Congratulations to Dr. Bernheisel and his team of 5 students on winning the Undergraduate Research Grant to design and compete in the IEEE regional robotics competition. Additional grants came from JEA and anonymous donor.

In addition to the robotics competition, another team of 5 senior students received grants from TLM Associates and anonymous donor to work on the conversion of a gas engine vehicle to an all electric one. More on these in the summer edition.

Dr. Van worked with a group of school children from the middle school in Lexington, Tn. to teach them to design, build and race a solar operated wave runner. (March 30-31)

The department is in the process of interviewing another faculty in the mechanical engineering discipline. This new position will start in August this year.

This Spring we will celebrate the graduation of 11 engineering students.
Dement Construction Company

403 North Parkway, Jackson, TN 38305
Phone: 731-424-6306  Fax: 731-424-5308

If you take a ride down most any West Tennessee highway, chances are Dement Construction Company had a hand in its development. Since building its first bridge in 1977, the Jackson–based company has emerged as a leading provider of highway and heavy construction services with specialties in bridgework, grading, and asphalt paving. Its expertise and focus on quality instill a high level of owner confidence in Dement to complete a project on time, within budget, and to their satisfaction.

Dement’s customers range from state department of transportation to the Federal Highway Administration (FHWA), U.S. Army Corps of Engineers and a variety of other owners, public and private. The transportation system, according to Bill Dement, president of Dement Construction LLC, is like the circulation system in the human body—it doesn’t get a lot of fanfare, compared to the eyes or other parts of the body, but if it shuts down, everything shuts down.

In addition to being one of the South’s most trusted and respected highway contractors, the company has earned widespread recognition for performance, safety, and excellence. Dement Construction is the 2008 recipient of TRBA’s Prime Contractor Of The Year. Making the difference, according to Dement, is the firm’s team of more than 350 employees—many of whom have multi-generation ties to the company. “My goal is to make sure that everybody associated with us feels like they are part of a family,” Dement said.
Faculty Led Projects and Undergraduate Research

While the IEEE Robotic Competition and Gas-to-Electric Car Conversion have been the highlighted capstone projects this year, other projects are brewing as well. The summer edition will be devoted to the reports of the following and other student projects:

- Design an automobile waste heat recovery system
- Conceive & demonstrate feasibility of energy conversion from the kinetics on the US highways
- Design a sustainable power supply for the University’s Tornado Memorial Chapel
- Design a cooler operated on automobile’s heat engine
- Design an experiment to test the effect of density change of air on the operation of a helicopter
- Design and build a mock-up hydropower plant

Alumni News:

- Congratulations to Will Trautman (‘09) and wife Valerie on the birth of their son Benjamin William Trautman, on October 8, 2009, weighing 8 lbs. 7 oz. Will is continuing his study toward a MSEE while working at Lockheed-Martin in Syracuse, NY.
- Congratulations also goes to Sean Norton (‘10) and wife Allison on the birth of their son on January 7, 2010, weighing 8 lbs. 13 oz.
- Justin Montgomery (‘08) cruises the Caribbean on a regular basis and he calls that “work”. Actually he is responsible for Technical Services and Hull Performance of the Royal Caribbean.
- Joseph Hall, Jr. (‘05) currently is with the MSA (Missile Defense Agency) in Alabama after finishing his graduate studies at Vanderbilt University. He temporarily served here at Union after Vanderbilt as a research assistant before heading off to MSA.
  (Cont’d on insert page…)
Late Breaking News from The Union University Engineering Department!

Faculty News

* A HUGE Congratulations to Dr. Jeannette Russ and her husband Bobby on their adoption of Timothy Daniel Russ, born on January, 20, weighing 7 lbs. 9 oz.!

* Dr. Randy Schwindt, his wife Ginny, and six Union students traveled to North Africa March 27th through April 4th. They worked with a non-governmental organization, the International Development and Relief Board, to help install solar powered water pumps, give health and renewable energy lessons with elementary school children in the area, and perform wind power experiments.

More Alumni Updates.....

* Josh Shrewsberry ('07) is working on contract in Houston, TX, as a Control Engineer. His wife, Amber, is working at Crockett County High School as a Physics and Mathematics teacher. They, and their cats, Kermit Horatio and Artimus, and live in Bells, TN. They attend Love and Truth Church in Jackson, where Amber sings.

* Kolo Goshi ('05) is working as a Lead Electrical Design Engineer for C&D Zodiac Inc. (Zodiac Aerospace) in the development of the Interior Systems for the Bombardier CSeries family of aircraft (scheduled to go into service in 2013). He is spending a lot of time between Long Beach, CA and Montreal, Canada. He is still enjoying working out and playing sports in his rare spare time! He is a member of Cottonwood Church in Los Alamitos, CA

* Christina Wilson ('05) is entering her fifth year working as a Mechanical Engineer for the Black & Decker Company in Jackson. She and husband Bo are busy raising their son, Milo, who recently turned one! They have been members of Northbrook Church in Three Way, TN since 2005.

* Blake Waggoner ('08) is finishing his thesis and will be graduating from the University of Washington in Seattle in June. His thesis is on the development of a risk assessment tool for UAS operations in US airspace. He does as much skiing and hiking as possible, and is actively involved with the downtown Seattle campus of Mars Hill Church.
• **Jon Brasher** ('06) is with ABB, Inc., as Development Engineer. Business traveling. Active as Sunday school teacher at Hopewell Baptist Church. Jon and Amy with their two sons reside in Medina, TN

• **Alan Baker** ('05) is entering his fifth year as a Process Engineer at Teknor Apex, and is mid-way through his MBA at Union. He and his wife have daughter, Lydia—5, son, Nolan-2, and a third child, Levi Jackson, who is due in April. They have been members at Englewood Baptist Church for the past four years.

• **Josh Brooks** ('09) is planning on finishing up with his Masters degree this May, and has been accepted into the University of Alabama, Tuscaloosa’s finance PhD program.

• **Keri Harwood** ('09) is living in Greensburg, IN with her baby girl, Pixi (her Yorkie!). She’s working as a Mechanical Engineer at Honda Mfg. of Indiana. Her main role is supporting equipment for production, but she is also project lead on new equipment. She gets to dabble in all of the electrical programming for the equipment. She recently attended a Motoman Robotics training course, and was extremely excited learning about how to program and work on robots as well as understand all the controls involved. Keri is engaged to Jason Wisniowski, an Electrical Engineer at Logical Systems Inc., and their wedding date is set for September 17, 2011.

• **Josh Armacost** ('09) is attending Southeastern Seminary and taking 18 hours of classes. He has taken up running and said he is “losing weight and glorifying God by how I treat my body”. Josh is actively involved in his church, serving in a number of capacities including youth mentoring, and a feed ministry for homeless people.

**The 48th West Tennessee Regional Science and Engineering Fair** was held at Union University again this year, with 120 entries from middle, junior high and high school students from the West Tennessee area. The winner of the competition will go on to the International Science and Engineering Fair with engineering professor and fair director, Dr. Randy Schwindt (below).

![Dr. Randy Schwindt](image)
Don Van, PhD., PE., CEM  
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New Faculty  
with a specialty in Mechanical Engineering will join the department in August 2010.

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