The first demonstration of the *Universal Plug-In Hybrid Conversion*, better known as the *Wheel Hub Motor project*, took place in December, 2011. Thanks to the hard work of student workers, *Jay Perry* and *Brent Brubaker*, and able support of *John Rozell*, assistant lab director, the maiden cruise went off well. The D.C brushless traction motors in each rear wheel were able to accelerate the car from standstill to about 25 miles per hour with four occupants on board. This was without assistance from the internal combustion engine. All that remains is finishing the monitoring instrumentation and the car will be

MTSU’s Experimental Vehicles Program (EVP), housed in the Engineering Technology Department, has received the *Tennessee Board of Regents’ Academic Excellence Award* because of the program’s many benefits and outstanding success.

*Dr. Paula Short*, TBR vice chancellor for academic affairs, presented a plaque to MTSU on June 23 during the TBR’s quarterly meeting, which was held through June 24 at Nashville State Community College. *Dr. Saeed Foroudastan*, associate dean for the College of Basic and Applied Sciences and professor in the Department of Engineering Technology, accepted the award for the University. *Foroudastan* serves as faculty advisor for the EVP which he has done since its inception.

2011 marks the second year *MTSU* and *Foroudastan* have received the Academic Excellence Award from the TBR. In June 2010, MTSU earned the honor for the *Master of Science in Professional Science program* that Foroudastan also directs.

*MTSU’s EVP* consists of five collegiate design projects, Foroudastan said. In each, student teams design, develop and produce an experimental vehicle under his guidance. "*MTSU’s EVP* uses classroom knowledge and applies it to hands-on projects that foster critical thinking, initiate creative problem-solving and create an interest in STEM (science, technology, engineering and math) disciplines. Through these design projects, students learn about alternative energy and work in a diverse cultural setting," Foroudastan said.

"Each year, the student teams compete in national and international design competitions including the *SAE Baja, Formula SAE, the NASA Great Moonbuggy Race, Solar Splash* and *Solar BikRayce USA*,” he added.

Foroudastan said the program, which is the only one in Tennessee that competes in land, water and solar events, has been a successful motivation tool for students, because 90 percent of the student team members successfully complete their undergraduate degrees.

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**Engineering Technology (ET)**

**Experimental Vehicles Program earns TBR Academic Excellence Award!**

*Dr. Saeed Foroudastan* accepts the *Tennessee Board of Regents’ Academic Excellence Award* for the *MTSU Experimental Vehicles Program* from TBR Chancellor *John Morgan* on June 23 as University and TBR leaders look on. From left are Dr. *Charles Perry*, Engineering Technology professor and holder of the *Russell Chair of Manufacturing Excellence*; Dr. *Tom Cheatham*, dean of the College of Basic and Applied Sciences; *David O’Brien*, senior Engineering Technology major; *Foroudastan*, Morgan; *TBR Vice Chair Greg Duckett*; *TBR Board Member Bob Thomas*; and *TBR Vice Chancellor for Academic Affairs Dr. Paula Short*,

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**Russell Chair of Manufacturing Excellence**

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**Engineering Technology (ET)**

**Engineering Technology Advisory Board**

Engineering Technology is pleased to recognize our new Advisory Board Chairman, **Jimmy Davis**, owner of the Davis Groupe, LLC in Murfreesboro. Mr. Davis, an MTSU grad, has been chairman for almost one year. During this time, he has brought a new level of enthusiasm and energy to the task. His leadership has added new members to the ET Advisory Board and is already making a difference in the ET Department. Our thanks to him for his time and efforts.

**Quality and Economics**

**Professor David Gore** instructs ET courses on **Six Sigma** and LEAN business methodologies that are being used by many businesses to produce quality products and increase profits by reducing waste.

Organizations using **Six Sigma** increase customer satisfaction and business profits by reducing product variability, defects and waste to as close to “0” as possible. These organizations create individual teams of employees within their businesses who are experts at applying a set of quality management methods. As Six Sigma team members increase in expertise, their titles change according to the level of expertise reached (“Black Belt,” “Green Belt,” and sometimes yellow and other color belts.)

**LEAN** organizations use a specific system that gives all levels of employees in the organization the skills and a shared way of thinking to systematically drive out waste.

A summary of the past five years shows that MTSU Engineering Technology students have been involved in many projects with numerous companies in the middle Tennessee area.

<table>
<thead>
<tr>
<th>Project</th>
<th>Graduate</th>
<th>Under Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Layout</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Six Sigma</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>Lean</td>
<td>6</td>
<td>11</td>
</tr>
</tbody>
</table>

We appreciate the 18 companies who worked with us on these projects.

- **Asurion**
- **Bridgestone-Firestone**
- **Davis Mechanical Corp.**
- **General Mills**
- **Guaranty Trust Co.**
- **Hewlett Packard**
- **MAHLE**
- **Middle TN Medical Center**
- **Nissan North America- (Smyrna & Decherd)**
- **Parthenon Metals**
- **Rich’s Products**
- **Saagummi**
- **Schneider Electric/Square-D**
- **Stinger Medical**
- **TACLE**
- **Teledyne-Lewisburg**
- **Tennessee Board of Regents**
- **Tennessee Bunn**

* * *

Last semester, 16 graduate student and three undergraduates in the **Six Sigma** class worked on projects with businesses.

- **Basil Alkadhimi** and **Matt Powers** worked on a project involving weight variation in food products at **Rich’s Products** in Murfreesboro.


- **Justin Meeks** and **Mark Young** worked at **Nissan**, Dechard on some projects may run on into spring and even the summer semesters. The experience they gain is invaluable.

The overall project coordinator at Nissan is **Veda Gujjula**, who picked up the task after **Latrice Sharpe**. During her internship last summer, **Latrice** did a great job setting up the Nissan, Smyrna, projects.

**Society of Manufacturing Engineers (SME)**

**Matt Powers**, **Chase Johnson**, **Evalee King**, **John Morgan**, and **Wesley Benson** successfully revived the student chapter of the **Society of Manufacturing Engineers** and it now has over 20 members.

**Matt** and **Chase**, both recipients of SME scholarships, work as officers of this chapter, along with **Evalee**. Tours of B.F. Goodrich and Barrett Firearms were on the chapter’s agenda among other activities last semester.
Construction Management’s Land Development/Residential Building Construction Management Team placed first out of forty teams at the National Association of Homebuilders (NAHB) Student Chapters Residential Construction Management Competition.

Team members were Paige Parham; Andrew Ethridge; Maverick Green; Jonathan Jones; Kelly O’Leary; and Patrick Turner.

The NAHB Student Chapters Residential Construction Management Competition at the annual International Builders’ Show is one of the highlights with some 50,000 plus builders and associations from around the world in attendance. The competition is designed to give students the opportunity to apply skills learned in the classroom to a real construction company by completing a management project proposal.

The competition students were given a 22 acre plot in a flood plain area to develop a subdivision in Huntsville, Alabama. The proposal for the project manual had to be submitted four weeks prior to the competition. During the convention student teams from all over the United States presented their proposal to five construction industry leaders who judged the competition. A Question and Answer period followed with judges asking specific questions about the proposal.

Each member of the MTSU Construction Management Team spent 400+ hours to complete the proposal. The one hundred and fifty-two page proposal included market analysis, sales strategy, scheduling, estimating, infrastructure/house plans, sustainability, cash flow and a management approach for the project.

Team Leader Paige Parham commented, “Winning this competition validates both the Construction Program at MTSU and the dedication and hard work of all six Team members. This project challenged us as students and individuals. It required creativity and, most importantly, the dedication of our construction professors and the industry professionals who spent many hours directing us towards the appropriate research or giving us examples from their own professional experiences which helped us to better understand the scope of this project.

Although many industries dedicated their time to our program, we would like to specifically thank Regent Homes, Citizens Homes, LP Building Products, Regions Bank, and Little John Engineering for their guidance and support. This win will continue to encourage construction industries’ support and keep the MTSU Construction Program as one of the best recognized programs of its kind in the nation. We are proud to be a part of it.”

“Both the team’s proposed project manual and presentation skills showed teamwork and dedication which are major requirements of the Construction Industry. This shows what can happen if a student is dedicated to working in the classroom for four years and devoting time with various activities conducted by Industry” said Dr. David Hatfield, team coach, professor and Coordinator of Construction Management - Land Development/Residential Building.

MTSU’s construction management program is affiliated with the Rutherford County Home Builders Association, Middle Tennessee Home Builders Association and Tennessee Home Builders Association.

David L. Hughes, Chairman of the Industry Advisory Committee said, “The Construction Management Department at MTSU is among the elite programs in the Nation. The competition, in which they compete each year, is a real life situation that we do every day in our industry. They have finished in the top ten in the nation in 8 of the past 10 years and were awarded First Place in 2007 and this year. If this was a nationally recognized sport we would be in the Hall of Fame!!

Walter Boles, Chairperson of the Engineering Technology Department said, “Our construction management students are consistently competitive. This is their second first place finish. It is truly a tribute to our program and our students to perform so well at the national level. They are able to bring back insights and capabilities to share with fellow students and, hopefully, our next team! Congratulations!”
The student chapter of the Associated Builders and Contractors (ABC) had a successful Fall 2011 semester. Hawkins Development came to MTSU’s campus to speak to students in October. In November, we held a site tour of Huskey Supply, where wood trusses and wall panel systems are made.

Our Spring ’12 semester has been very active so far. In January, ABC students held an event bringing ABC Middle Tennessee President Ryan Peebles, ABC South East Regional Chair Dan Brodbeck, and representatives from Bell & Associates Construction to MTSU. They talked about their involvement in politics, and how they work together to support similar interests. This was followed by student members attending ABC’s “Day on the Hill” where student members go to Nashville and meet with state legislators.

The Chapter’s next meeting was an event about safety in construction, and included demonstrations with personal protection equipment (PPE). And in March, the ABC students volunteered for MTSU’s Centennial Habitat for Humanity Blitz Build.

Chapter elections will be held in April for 2012-13 term. Student members interested in becoming officers for the 2012-13 term should attend the April meeting. All events are open to students interested in the construction industry, and joining an active group on MTSU’s campus. Anyone interested can contact the ABC Student Chapter at mtsuabg@gmail.com.

Mark your calendars . . .
Engineering Technology’s annual Open House and Awards Ceremony will be on April 25 from 3:00 until 5:00 p.m. in the Tom H. Jackson Building.

At the ET Open House, students display their projects and may win an award in the Poster Contest.

The 2011 Poster Contest Award winners were:
- 1st place, Raider Rocket, Tyler Stokes, $100
- 2nd place, Artifact Security System, Cody Newbold, $75
- 3rd place, Remote Control Forklift, Jason Mattox and Lazaro Perez, $50

Young Alumni Achievement Award goes to Engineering Technology Major Jefferson Jorge (‘99)

Launching a new business in a slumping economy that had in particular devastated the Detroit, Mich., area may not have indicated the smartest decision for most people. But MTSU alumnus Jefferson “Jeff” Jorge (‘99) is not most people. Passionate about helping other businesses grow, Jorge took a leap of faith in 2009, becoming principal and executive partner in the Royal Oak, Michigan–based consultancy group Global Development Partners Inc.

Jorge’s previous professional success includes being one of the youngest employees to ever lead large-scale, global implementations at TRW Automotive; earning a sales achievement award for having a key role in securing one of the largest contracts in company history for Delphi; and serving as a leader on a team that won seven international advertising awards with Delphi.

A native of Brazil, Jorge credits Dr. Sid Sridhara, professor in the Department of Engineering Technology, for preparing him for real-world business experiences. “Everyone with whom he comes in contact with receives the same level of dignified respect and is held in high regard,” Jorge says. “I have tried to embody this quality of ‘human respect and deference to all’ since meeting him, and the effects in my life have been transformational.” Informed that he had been awarded the 2011–2012 Young Alumni Achievement Award by MTSU, Jorge said he was “overwhelmed, honored, and humbled,” adding that his hope is to “leverage it to continue the work I have set out to do in simultaneously helping companies and socially responsible causes.”

In the following article written by Randy Weiler for MTSU Magazine, Jeff gives credit to Dr. Sridhara preparing and inspiring him.

In the following article written by Randy Weiler for MTSU Magazine, Jeff gives credit to Dr. Sridhara preparing and inspiring him.
It’s seldom that we have a program promoted to another level in MTSU’s hierarchy, but that’s exactly what happened to Engineering Technology’s Concrete Industry Management (CIM) program. This major experienced tremendous growth since its inception in 1996. The success of the program relies on the active involvement of concrete industry businesses, talented students and a dedicated faculty. Academia’s recognition of the value and success of the CIM program resulted in five other universities development of CIM programs at their campuses.

The Tennessee Board of Regents approved the July 1, 2011 transition of CIM into a new university department. Dr. Heather Brown, who served as CIM’s director, now chairs the new department.

CIM and ET faculty and staff celebrated the Tennessee Board of Regents approval of the creation of the new department with Dean Cheatham and the University Provost Brad Bartel was held in mid-spring at the Tom H. Jackson Building.
**New Faculty and Staff in 2011**

**Thomas E. Gormley** joined our faculty as director of Engineering Technology's Commercial Construction Management Program. In his new position, he is responsible for developing the program curriculum and industry relations, recruiting students, and teaching several courses: Construction Management Principles, Soils and Foundations, Estimating, Engineering Fundamentals and Introduction to Construction.

Mr. Gormley received his Bachelors Degree in Building Construction in 1980 from the University of Florida, his Masters Degree in Civil Engineering from Vanderbilt in 2009, and he is currently a doctoral candidate in Environmental Engineering at Vanderbilt.

Among Mr. Gormley’s licenses and certifications are LEED AP, Certified Healthcare Constructor by ASHE, Certified Healthcare Constructor by the American Hospital Association. He has passed the General Contractors License Tests in Florida, Nevada, Utah, Arizona, California, Kansas, and Louisiana. He also passed the Block & Associates National Assessments Contractors Exam (classification Unlimited) which provides reciprocity for licenses in 23 other states. He has also received ACCE training for accreditation evaluations and is a Certified Asbestos Abatement Supervisor by Georgia Tech University.

In 1971, Mr. Gormley began his career in construction management at Joe M. Rodgers & Associates of Nashville as a laborer, carpenter, and superintendent for several different hospitals. He held various positions with Rodgers from personnel manager for the construction of King Faisal Hospital in Saudi, Arabia, to project coordinator for the construction of a pharmaceutical plant in Florida in 1980.

In 1980, he joined McDevitt Street Company as a project manager, and progressed to the level senior project manager. From 1989 through 1995, Mr. Gormley served as vice president operations for McDevitt Street Bove, account manager for Columbia /HCA and Healthtrust.

In 1996, he became vice president of design, construction, equipment and engineering for HCA Healthcare Corporation. At Fluor in 2006/2007, he held the position of vice president of Healthcare Group. He then worked for URS Corp. as their vice president and consultant for Healthcare/Life Sciences Services before joining MTSU last fall.

Mr. Gormley has developed many professional affiliations during his career and is a member of the Healthcare Guidelines Committee (co-chair of Cost Evaluation Committee), a member of the American Society of Hospital Engineers (ASHE), and a fellow of the Health Facilities Institute of America (HFI).

**Douglas E. Chelson** joined our department as associate professor for the Construction Management major. He was born and raised in Oregon before attending Brigham Young University (BYU) in Provo, UT where he earned a BS in Construction Management. He worked in Idaho for a few years before returning to the Portland, Oregon area to work as an estimator/project manager at a small commercial firm for seven years. During that time he built two houses for himself and was awarded a Master of Business Administration degree from the University of Oregon.

He was an instructor at BYU for two years and then moved to Maryland to continue his schooling and serve as a project manager in a large commercial firm. He then took a position as assistant professor at California State University, Chico during which time he completed his research on the effects of BIM on field productivity and was awarded a Ph.D. in Civil Engineering through the Project Management Program at University of Maryland, College Park.

His research interests are in technology usage in management, risk assessment and his wonderful folding toilet. He is currently working on an emergency response housing solution with the ultimate goal of providing sustainable sanitary living conditions for persons in developing countries where infrastructure is limited. Dr. Chelson enjoys building houses for his spectacular wife and ten children. The oldest of his children is on a mission in Chile, the second is married, the third is about to begin a mission in Thailand and the rest are still blessing their parents at home. His hobbies include singing, reading, building and spending time with family.

**John Rozell** to the ET laboratory staff. A 1984 graduate in Aerospace Technology, John comes back to MTSU after a career in manufacturing engineering and design.

After graduation, John worked for Textron Aerostructures in Nashville as a quality assurance coordinator for the Space Shuttle Intertank, C-5B wing and Gulfstream 4 wing programs. Upon completion of those programs, he joined the Whirlpool Corporation in Lavergne, providing engineering design support for their air conditioner and built-in refrigerator product lines. In 2005 John moved to Schneider Electric in Smyrna as a product designer for medium voltage power distribution equipment.

John joins wife Carol at MTSU. She is the director of financial systems for the MTSU business office. His oldest daughter Caitlin graduated from MTSU this past May and youngest daughter Kelly is currently an MTSU freshman.