA). The EKTEA members recognized the need for incorporating the current challenges of modern-day technology, such as use of the Internet, as well as the fundamental skills of math, science, communication and design in order to develop technological problem solving skills.

The participating schools and technology teachers whose dedication made the TSA 2009 competition a success were: Billy Allen - Lewis County High School, Phil French - Nicholas County High School, Charlie Charles and Todd Campbell - Rowan County High School, Lowell E. Cantrell - Morgan County High School, and Kevin Cantrell - Fleming County High School.