

Technology, Management, and Applied Engineering Students Take Top Honors

The puzzle pieces fell together and Millersville University's (MU) Technology, Management and Applied Engineering Student Chapter (Robotics Team) won the national championship at the Associations of Technology, Management and Applied Engineering's (ATMAE) Robotics Competition.

The competition was held in Pittsburgh, Pa. from Nov. 11-14 and a team of 12 MU students created MAVIS^{3D} (The Millersville Autonomous Vision Inductive Sorter with 3D Printed Technology) participated with their robot and captured numerous awards.

MAVIS^{3D} was built on a piece of recycled aluminum and the team used 3D printing technology to create the plastic components of the robot. They began the construction of the robot in spring 2015. The robot competed in two performance-based events, an obstacle course and a relay race.

For the obstacle course, MAVIS^{3D} went over two obstacles manually including a burlap bridge and teeter-totter, before using sensors along silver tape and collecting blocks into a carousel. After collecting the blocks, the robot sorted them to spell "ATMAE," which helped the team collect another award.

In the relay race, the challenge for MAVIS^{3D} was to collect pieces of a logo puzzle and place them in an area marked for assembly. From there, the student team assembled the puzzle by hand. MAVIS^{3D} led the team to win first place in the event.



Front row (left to right): Cody Martin, Skylar Zarzecki, Michael Brown, Dean Della Loggia. Back row (left to right): Gregory Schneider, Joseph Wright, Ryan Lees, Kevin Piaskowski, Christopher Reuling, Samuel Brennan, Dr. Mehmet Goksu (Lead Advisor), Trevor Coble, Webster Chatman, and Dr. John Wright (Co-Advisor)

"It is a great honor. It is a national recognition of our applied engineering, safety, and technology department and Millersville University, but more importantly, it is a recognition of our students and their ability to complete the project successfully," stated Dr. Mehmet Goksu, the lead advisor of the Robotics Team and associate professor of physics. "I really enjoyed working with the team on this project and I have learned a lot from them. I am so proud of our achievement."

In addition, Cody Martin, a sophomore majoring in applied engineering and technology management, won fourth place in the Haig Vahradian Technology Challenge quiz bowl. The quiz bowl is named in memory of the late Dr. Vahradian, who was a professor of industry and technology at MU. Drs. John Wright, Mark Snyder and Louise Manfredi from applied engineering, safety and technology department served as co-advisor of the team. The MU Robotics Team has now won more than 35 awards in national and international robotics competition. This is the third time the team has won the ATMAE Robotics Cup, since its inception in 2002. ■

AEST Department Launches New Robotics Degree

by: Dr. John R. Wright, Jr., AIRET Coordinator

The Board of Governors approved the Millersville University bachelor of science in automation and intelligent robotics engineering technology (AIRET) degree program on Oct. 8, 2015. The study of robotics involves the design, modeling, optimization, documentation and automation of advanced control problems. The curriculum of the new robotics program includes in-depth technical content of electronics, control systems, mechanical systems and computer programming and applications to prepare professionals equipped to design, improve, maintain and manage robotic and automated process and control systems.

Combining coursework from the applied engineering, safety and technology and computer science departments, the robotics engineering technology program is designed to produce graduates with the ability to work with multiple types of technology to design and implement projects that have advanced programming needs. "This new Automation & Intelligent Robotics Engineering Technology Bachelor of Science degree will help companies in the region and beyond remain competitive in today's global market," said Dr. John Wright, AIRET program coordinator. ■

2015 Robotics Team Awards

- 1st place overall
- 1st place performance (Relay Race)
- 1st place fan vote
- 1st place fabrication and innovation
- 1st place poster
- 1st place team presentation and technical report
- 2nd place performance (Obstacle Course)
- 2nd place in electronics / control methodology

Originally appeared in the MU Exchange: [Robotics Team - National Champs!](#)

MU Construction Students Give Back

—by: James Hartman

Sometimes a unique opportunity simply presents itself. The students in the Fall 2015 Construction I class along with the congregation of the Millersville's Grace United Methodist Church found they were the recipients of such an opportunity. Dr. William Skelly, a retired Millersville University Applied Engineering, Safety & Technology professor and current



board member at Grace United Methodist Church was instrumental in bringing the two groups together. As a result, the students teamed up with church leaders in what could be called a true “win-win” scenario.

A new Grace UMC Worship & Education facility is currently being constructed just a few miles off campus on Bender Road. As construction of the new facility is nearing completion, Millersville University students helped with the early stages of building an in-house

daycare center and classrooms in the basement of the new facility. By early November, the students completed the framing for the new classrooms and were ready to begin wiring the new facility. The project goal was to complete the daycare center and additional classrooms by the end of the fall semester.

Construction students were tasked with drawing and submitting blueprints for the necessary permits, as well as preparing detailed estimates and construction schedules for each phase of the project. In addition to being responsible for several building phases such as framing, wiring, insulating, dry wall, installing doors, trim, and suspended ceilings, the students have also attended weekly jobsite meetings, along with other sub-contractors.

This opportunity provided Millersville Construction Technology students the chance to gain valuable field experience. It gave them the chance to work on an active commercial jobsite, and also an opportunity to give back to the community that has welcomed them. Their relationship with the community has been mutually beneficial in that it has also provided the parishioners of Grace UMC with the opportunity to complete a phase of construction at their new church that was originally believed to be several years away. The first service at the new facility was December 6, 2015, and our students were invited to attend and be recognized for their contributions. ■

OSEH Advisory Scholarship Fund

—by: Dr. Jack O. Ogutu, OSEH Coordinator

The OSEH External Advisory has started a scholarship fund to benefit students pursuing an undergraduate degree in Occupational Safety & Environmental Health. The scholarship will be disbursed as tuition to a student in the program based on academic and leadership skills (ASSE, AIHA, LCISC, community service or volunteerism may all serve to demonstrate initiative and leadership); or who has a unique background or experience that distinguish the student within the discipline. The first award is expected to be made in 2016.

Gifts to this scholarship fund from Alumni and friends of the Occupational Safety & Environmental Health program can be made through the Millersville University Development office by going to the following link: <http://www.mville.us/give2mu>, choose “other” and specify OSEH Advisory Scholarship. For additional information regarding this scholarship fund, please contact Alice McMurry, Associate Vice President for Advancement via Email: alice.mcmurry@millersville.edu.

For additional informational about the OSEH External Advisory Board please go to the following link: <http://www.millersville.edu/aest/degrees/more/oseh-advisor.php>. ■

iSTEM Endorsement Now Available

The Pennsylvania Department of Education approved Millersville University's application for the undergraduate integrative STEM education (iSTEM) endorsement for early childhood education majors. This is the first undergraduate iSTEM education endorsement program in Pennsylvania. Applied Engineering, Safety & Technology faculty members collaborated with faculty in elementary, middle & exceptional education (EMEE) to apply for this new endorsement. Early childhood education majors can take four courses – some which will be taught by Applied Engineering, Safety & Technology faculty – and apply for the iSTEM endorsement on their teaching certificate. The courses include ERCH 190 Introduction to Integrative STEM Education Pedagogy, EDTE/ERCH 290 Children's Engineering, EDTE 490 Integrative Learning Using Experiential Strategies, and EDTE/ERCH 495 Integrative STEM Education Practicum. Courses begin Summer 1 2015. For more information, contact Sharon Brusic at Sharon.Brusic@millersville.edu or by phone at 717-871-5548. ■

Dr. Sharon Brusic is a faculty member in the Department of Applied Engineering, Safety & Technology and the Technology & Engineering Education Coordinator.

TEECA Student Bring Home 4 Awards

by: Dr. Sharon A. Brusic, Technology & Engineering Education Coordinator

Twenty-six members of the Technology & Engineering Education Collegiate Association (TEECA) at Millersville University traveled to Virginia Beach along with two of their advisors (Sharon Brusic & Len Litowitz) for the annual TEECA Eastern Regional Conference from November 8-10, 2015. Every student competed in at least one of eight events at the conference and TEECA@MU proudly brought home four awards, including 2nd place in Robotics (Al Gallo, Amanda Piergallini, Adam Kennedy, John Zug, and Dan Simms), 3rd place in the Technology Challenge Quiz Bowl (Shane Waters, Matthew Dietrich, Darcie Jones, Derek Hakes), 3rd place in K-5 STEM Design (Abigail Sweeney, Joshua Handshaw, Lauren Coker), and 3rd place in Instructional Module (Grace Painter, Darcie Jones, Lexi Iagnemma).



TEECA at MU members and advisors pose in Virginia Beach before boarding the bus for the long ride home.



Tom Bacho and Brittany Myers shoot video for the Communication Contest.

The competition was tough, but TEECA members competed well in all events they entered. In addition to participating in competitive events at the conference, students engaged in a teambuilding experience, interacted with potential employers at the job fair, and networked with about 200 peers and professors from about a ten universities throughout the Eastern seaboard region during meal and social functions.

Congratulations go out to all TEECA member participants. In addition, the TEECA at MU executive board, led by President Greg Schneider, Vice President Grace Painter, Treasurer Marie Leatherman, Secretary Alaric Gallo, and Reporter Darcie Jones, is to be commended for helping to organize this highly successful professional development experience for its members. ■



Many freshmen enjoyed participating in their first TEECA Eastern Regional Conference. Pictured (from left to right) are Lexi Iagnemma, Lauren Woods, Carla DiStasio, Adam Kennedy, Thomas Kauffman, and Robert Stillwell.



Members of the Robotics team won 2nd place in this exciting competition with Vex robots. Group members include (from left to right): Adam Kennedy, John Zug, Amanda Piergallini, Dan Simms, and Al Gallo.

Invasion of the MakerBot 3D Printer

by: Dr. Louise R. Manfredi

Since the first MakerBot 3D printer arrived in the Innovation Lab in 2015, we have added a further six printers to the department. These can be found across the CADD, Manufacturing, and Innovation labs and are actively used in teaching this semester. These printers can extrude ABS and PLA (a biodegradable corns starch based composite) to produce prototypes designed in SolidWorks software. Student projects range from custom parts for robotics projects to a recently completed 'reimagine' project where students 3D printed components to turn a soda bottle into something new. Although 3D printing is not a new technology, having access to affordable desktop 3D printing truly brings CAD work to life and can be used to effectively teach the relationship between design and manufacturability

"These 3D printers are versatile. They provide our students with the

unique opportunity to design something virtually on CAD and hold the physical 3D printed model in one day", says Louise Manfredi, Assistant Professor for the CADD concentration. "My lab assistants are looking forward to experimenting with new filaments due for release in early 2016, in particular the maple PLA composite!"

Nicholas Bozzelli (Robotics & Systems Control, '18) and Andy Miller (Robotics & Systems Control, '18) are lab assistants for the CADD lab as well as serving as MakerBot experts for the department.

"It is a very rewarding feeling to be able to hold a tangible object in your hand that you recently designed in SolidWorks. When my peers first see their finished 3D prints, I typically received the same feeling of satisfaction. I'm honored to be able to work with these 3D printers every day, and continue to grow in my understanding of these incredible machines. I can only imagine the possibilities we will have once we receive the new filaments in 2016!" Nicholas Bozzelli. ■

Dr. Paul G. Specht Retires

by: Dr. Len S. Litowitz, Department Chair

Dr. Paul Specht, Professor of Occupational Safety retired this past August after thirty years of teaching, scholarship and service to Millersville University. Paul's contributions are too numerous to mention, but the department attempted to capture his most significant accomplishments in an emeritus resolution that was authored to recognize some of his most significant contributions to the university. That resolution read as follows:

EMERITUS RESOLUTION FOR DR. PAUL G. SPECHT

Whereas: Dr. Paul G. Specht, Professor, Department of Applied Engineering, Safety & Technology, retired August 21, 2015, after 30 years of dedicated teaching, scholarship and service at Millersville University;

Whereas: Dr. Specht served multiple terms as program coordinator of the Occupational Safety & Environmental Health program (OSEH), and

Whereas: Dr. Specht was a tireless advocate for his students and advisees. and

Whereas: Dr. Specht led the OSEH program through major curriculum development initiatives that resulted in the growth of the OSEH degree program, the addition of an Associate of Technology degree with a concentration in OSEH, and the development of a minor in Occupational Safety; and

Whereas: Dr. Specht provided leadership and direction to the OSEH facilities during the renovation, expansion and modernization of Osburn Hall; and

Whereas: Dr. Specht taught a broad range of courses in the OSEH program as well as two in the Emergency Management program; and

Whereas: Dr. Specht served the university on numerous department, school and university-wide committees and groups and as Acting Director of Academic Advisement from 1999 - 2002; and

Whereas: Dr. Specht provided dedicated service to external groups, professional associations and accrediting agencies including Chair of the Education Committee of American Society of Safety Engineers (ASSE) from 2009-2015; Director, Board of Certified Safety Professionals (BCSP), from 2003-2008; and member, Board of Directors, Accreditation Board of Engineering & Technology (ABET) from 2002-2010; and

Whereas: Dr. Specht received many awards including the ASSE Safety Educator of the Year, 2004, and ASSE Academics Practice Specialty Safety Professional of the Year 2008-2009; and

Whereas: Dr. Specht was conferred the credential of Certified Safety Professional (CSP) by the Board of Certified Safety Professionals; and

Whereas: Dr. Specht was a sought after consultant to school, industry and professional agencies; and

Whereas: Dr. Specht was appointed as consultant to the National Institute for Occupational Safety and Health (NIOSH) as one of twelve individuals charged with identifying future needs in safety and health; and

Whereas: Dr. Specht regularly attended meetings of professional associations and sought professional development opportunities; and

Whereas: Dr. Specht regularly shared his scholarship through the publication of journal articles, book contributions, presentations, including co-authoring the ASSE National Safety Curriculum Guidelines; and participation in the publication of the ASSE Academic Accreditation Guidelines for Safety Curricula.

Therefore Be It Resolved: That Dr. Paul G. Specht be granted the honorary title **Professor Emeritus of Applied Engineering, Safety & Technology.** ■

Dr. Specht's MU e-mail address is still active if you would like to drop him a note at paul.specht@millersville.edu

Students Make Toys for Tots

by: Dr. Scott A. Warner, Graduate Coordinator

The students in EDTE 496: Innovation and Design Methodology used their technical knowledge and skills to help give back something to the local community by making wooden toys for the Toys-for-Tots program. The group of 10 students used a toy design that had been created by students in ITEC 344: Product Design. The toy was a wooden top. The students made the packaging as well as the toys for 25 sets of tops. The tops were packaged in sets of two so that kids could be encouraged to play with tops while playing with a friend. Representatives from the Toys-for-Tots program, which is run by the U.S. Marine Corps Reserve, picked up the tops and one wooden train that was designed and made by other students in ITEC 344. The toys will be distributed to children in the local Lancaster area. ■



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