

## The CoETCS Connection

### Summer 2010

#### Registration Dates

##### Regular Registration

May 27-28

##### Classes Begin

Jun 1

##### Late Registration

(schedule adjustments)

Jun 1-2

### Fall 2010

#### Registration Dates

##### Regular Registration

Aug 23-26

##### Residence Halls Open

Aug 21-22

##### Classes Begin

Aug 28

##### Late Registration

(schedule adjustments)

Aug 30—Sep 3

## Message from the Dean: Dr. S. Keith Hargrove



Welcome to the College of Engineering, Technology & Computer Science (CoETCS) at Tennessee State University (TSU), and our inaugural issue of **CoETCS Connections**. The objective of this publication is to inform students, faculty, the campus community, and our external constituents of the activities and achievements of the college. We believe that by keeping you informed and connected with our programs will stimulate your engagement and participation in these and future activities within the College of Engineering, Technology & Computer Science.

We are challenged and committed to providing the highest quality industry-driven curricula in engineering, technology, and computer science. . . to meet the growing demand for STEM (science, technology, engineering, and math) professionals in industry, government, and entrepreneurship. The College currently provides BS degrees in Architectural, Civil, Electrical, and Mechanical Engineering, with several concentrations such as manufacturing, environmental, facilities, and computer engineering.

The College also awards degrees in Aeronautical & Industrial Technology, Computer Science, Master of Engineering, and MS and PhD in Computer and Information Systems Engineering.

Recognizing the need for developing graduates with an appreciation for global awareness, solid engineering fundamentals, and professionalism . . . we are striving to develop and promote an educational experience that produces the "global engineer" through life or language learning, a FE-based (Fundamentals of Engineering) curriculum for outcome assessment, and critical skills in research, design, problem solving, and communication. A dedicated faculty and staff seek to integrate innovative approaches to instruction, laboratory experience, and internships to address the contemporary challenges of the profession, and engage the community through service and outreach.

Our programs complement the student learning experience with aggressive research initiatives in areas such as intelligent sensors, robotics, manufacturing, environmental issues, data fusion, and signal/image processing. The Engineering Research Institute (ERI) serves as our primary entity to collaborate and partner with industry and government, complemented by several research centers in specific areas of scientific investigation.

As Dean of the College of Engineering, Technology & Computer Science, I look forward to continuously developing and implementing strategic initiatives to expand **ACCESS** for incoming students via preparation and recruitment, providing support to make it more **AFFORDABLE** to pursue our degrees, and minimizing the **ATTRITION** of our students while supporting the roadmap of the TSU Strategic and Academic Master Plan.

I hope this inaugural issue of **CoETCS Connections** will give you some insight of the past and current activities for Academic Year 2009-2010. As a potential student, I encourage you to inquire about our academic programs for enrollment, contact our undergraduate programs coordinator, and visit our institution to learn more about our historical and nurturing environment for student success. As a potential partner and collaborator, I invite you to contact our ERI Director, research faculty, department heads, or myself to initiate projects that benefit our mutual interests and goals. And as one of our outstanding alums, I challenge you to connect or reconnect with the college by joining the TSU Engineering Alumni Association, and playing a significant role to grow our programs and implement our initiatives.

TSU symbolizes a tradition of **"transforming students unequivocally"**, with a mission to prepare students for careers and occupations with relentless dedication of its faculty, staff, and administration. I invite you to become part of this experience within our college. . . at TSU. . . **This Special University**. I hope the content of the newsletter demonstrates our tradition.

Dr. S. Keith Hargrove, Dean

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CoETCS student Loréal Spear, left, and a team of volunteers renovated Beverly Hatchett's home. Her home got new plumbing, new windows, a patched roof, a renovated bathroom and a fresh coat of paint. (DIPTI VAIDYA / THE TENNESSEAN)

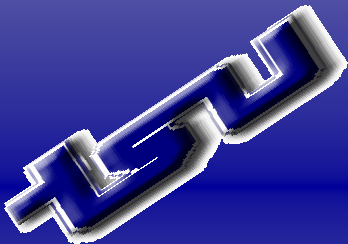
## TSU lifts up Jefferson Street Neighborhoods

By Jennifer Brooks, *THE TENNESSEAN*

They were blocks apart and worlds away: a bright young college engineering student and a grandmother with bad knees and a house falling to pieces around her. That is until 70-year-old Beverly Hatchett reached out to the university next door, and 21-year-old Loréal Spear, a senior Civil and Environmental Engineering major, reached back.

Over the past year, Spear and a team of volunteers from Tennessee State University campus and community groups have rehabbed the Eden Street bungalow that's been Hatchett's home for the past 42 years. Hatchett got new plumbing, new windows, a patched roof, a renovated bathroom and a fresh coat of paint on the home's exterior. Spear got real-world experience beyond the classrooms and textbooks, overseeing contractors and doing hands-on repairs.

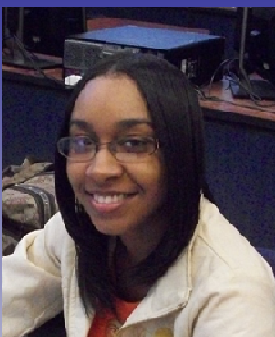
"It's been a blessing," said Hatchett, who has had little contact with the TSU community since she left the school in 1958 to begin raising her family. But interacting with the student volunteers in her home, she said, "gives us both something. It teaches them to give back, to be part of their community. You never forget the bridge that carried you across."



## CoETCS Students Selected for Internships in Germany

By Dr. Hinton Jones, *Dept. Head, Architectural Engineering*

Miss Rikita Bonner, Miss Loreal Spear, and Mr. Aaron Williams will be traveling to Wiesbaden, Germany this summer for a ten week internship with the United States Army Corp of Engineers. As interns, these students will have the title of Engineering Technician while working with the Construction Division of the European District. In this position they will work at numerous construction sites while in Europe. Miss Bonner will be receiving her B.S. degree in Architectural Engineering in December, 2010, and plans to continue her studies toward a Ph.D. in Architectural Engineering in building structural systems design. Mr. Williams is scheduled to earn B.S. degrees in both Civil and Architectural Engineering in May 2011. Miss Spear will graduate with a B.S. degree in Civil Engineering in May 2011 as well.



College of Engineering, Technology & Computer Science

# *Student Activities*

## **BEYA 2010**

*By Dr. S. Keith Hargrove, Dean, CoETCS*

The Council of Deans for Historically Black Colleges & Universities participated in the 2010 Black Engineer of the Year Awards (BEYA) Event held in Baltimore, MD on February 18-21, 2010. The event is held annually to showcase the achievements of minorities in science and engineering from corporations, government, and academia. Dr. S. Keith Hargrove, Dean of the College of Engineering, Technology & Computer Science attended this event, and is shown with other Deans. Also shown is the CEO/President of the Lockheed Martin Corporation, and Dr. Tyrone Taborn, Founder and CEO of Career Communications, host of the BEYA Conference. This year more than 45 students attended the event sponsored by the College of Engineering, Technology & Computer Science.



## **Students learn the importance of Mentoring**



*Latasha Cox, Senior, Electrical Engineering*

The Quality Education for Minorities (QEM) Network Mentoring Workshop for Underrepresented Minority Undergraduate Engineering Students and Faculty/Staff Advisors took place November 12-14, 2009 in Baltimore, MD. The purpose of this workshop was to focus on the mentoring and professional development of underrepresented minority undergraduate Engineering students. This was the very first year for this event so it was a chance for people to experience this fantastic experience for the first time.

Throughout the workshop, students and staff were exposed to various seminars from resume building to obtaining financial assistance to pursuing degrees beyond a bachelor degree. There was also a design competition which allowed each school and student to display their knowledge on creative thinking and execution. Each seminar allowed students to express themselves to each other as well as learn valuable lessons to take back to their respective schools. This workshop also presented an opportunity for students to bond with each other and for students to meet other staff/faculty who perhaps were on the path the student is now taking. The students were encouraged to strive for the highest degree possible in their respective majors, and also explore all options before limiting oneself to the present situation(s). QEM will continue to follow these students progression through their college years, providing additional mentorship and professional development opportunities for these students.

Attending the conference and representing CoETCS were: Michael Bethea, Rikita Bonner, Dusty Clemons, Latasha Cox, Lamine Gueye, Troy Lambert, Frenisha Rollins, Patrick Simo and Cecily Wiseman.





## ENVIRONMENTAL STUDENTS WIN 3 OUT OF 4 ENGINEERING AWARDS AT THE TLSAMP CONFERENCE

*By Dr. Tom Byl, Professor, Civil and Environmental Engineering*

Environmental students win 3 out of 4 engineering awards at the TLSAMP conference, Nashville, TN, Nov 12 -13. First place for engineering posters was awarded to Loreal Spear & Christin Staples for their work on environmental risks associated with biofuel Et-85. Second place for the engineering posters went to Ashley West for her work on the efficacy of leaf pack filters at Mammoth Cave National Park. Aras Barzanji and Hawar Abdi won second place oral presentation for their work on groundwater hydrology. Other presentations that were very competitive were on groundwater recharge and springs (Carlton Cobb), and, modeling non-ideal flow in a wetland (Jameka Johnson). The students are conducting their research under the direction of Dr. Tom Byl in environmental engineering.



# HOMECOMING 2009

*“RECHARGING THE BLUE, FOR A BRIGHTER TSU”*

*By Kevin Williams, Director, Engineering Student Serv.*  
Homecoming 2009 was a great success for Tennessee State University and the College of Engineering, Technology and Computer Science. The CoETCS collaborated with the TSU Engineering Alumni Association (TSUEAA) to host its first ever tailgating cookout for the homecoming game. Over 120 area high school students attended the tailgating event and received info on CoETCS programs, scholarships, student organizations and support services. Additionally, the CoETCS hosted the annual TSUEAA homecoming meeting and participated in the TSU Alumni Open House. CoETCS will make the tailgating event an annual tradition and will add more events to future homecoming schedules. Several CoETCS students also teamed up with the TSU Pre-Alumni Council to place 1st in the homecoming float competition for student organizations and departments.



College of Engineering, Technology & Computer Science



## TSU STUDENTS RAKE IN TOP AWARDS AT AMERICAN WATER RESOURCES CONFERENCE

*By Dr. Tom Byl, Professor, Civil and Environmental Engineering*

I am pleased to announce that two TSU students once again swept the student research competition. Jameka Johnson (Environmental Engineering) won FIRST PLACE UNDERGRADUATE for her research on the use of numerical models to predict contaminant removal in wetlands. Chris Beals (Biology) won FIRST PLACE for his research on changes in plant enzyme activity in response to water quality.

While those two students came home with the awards (and checks), the other TSU students came in strong with excellent research presentations. I was told it was close between several TSU students. Vanderbilt, Tennessee Tech and University Tennessee were also well represented at this meeting.

TSU representatives at the annual Tennessee AWRA conference were: Patrice Armstrong, Jameka Johnson, Christopher Beals, Diana Kiser, Dr. Sam Dennis, Marquan Martin, Jaala Brooks, Carlton Cobb, Dr. Tom Byl, Brandon Cobb, Ashley West, and Baibai Kamara. This group made 11 presentations, met with professionals and enjoyed learning more about water resources.



## 36th NSBE National Convention, TORONTO!



*Pictured (l-r): Loreal Spear, Jonqavious Millsaps, Keaton Browder, Christin Staples, Aaron Williams, Denise Brown, Nate Goodman, Adam Marshall, Rikita Bonner, James Johnson*

*By Denise Brown, Senior, Electrical Engineering*

The 36th Annual National Society for Black Engineers (NSBE) Convention was held in Toronto, Ontario, Canada, March 31– April 4, 2010. Ten CoETCS students had the opportunity to attend the conference, which was the first held outside of the continental U.S. For many, it was their first trip outside of the country and was truly an enlightening experience. The conference gave students the opportunity to network with fellow STEM majors from around the world, as well as industry professionals from leading companies. The daily general body meetings featured wonderful keynote speakers, to include Dr. Stephen Perry, renowned author, education news contributor, and champion for urban public education reform. Also, our very own dean, Dr. S. Keith Hargrove, spoke at two breakout sessions, for which our TSU students strongly supported. One of the highlights of the conference was the NSBE Career and Industry Fair in which over 60 companies were on hand to recruit students for internships, co-ops, and full-time opportunities. Overall the career fair was a success for many students and every year it becomes better and better!!! The 37th Annual National Convention is scheduled for March 2011 and will be held in St. Louis, Missouri.

# Faculty and Staff News

## Dr. Wei Chen receives IBM Research Award

Dr. Wei Chen, Professor of Computer Science in the College of Engineering, Technology & Computer Science, recently received the IBM Faculty Award for her research proposal in cloud computing. Recommended and assisted by Dr. S. Keith Hargrove, Dean, the award is focused on research in developing new solutions for optimally factor workloads in cloud computing. Cloud computing is an advanced parallel and distribution system of computation devices for service delivery. IBM has been a supporter and advocate of TSU for many years, and recruit graduates from business and engineering.



*First Photo (left to right) Elmer Corbin, Director, IBM Systems & Technology Development and University Alliances S. Keith Hargrove, Dean, College of Engineering, Technology & Computer Sciences Wei Chen, Professor of Computer Science, IBM Faculty Awardee Melvin Johnson, President, TSU*

## On the “FaST” Track to Success: CoETCS Professor and students selected for prestigious program

Dr. Sachin Shetty knows that the CoETCS Cyber Security research initiative is now on the “FaST” track to success. Shetty, an assistant professor in the Electrical and Computer Engineering Department, and two of his students will spend the summer of 2010 at the U.S. Department of Energy’s (DOE’s) Argonne National Laboratory (ANL) as participants in the Faculty and Student Teams (FaST) program, administered by ANL’s Division of Educational Programs for DOE and the National Science Foundation. This experience will be the catalyst needed to accelerate the development of CoETCS’s cyber security program. Undergraduates Chanthavone Keobounhom and Peter Riad will participate for 10 weeks of research, networking and camaraderie with fellow students, faculty and researchers from across the nation.

During the appointment, his team will be working on the mathematical formulation and solution of their statistical and stochastic models for the optimal design of intrusion detection systems. The team will coordinate with ANL staff members to identify problems of interest in the area of cyber security and intrusion detection, construct models for these problems, and solve the models and analyze the results. The work will be supervised by Dr. Todd Munson from the Mathematics and Computer Science Division.



*Dr. Sachin Shetty, Assistant Professor, Department of Electrical and Computer Engineering*



## CoETCS Welcomes New Faculty and Staff



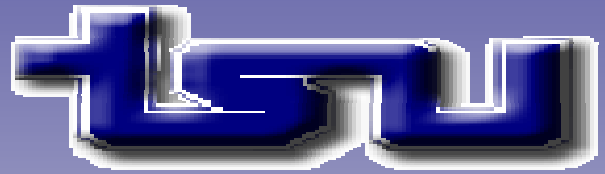
**MRS. FREDIA LUSK**  
Outreach Coordinator/Pre-College  
Coordinator  
Engineering Student Services



**DR. SACHIN SHETTY**  
Assistant Professor,  
Department of Electrical and  
Computer Engineering



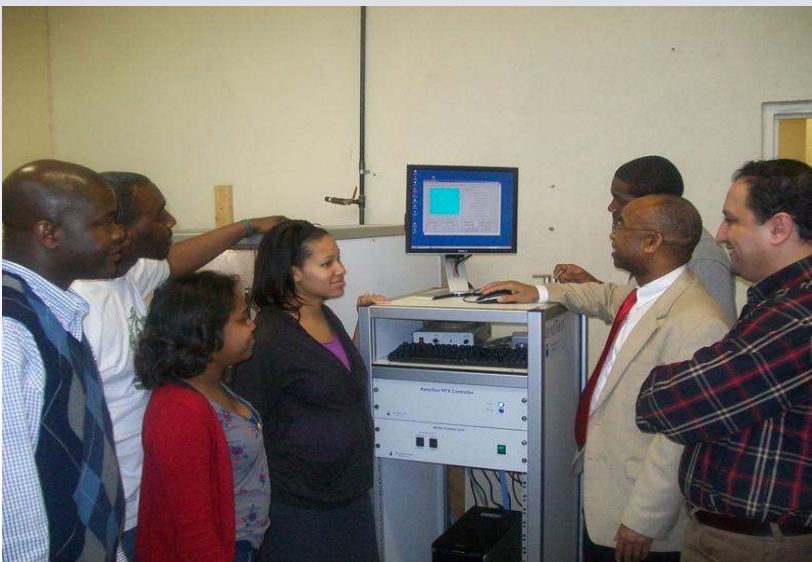
**DR. DEO CHIMBA, PE., PTOE**  
Assistant Professor  
Department of Civil and  
Environmental Engineering



# Graduate Studies and Research

### **CENTER FOR SEATING COMFORT DESIGN**

*By Dr. Landon Onyebueke, Professor, Mechanical Engineering*  
Tennessee State University has currently established a Research Center for Seating Comfort Design. The center is funded by Boeing. The goal of this center is to provide an in-depth understanding of the problem of seating comfort through various search sources. Perform some comfort seating tests to be used to develop design requirement, analytical design techniques, concepts, prototypes and necessary design packages. Dr. Landon Onyebueke, professor of Mechanical Engineering, is the director of the center. Several graduate and undergraduate students participate in the research.



College of Engineering, Technology & Computer Science

# Graduate Studies and Research

By Dr. Mohan Malkani, Associate Dean

## **CURRENT GRADUATE STUDENT STATISTICS**

Fall 2009 witnessed 78 students in CoETCS graduate programs, including 23 first time new students. CoETCS currently has 45 students in Master of Engineering, 20 students in Master of Science in CISE and 13 students in Ph.D (CISE). The gender distribution is 87% male and 13% female. The ethnic distribution is 38% African Americans, 27% Whites, 23% Internationals, 9% Asian Americans and 3% Hispanics. 41% are full-time and 59% are part-time students. The College awarded 23 teaching and research graduate assistantships, and 10 fellowships.

## **CONGRATULATIONS TO...**

Carlos Bean Ph.D (CISE) and McKenzie McNeal, Ph.D (CISE), both students with Computer Communication and Networks concentrations, for successfully getting their research proposals approved by the CoETCS Doctoral Program Committee. Mr. Bean's proposal is entitled, "Development of stabilization Criteria for a Networked Control System with time Delays and Markovian Jump." Mr. McNeal's proposal is entitled, "Robust Networking Architecture and Secure Communication Scheme for Heterogeneous Wireless Sensor Networks."

Extended congratulations also go out to Mr. McNeal for being selected to represent Tennessee State University at this year's Graduate Education Week festivities on Wednesday, April 7, 2010. Mr. McNeal will do a poster presentation at the Legislative Plaza (State Capitol) on his research entitled "Robust Networking Architecture and Secure Communication Scheme for Heterogeneous Wireless Sensor Networks". McKenzie will also intern this summer at Applied Research Laboratory of Penn State University.



ECE students Chanthavone Keobounhom and Peter Riad for winning the second and third prize respectively at the TSU's 2010 Research Symposium held last week. Chanthavone's poster described a virtual reality based game to improve the problem solving skills in Electric Circuits course. Peter Riad's poster focused on secure physical layer key generation for wireless networks.

## **OUR DECEMBER 2009 GRADUATES!!!**



### **Master of Engineering**

James Griffin  
William Dok  
Emad Karas  
Cedric Webber  
Imran Shaik

### **Master of Science**

Anand Chittedy  
Ronald Davis  
Sirinivas Gottipati  
Geoffrey Nwankwo  
Prasanna Soanker  
Aditya Tella  
Lindsay Williams





## Cobb Recognized by Tennessee Governor Bredesen

*Dr. Thomas Byl, Professor, Civil Engineering*

Brandon Cobb, graduate student in environmental engineering, won first place at the Tennessee Chapter of American Water Resources Association meeting in April, 2009. He was competing against students from U.T. Knoxville, Tenn. Tech. Univ., Vanderbilt University, ETSU and Univ. of Memphis. His research with Dr. Byl documented changes in the wetlands due to beaver activity and if those changes were good for water quality. Then, he took the best ideas and incorporated them into a wetland design for urban non-point source pollution. Brandon was selected to present his research on legislative plaza in February and was congratulated by Governor Bredesen.

# Alumni News

## TSUEAA Awards \$4000 in Scholarships

During the 2009 TSU Homecoming weekend, the Tennessee State Engineering Alumni Association awarded four CoETCS students the inaugural Alumni Endowment Scholarship. Each student received \$1000 towards tuition and fees. This year's recipients were chosen from a group of over 20 applicants by the CoETCS scholarship selection committee. Selections were based on academic merit, community involvement, personal statement of need and faculty/staff recommendation. This years recipients were: **Henoch Metzun**, Sophomore, Civil and Environmental Engineering, **Corie Wilson**, Sophomore, Electrical Engineering, **Tahirah Bradley-Stephens**, Sophomore, Computer Science, **Gilbert Goodman**, Junior, Mechanical Engineering

(pictured l-r) Mr. Charles Flack, Gilbert Goodman, Corie Wilson, Henoch Metzun, Tahirah Bradley-Stephens, Dr. S. Keith Hargrove



## CoETCS Alum Receives National Honor

Ms. Rhonda Lyons, alumnus of the Aeronautical & Industrial Technology Department, received the Minority in Research Science Trailblazer Award at the Black Engineer of the Year Conference in Baltimore, MD in February 2010. The award recognizes men and women who are demonstrating outstanding performance that will shape the future course of science and technology. Ms. Lyons is pictured with the Founder and CEO of Career Communications Group, Inc., Mr. Tyrone D. Taborn, and Dr. S. Keith Hargrove, Dean of the College of Engineering, Technology & Computer Science. On behalf of the college and the campus community, we commend Ms. Lyons on her service and representing TSU with excellence and professionalism.



College of Engineering, Technology & Computer Science

# 2010 PRE-COLLEGE SUMMER PROGRAMS

PROGRAM NAME	ENGINEERING CONCEPTS INSTITUTE (ECI)
ELIGIBILITY REQUIREMENTS	Incoming Freshmen students (at least 2.8 high school GPA)
COST	\$100.00
DATES	June 6 – July 9, 2010
APPLICATION FEE	\$10.00
POINT OF CONTACT	Kevin Williams, 615 963-5879, <a href="mailto:kwilliams41@tnstate.edu">kwilliams41@tnstate.edu</a>
DESCRIPTION	ECI is a five-week residential summer program for high school graduates majoring in an engineering discipline. The students will participate in enrichment and preparatory coursework in physics, chemistry, and mathematics to introduce them to the discipline of engineering.

PROGRAM NAME	SUMMER TRANSPORTATION INSTITUTE (STI)
ELIGIBILITY REQUIREMENTS	Rising 10 <sup>th</sup> – 12 <sup>th</sup> grade students (at least 2.7 high school GPA)
COST	\$100.00
DATES	June 6 – July 2, 2010
APPLICATION FEE	\$10.00
POINT OF CONTACT	Montanez Wade, 615 963-5366, <a href="mailto:mwadel@tnstate.edu">mwadel@tnstate.edu</a>
DESCRIPTION	STI is a four week residential program that introduces high school students to the transportation industry. The students will participate in enrichment and preparatory coursework in physics, mathematics, and computing to introduce them to the discipline of engineering. Each week will cover a different aspect of transportation (AIR, LAND, and SEA).

PROGRAM NAME	PRE-ENGINEERING PROGRAM TO STIMULATE INTERESTS IN ENGINEERING (PEPSIE)
ELIGIBILITY REQUIREMENTS	Rising 10 <sup>th</sup> – 12 <sup>th</sup> grade students (at least 2.7 high school GPA)
COST	\$100.00
DATES	July 18 – July 30, 2010
APPLICATION FEE	\$10.00
POINT OF CONTACT	Kevin Williams, 615 963-5879, <a href="mailto:kwilliams41@tnstate.edu">kwilliams41@tnstate.edu</a>
DESCRIPTION	PEPSIE is a two-week non-residential summer program for entering 10-12th grade students to expose and introduce them to the discipline of engineering. The program will focus on hands-on projects including product design, manufacturing, robotics, and aeronautics. All students will participate in refresher activities to promote and enhance learning skills and knowledge in mathematics and physics, and conclude with a final project.

For more info and applications, please visit our Pre-College Programs website at  
<http://www.tnstate.edu/interior.asp?mid=5436&ptid=1>

# BUILDING BRIDGES WEEKEND

## April 23-24, 2010



*Creating a Global Engineer*

*CoETCS Recognition  
&  
Awards Banquet*



*Friday, April 23, 2010  
Jane Elliot Hall (The Women's Building)  
6:00 – 9:00 p.m.*

**Recognition Awards:**  
**Student Awards**  
1. GREGORY KIMBROUGH STUDENT SERVICE AWARD  
2. OUTSTANDING STUDENT AWARD  
**Faculty Awards**  
1. IDA MCCLAIN FORTITUDE AWARD  
2. MOST OUTSTANDING FACULTY AWARD  
**Alumni Awards**  
1. THINK, WORK, SERVE AWARD  
2. ALAN WILLIAMS' INFINITE VALUE AWARD  
**Corporate Awards**  
CORPORATE SPONSOR OF THE YEAR AWARD

*"Creating a Global Engineer"*



S. Keith Hargrove, Dean  
College of Engineering, Technology  
& Computer Science" (CoETCS)

**TICKETS = \$150**

For more info Contact: Kevin Williams  
kwilliams41@tnstate.edu  
615-963-5879

<http://www.tnstate.edu/interior.asp?mid=6822&ptid=1>

## CoETCS Spring Fest Picnic and Field Day



Date: April 24, 2010, Time: 9:00am- until  
Location: Gentry Center Complex

Please come and join in all the fun for the Spring 2010 Barbe-  
que/Field Day Festival that is sponsored by the Engineering  
Department. We are providing fun, food, and games to all that

For further info, please contact:

Kevin Williams: 615-963-5879

Amiee Kelly: 615-557-7024

College of Engineering, Technology & Computer Science



# TO OUR INDUSTRY CLUSTER MEMBERS



# THANK YOU FOR YOUR SUPPORT!!!

College of Engineering, Technology, &  
Computer Science  
3500 John Merritt Blvd.

Nashville,

Phone: 615-963-5401  
Fax: 615-963-5397  
E-mail: [kwilliams41@tnstate.edu](mailto:kwilliams41@tnstate.edu)

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<http://www.tnstate.edu/interior.asp?mid=284>