

Industry & Technology Welcomes Dr. Hosein Atharifar



Dr. Hosein Atharifar

Hosien Atharifar joins the faculty and staff of the Department of Industry and Technology for Fall 2008. Dr. Atharifar will be teaching in the Computer-Aided Drafting and Design cluster. Dr. Atharifar completed his Ph. D. in Mechanical Engineering with honors from Southern Methodist University in Dallas, TX in 2008. His teaching interests include drafting, computer-aided drafting and design, design for manufacture, tool design, traditional and non-traditional manufacturing processes, computer-aided manufacturing, product design, and applied finite methods.



Did you hear about NAIT's proposed new identity? See John Wright's comments in the ITEC Coordinator Notes on page 3 for all the details!

Dr. Barry David Elected New Department Chair

Dr. Barry David assumed the duties of department chair of the Department of Industry and Technology in May. Dr. David took over the responsibilities when Dr. Perry Gemmill decided to pursue other opportunities after his seventeen years in the position.



Dr. Barry David

Dr. David has been an active member of the faculty at Millersville for twenty-five years. During this time he has served on many local and national committees, in leadership positions at the University and nationally, and most importantly, as a professor and mentor for countless Industry and Technology students.

Redoubled efforts are underway to improve communication within the department and university, with alumni and retirees, and with current undergraduate students. Another of Dr. David's priorities is to explore all avenues for funding for the department to continue a strong program and expand technical opportunities for the future.



Science, Technology & Me! Program Aims to Inspire Girls

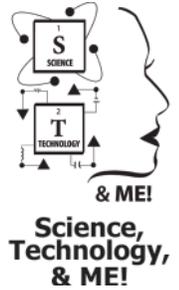
by: *Dr. Sharon A. Brusic*

It's not a trade secret that Technology classes all across America are dominated by male faces. Piquing girls' interest in technology, science, and engineering-related studies and careers has been a challenge for decades. Educators have tried to determine the reasons for this and to identify strategies for increasing female participation. Some theorize that females are unaware of the opportunities available to them while others point out that there are few mentors for young women in many scientific and technical areas. The lack of female peers also exacerbates the problem. Young women benefit from having female friends and colleagues in their classes. And, there is some evidence that young women will be more open to these opportunities if they are not distracted by, or competing with, their male peers, particularly during their middle school and high school years.

The Science, Technology, & Me (ST&Me) program was developed in response to this need. ST&Me is a one-day event that attracts middle school and high school girls to the MU campus in an effort to help them recognize the exciting opportunities available in science and technology. The third annual event will kick off on Saturday, April 25, 2009 at 8:00 a.m. with an inspiring keynote address at the Student Memorial Center. Then girls disburse to various labs across the university campus to participate in hands-on sessions.

Last year's ST&Me offered 14 different sessions and each girl was assigned two sessions from her top choices. For example, girls explored topics such as engineering design, circuitry, communication technology, geology, chemistry, occupational safety and environmental health, and much more. The sessions were designed to be motivating and experiential, and in many cases, the girls left with a project they made or did. For example, in the *Circuit Savvy* session

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Flexography Comes to the Graphics Laboratory

The Foundation of the Flexographic Technical Association (FFTA) recently approved a grant to assist Millersville University's industry and technology department. The matching funds grant was for \$178,000 with 28% coming from the University, 22% from the FFTA and 50% raised from industry sponsors. The money will be used to purchase a Mark Andy printing/converting system to launch a hands-on flexographic printing and packaging curriculum.

"Flexography is a method of printing most commonly used in the creation of packaging solutions," explained Dr. Mark Snyder, industry and technology. "Flexo has an advantage over other printing methods in that it can use a wider range of inks and is good at printing on a variety of different materials. Typical products printed using flexography include corrugated boxes, flexible packaging, retail bags, shopping sacks, flexible plastics, self-adhesive labels and wallpaper. A number of newspapers now also favor flexo printing methods."

The graphic communication program in industry and technology at Millersville includes students from across Pennsylvania and nearby states. "This new equipment will give the students a broader perspective of the printing industry – hands-on techniques and an understanding of a completely different process," says Snyder. "There are opportunities in printing and packaging for people from this region."



Mark Andy 2200 Flexographic Printing Press

In order to be eligible for this grant, schools must have an existing printing program and a desire to expand their curriculum to include flexography. The main industry champion for Millersville University was the Northeast Label Manufacturers Association (NELMA) who made a \$10,000 donation. Snyder reported on the installation of the new press and the development of the flexo curriculum at NELMA's annual Expo and Networking conference on May 8 in Bridgewater, N.J.



Left to right: Lee Friedman, Mike Friedman, John Aughenbaugh, Brian Schwenk, Seth Brumbaugh, Steve Shaffer, and Jessie Buechele

SME Visits Chicago, Sees IMTS at McCormick Center

The Millersville University Student Chapter of The Society of Manufacturing Engineers travelled to Chicago in September to attend the International Manufacturing Technology Show held at McCormick Center. The IMTS is a showcase of the latest, most technologically advanced manufacturing processes available. The show occupied 1.2 million square feet of display area at the center, and the students saw unimaginable technologies.

There was also time set aside for exploring Chicago and its art, architecture, and sporting activities. The students went on a boat tour of Chicago architecture, perused an art exhibit by Jeff Koons, explored the cuisine at the Navy Pier, and ended a full day taking in a baseball game.

Led by Dr. George Kerekgyarto, the student chapter of SME has 25 members, and participates in industry tours, sponsored lectures, and field trips. The Student Chapter of SME has travelled to Cleveland and Chicago to see other trade shows in recent years. Last year, the organization took a weekend trip to Washington, DC to visit the Smithsonian and the Museum of Science and Technology.

The student chapter is active with the Lancaster county parent chapter as well. The annual fall festival took place on September 16, 2008, which consisted of a pig roast and networking with local industrial contacts. Several of the Millersville students also won door prizes that ranged from *The*

Machinist's Handbook to MP3 players. Regardless of major, all students are welcome to participate with the student chapter of SME. The group has regular meetings throughout the semester. Check the ITEC Web site for meeting dates and times.

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girls built a working electronic project and in the *Design-It! Build-It! Test-It! Use-It!* session they made a catapult-like device that launched ping pong balls.

Sessions are mostly led by female role models from MU, or local middle and high schools. Female college student mentors serve as instructors or assistants in many sessions. A few male professors have participated as instructors, but they collaborated with female college students and/or professors to ensure that female role models were evident.

There was also a concurrent program offered for a small group of adults at ST&Me. These parents and Girl Scout leaders learned about various topics of interest such as Internet safety and college funding and financial aid. They also had the opportunity to explore the Millersville University admissions process and take a tour of the campus.

ST&Me is open to any middle school or high school aged girl, including home schoolers. Attendance is limited to about 200 girls, and the parent program is limited to the first 24 adults who register. The registration deadline for girls and adults is Saturday, March 21, 2009 and applications will be accepted on a first-come, first-served basis. A modest registration fee is required for girls and adults. The girls' will receive a ST&Me T-shirt, lunch at the Scramble in MU's Gordnier dining hall, snacks, resources, and the opportunity to win prizes, such as an iPod. The parents' fee includes lunch at the Scramble, snacks, and resources. The program is promoted through local Girl Scout organizations, and Dr. Sharon Brusic, Associate Professor in the Department of Industry & Technology directs the event.

There are many benefits to increasing female participation in science and technology. The ST&Me program is one way to inspire more young women to pursue education and career opportunities in science and technology fields.



Design-It! Build-It! Test-It! Use-It!

NAIT Student Chapter Attends Nashville Conference



NAIT Student Chapter - Mobile Robotics Research Team

Four intrepid professors and a half-dozen members of the Department of Industry & Technology's student chapter of NAIT departed in the pre-dawn hours on November 18 for the 2008 conference in Nashville, TN. The 2008 conference was entitled "Globalization of Technology - Imagine the Possibilities."

One of the highlights of the trip was the maiden voyage of the *Mobile Robotics Research Team* support vehicle, pictured above. The NAIT student chapter raised funds to purchase an enclosed trailer and outfitted it as a mobile lab. Looking not unlike an electronics laboratory inside, the trailer comes equipped to assist with almost any situation that may arise with a mobile robotic device during a competitive event. While not competing in this year's competition, the team made the facility available and helped out other teams with emergency repairs.

"I think it's a great idea -- and a great way to promote our program here at Millersville University," said team advisor Dr. John Wright. "It should raise the bar for other student chapters in the future."

The NAIT student chapter has been active at Millersville University since 1999, and has participated in many local, regional, and national events. "Our students traditionally do very well in competitions," says Wright, "especially when you consider that we are competing against some of the best programs in the nation." In addition to competition successes, the Millersville NAIT student chapter was designated an outstanding section for two years.

Dr. John Wright, Jr. and Dr. Mark Snyder, professors, presented at this year's NAIT conference. Wright was a co-keynote speaker, delivering a presentation entitled "NAIT Strategic Plan - Embrace the Future," detailing proposed changes to the organization and its future. On Friday, Dr. Mark Snyder delivered his presentation, "RFID Tags and Labels." Snyder's presentation addressed the topic of radio frequency identification, its uses in manufacturing, and examined some of the challenges with the technology.

Membership in the NAIT student section is open to any student interested in technology and applied engineering. The group meets regularly throughout the semester. Please check the ITEC Web site for regular updates.



Technology Education Student Mentors

For more information about ST&Me, or to request a registration packet contact Sharon Brusic at 717-871-5548 or via email at Sharon.Brusic@millersville.edu.



Technology Education

by: Dr. Len Litowitz

The technology education teacher preparation program continues to flourish and grow even during difficult times. We have more than 220 majors pursuing their degree and certification in Technology Education and a number of graduate students pursuing teacher certification students as well. Even so, the field could certainly use

more teachers in the pipeline. We have become a regional provider of technology teachers to surrounding states.

In recent years the program has been heavily influenced by one mandate after another from the likes of the State System of Higher education and the Pennsylvania Department of Education and their appears to be no end to the madness in sight. Yes, that's right. The same people who enacted the Praxis method of teacher certification in any subject simply by passing a test. The same people who brought you the mandatory 3.0 grade point average prior to professional block experiences and student teaching without any statistical evidence to support such a requirement. Those same people have now enacted act 49-2. This mandate will require that all teacher preparation majors complete a series of 9 credit hours in Special Needs and 3 credit hours in English as a Foreign Language. Can we expand the curriculum? Sure. They are offering to allow us to expand the curriculum by 3 credit hours in exchange for a 12 credit hour mandate! Will any of the credits be counted in General Education curriculum? Don't bet on it! What do we feel is essential that we will be giving up on?

Stay tuned.

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Occupational Safety & Environmental Health

by: Dr. Dan Anna

Greetings from the Occupational Safety & Environmental Health program at Millersville University. The end of the fall semester is rapidly approaching. This has been a very eventful and exciting fall. There are currently 85 students

enrolled in the OSEH program. In addition to Paul Specht and myself, there are four temporary faculty teaching courses again this semester: Ed Krow, Duane Hagelgans, Tom Whitman, and Diane Zerbe.

The summer and early fall was spent preparing for an ABET re-accreditation visit. A team of reviewers visited campus during the last week of October. During their visit they met with faculty and administration, reviewed curriculum materials and graduate information, and interviewed many of the current students. The team was very happy with the OSEH program at the end of their visit, but the final decision about accreditation will not be made until the annual ABET meeting next July.

The first semi-annual open forum meeting with internship supervisors was also held during October. Several of the supervisors from the summer internship locations met with the program faculty and the program's industry advisory group to discuss the strengths and weaknesses of our students. This was an outstanding meeting that provided some ideas for refining of the OSEH program. The next internship supervisors meeting will be held in May 2009 for all of the supervisors during the fall and spring semesters.

The student section of ASSE continues to provide professional opportunities for the members. Seven students from the section travelled to Louisville, KY, to attend the Future Safety Leaders Conference in November. This conference provided them with an opportunity to network with students from safety programs from across the country.

The job market for OSEH graduates continues to be strong in spite

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Industrial Technology

by: Dr. John Wright

On November 20, 2008 during this year's NAIT Annual Conference, the Executive Board presented changes to the Association's Name, Vision, and Mission as a result of more than two years of strategic planning and marketing research efforts.

Proposed Name Change:

The Association of Technology, Management, and Applied Engineering (ATMAE)

Proposed Vision Statement:

The Association of Technology, Management, and Applied Engineering (ATMAE) sets standards for academic program accreditation, personal certification, and professional development for educators and industry professionals involved in integrating technology, leadership, and design.

Proposed Mission Statement:

The Association of Technology, Management, and Applied Engineering (ATMAE) is faculty, students, and industry professionals dedicated to solving complex technological problems and developing the competitive technologist and applied engineering workforce.

These changes are designed to set the organization up to implement the Strategic Plan that will allow us to reverse the 40% loss in membership since 2000 and allow for growth and opportunity. The Executive Board feels confident that it is possible for us to reinvent ourselves with contemporary terminology and renewed energy.

The proposal will change NAIT's constitution and therefore must be approved by a two-thirds majority of those members who vote. Upon ratification, the Executive Board will be charged with implementing the rest of the strategic plan which includes restructuring the organization's leadership for continuity and effectiveness, a commitment to ongoing brand development and marketing, and the development of a new web site and member benefits to add more value to everyone (academic and industry).

The upcoming membership vote is scheduled from January 15th to January 31st of 2009. NAIT has invested approximately \$65,000 in strategic planning, marketing, and research studies and focus groups (Industry and Education) and are excited about the opportunities ahead.

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Graduate Studies

by: Dr. Tom Bell

The Graduate program for Technology Education in the Department of Industry and Technology is currently going through a 5 year program review. As part of the process the graduate faculty will be conducting a self study to be shared with an outside consultant. A periodic program review is preformed

for the purposes of continuous improvement. It gives us the chance to reflect on past practices and evaluate what we've been doing right as well as what we might want to change. The program review takes into account the various stakeholders who benefit from our academic endeavors and will address current educational trends. The findings will provide future direction for the program. Our current graduate program is specifically for certified technology education teachers seeking a masters degree. The graduate faculty has been exploring the potential of adding a new degree programs as well as offering different delivery systems such as online and blended formats. Our graduate degree program has a rich history at Millersville, the Technology Education Masters Degree is the second oldest masters degree on campus, just behind Elementary Education. For additional information or questions concerning our graduate program feel free to contact me.

NSF Project Update: Advanced Manufacturing Grant

by: Dr. Barry G. David

Millersville University is collaborating with California University on a three-year endeavor to promote careers in advanced manufacturing technology through the recruitment and retention of students from middle school to high school and post secondary levels through marketing, recruitment, mentoring, and updating manufacturing curricula. Currently in its final year, this \$810,000 grant from the National Science Foundation was awarded to the Pennsylvania State System of Higher Education (PASSHE). The primary goal of the project is to address the critical shortage of workers in advanced manufacturing careers through coordinated efforts in ten school districts, two career and technology centers, two community colleges and two universities (MU and Cal U), evenly divided in the south-west and south-central portions of the Commonwealth. Dr. Barry David, Chairman, MU Department of Industry and Technology, is co-principal investigator for the project and manages activities in the south-central region. Dr. Stanley Komacek, California University, is principal-investigator and manages the southwest region. Dr. Carol Adukaitis is co-principal investigator and represents PASSHE.



2008 Manufacturing Camp

A major objective of the grant is to create a pipeline of students studying advanced manufacturing in schools. One hurdle is to change the negative perception of manufacturing careers typically held by students and parents. Research conducted during the first year of the project found that manufacturing was not considered as a viable career choice by students or their parents. Not surprisingly, most middle school students indicated careers in the sports and entertainment industries as their top choices. Traditionally, manufacturing connotes images of the dingy, dangerous, mind-numbing type work found in manufacturing businesses of the past. By contrast, today's advanced manufacturing workforce consist of well trained, well paid technicians and technologists working in safe, bright, challenging environments where creativity and problem solving abilities are valued.

A number of initiatives have been implemented in the Lancaster area designed to promote advanced manufacturing careers and the essential educational pathways. Five area school districts participating in the project (Conestoga Valley, Donegal, Elizabethtown, Lampeter Strasburg, and Penn Manor) benefited from the purchase of computer numerical control routers, computers, and design software to provide hands-on learning for students. Teachers in those schools received special training in the use of the software and equipment. Summer camps focusing on advanced manufacturing, including a nano-technology camp, robotics camp, and an exclusive camp specifically tailored for the children of migrant workers have provided special opportunities to learn about advanced manufacturing career pathways. Marketing of dual enrollment, advanced standing and articulation agreements through Gold Collar Career Nights, school career fairs, and guidance counselors have further promoted educational opportunities to students and their parents.

The project has been successful in its efforts to change the perception of manufacturing and get kids and their parents excited about the potential advanced manufacturing career opportunities that exist. For more information, visit the grant web site at <http://www.stemsmartPA.com>.

TECA Results... continued from page 3

On a more positive note Millersville University Technology Education Collegiate Association (TECA) members proudly competed in 10 events and brought home 4 awards. It was an excellent competition and a very fun trip for all thirty-six students and two faculty advisors. TECA members worked hard and we are very proud of their performance during all events.

Congratulations go out to all members who competed in events and extra kudos go out to the following members who placed in their events at the 2008 TECA Regional Conference.

INSTRUCTIONAL MODULE CONTEST - FIRST PLACE

Erika Rakow, Nolan Smith, and AJ Warner

TRANSPORTATION CONTEST - FIRST PLACE

Andrew Kaufman, Jake Marushak, Erik Sheehan, Dustin Vargas, and Shane Westhafer,

MANUFACTURING CONTEST - SECOND PLACE

Blake Bardman, Jessie Buechele, Mark Golden, Brian Hunt, Erica Schmuck, and William Trombley,

PROBLEM SOLVING CONTEST - THIRD PLACE

Andrew Ash, Josh Christman, Mark Costello, Joel Ober, and Justin Rudy

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of the current economy. All of the August graduates are working in the profession and most had accepted their position prior to graduation. Three OSEH students are currently completing their internships and will be graduated later this month.

It is never too early (or too late) to consider hiring an OSEH intern. There will be a large and talented pool of students seeking internships next summer. Please contact me if you are interested in discussing the possibility of becoming an internship location.

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We need your vote and assistance to help us move this association forward so that it will be around for another 40 years. Please show your support of the Executive Board's leadership and vote "YES" to the proposed constitution changes.

The past two years have been very exciting and many people from across the nation have worked tirelessly to try and revitalize our association. I am now serving for my third consecutive year on the Executive Board in the role of Immediate Past Chairman. I fully endorse the process and the changes proposed.

Editor's Note:

We hope you enjoy the first edition of the Department of Industry and Technology newsletter, the *abbozzare*. *Abbozzare* is an Italian verb which means to sketch, outline, rough out, draft, or draw. And that is just what we are hoping to do on a regular basis to alumni, retired faculty, administration, and beyond - sketch out an outline of the important and exciting things that happen in your Department of Industry and Technology.

Any input you have to share is important to help us grow this communication. For your convenience, you can email the newsletter staff at abbozzarre@millersville.edu.

- B. Horst '02
bhorst@millersville.edu

Millersville University
SEIZE THE OPPORTUNITY

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