

## ATMAE Student Chapter Takes First Prize

by: Dr. John R. Wright, Jr.

The Robotics Team (ATMAE Student Chapter) at Millersville University took top honors this year at The Association of Technology, Management, and Applied Engineering (ATMAE) Conference's Robotics Competition with their robot named SAM. SAM stands for Semi-Autonomous Marauder. It feels great to finally win this coveted award

I designed the very first ATMAE robotics competition 10 years ago and had never won the Robotics Cup (overall prize) despite participating nearly every year since 2001 and taking second twice. This year's competition involved designing a robot to locate and retrieve metallic cylinders in the sand on Panama City Beach, Florida. Four elements made this competition especially challenging:

1. The Sand – The shifting and loose terrain made for many drive/traction/navigation issues.
2. The Remote Driver Location – For the tele-operated portions of the task, the driver had no direct line of sight and was located more than 100ft away from the robot with his back to the beach.
3. The Autonomous Portion of the Course – The robots had to locate and pick up the objects in an autonomous only zone outlined in the sand.
4. The Competition – The task involved running two robots against each other at the same time in a double elimination style bracketed event.



SAM on the sand

While the performance part was certainly challenging, the evaluation for the grand prize was no less involved. Every team was judged on Performance (40%), Electrical/Control Methodology (15%), Construction/Design (15%), Poster (15%), and Technical Paper (15%). Millersville's team won first place overall (2010 Robotics Cup National Champions), first place Performance, and first place Electrical/Control Methodology. Their Driver, Greg Betz also won the "Best Driver Award."

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## Summer 2010: Institute for Critical Thinking and Creativity

by: Dr. Scott A. Warner

This last summer the Department of Industry and Technology hosted a new graduate level institute. The Institute for Critical Thinking and Creativity was designed to help classroom teachers from all subject areas turn theory into practice as they learned how to use the design-based approach to teaching and learning to help students think critically and express creativity. The 26 participants, who came from teaching backgrounds in a variety of content and grade levels, developed strategies to take back to their own classroom to help young people develop abilities to solve problems, design and create, analyze a new situation and react appropriately, and make their own informed decisions. Through hands-on activities, selected readings, group discussions, and short lessons, participants learned how to prepare students to be independent, creative thinkers. Expert guest speakers/instructors explored various aspects of critical thinking and creativity. Those experts included the Institute coordinator Dr. Scott Warner, who provided an overview of critical thinking and creativity in American education. Deborah Smith, a leader in the field of gifted and talented education, documented the use of design-based education across subject areas by showing and discussing the documentary *The Sitting Machine*. This movie followed Mrs. Smith through a full year of designing and making cardboard sitting machines. Dr. Martin Rayala, a nationally recognized leader in design-based education, spoke about integrating critical thinking and creativity into your curriculum, instruction, and assessment strategies. Jennifer Baker, the design department chairperson

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2010 Institute Participants





