



# The Basic Facts

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The Basic Facts, College of Basic and Applied Sciences, Middle Tennessee State University, Murfreesboro, TN

## Math & Science Education Research Conference

### The Science of Success

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The Tennessee Mathematics, Science and Technology Education Center (TMSTEC) hosted a state-wide research conference on math and science education. Several nationally-known speakers (Dr. Robert



Yager, Iowa; Dr. Jim Lewis, Nebraska; Dr. Leigh Alots, Maryland; U.S. Congressman Bart Gordon) discussed innovations in teaching and learning math and science. At least 10 institutions of higher education from across the state par-



ticipated along with Oak Ridge National Labs, the TVA, and others. It was a great conference! Special thanks to Drs. Ray Phillips, Dovie Kimmins, and Mary Martin.

## New Science Building Update

Great strides continue to be made in the science building planning process. Planning meetings have been a whirl-wind and will likely continue that pace for awhile. The design teams Einhorn, Yaffee & Prescott, along with Thomas, Miller & Partners, Hastings Architecture and other consultants



have been meeting with faculty in chemistry and biology. In January, another member was added to the team, Turner Universal, who serves as the Construction Manager/General Contractor for the project. Programming that is defining the square feet needs/

allocation for each space has been completed. The current phase of planning is Schematic Design. During this process, faculty provide additional input to the design teams to assist them in determining how the spaces are to be configured. One of the unique features of this building is the designation of shared, interdisciplinary research space as well as areas for students to interact outside the classroom.

## New Faces at CBAS

CBAS welcomes two new faces to our staff, **Nicole Green** and **Sheila Bleam**. **Nicole Green** is the new **career coordinator**. Nicole is a graduate of the University of Tennessee, Knoxville with a degree in Biochemistry and Cellular and Molecular Biology. She has worked at MTSU in the Career & Em-



ployment Center for more than four years. Most recently, Nicole served as Career Coordinator for the College of Mass Communication; however, she is thrilled to be back in the Sciences and working with students and faculty who have similar interests. She is located in Jones Hall 309. You can contact Nicole at

[kngreen@mtsu.edu](mailto:kngreen@mtsu.edu) or 494-8797. **Sheila Bleam** is the new **executive secretary**. Sheila has a Bachelor of Business Administration degree from MidAmerica Nazarene University. She is located in Jones Hall 159. You may contact Sheila at 898-2613 or [sbleam@mtsu.edu](mailto:sbleam@mtsu.edu).



## Special MTSU Guests

**Dr. Karl Smith** was the guest speaker at the March "Teaching and Learning" seminar. Dr. Smith is well known in inquiry-based and other active types of pedagogies in STEM.

**Major General James Myles** visited Middle Tennessee State University for a luncheon hosted by CBAS. Additional participants



included the MTSU Cadre, Dr. Kaylene Gebert, and Dr. John McDaniel. General Myles was also a featured speaker at the ROTC ball the same evening. He is a graduate of MTSU.



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<http://www.mtsu.edu/~collbas/newsletters>



## The Basic B.E.S.T. (Boastful Educators Sharing Talents)

All departments are invited to submit items for this column

### Aerospace

The Aerospace Department will go through the re-affirmation process for accreditation this year. A visiting team from the Aviation Accreditation Board International (AABI) will be on campus in March. MTSU Aerospace is one of a very few collegiate aviation programs to have earned national/international accreditation in five concentrations.

**Daniel Prather**, GTA's, and the students are commended for the unqualified success of the First Annual Aerospace Career Fair. This event included 16 employers, including many MTSU Alumni, representing career opportunities in all of the AERO concentrations. The feedback from all of the potential employers included two things: our students are very impressive, and the event was professionally organized and operated. Most of the Aerospace faculty were also available and made some great contacts, including Bob Phillips and Nicole Green. It was simply an amazing day!

### Agribusiness/Agriscience

**Rhonda Hoffman** presented a national invited talk, "The Equine Carbohydrate Model," at the Cargill Advanced Equine Nutrition Consultants Symposium and a regional invited talk, "Recent Advances in Carbohydrate Nutrition in Horses," at the Tennessee Nutrition Conference.

### Biology

"Oil and Water: A Recipe for Pollution" in *The Tennessee Conservationist* was co-authored by **Karen Hargrove**. Hargrove stated that the severity of automotive leaks annually in Tennessee could equal the amount of fluid of three Valdez oil spills. The solution is simple: check and repair leaks in your vehicle.



**Cindi Smith-Walters**, jointly with faculty from TN State University, recently submitted a Solid Waste Management Study to both the TN House and Senate entitled, "Diversion of Organic, Construction, and Demolition Material Wastes from Tennessee Class I and Class IV Landfills."

**Cindi Smith-Walters** visited Hobgood Elementary School as a guest on their morning Super Science Television series. Students were treated to a 'FOOL YOUR BRAIN' segment hosted by Hobgood

teacher and MTSU alum Alicia Freehardt.

**George Benz** co-taught a two-day fish health workshop in Las Vegas, NV. He also presented a keynote address at the Marine and Estuarine Graduate Student Association's annual meeting.

**George Benz** published a paper in the *Journal of Parasitology* describing a new species of parasitic copepod and erecting a new genus to accommodate it.



### Chemistry

**Pat Patterson** (Chemistry) and **Kim Sadler** (Biology) were appointed by the Deputy Commissioner for the Tennessee Department of Education to serve on the Science Revision Committee. **Pat Patterson** and **Amy Phelps** directed the 12th Science Olympiad Regional Competition hosted by MTSU. All 23 events were offered to more than 350 students in both the 13 middle and 13 high school division teams. Coaches, more than 100 faculty, staff, students and community supporters participated this year. State Farm Insurance provided \$3,600 scholarship funds for the competing teams.

**Tammy Melton** has been selected to attend an NSF-sponsored workshop in Forensic Science. The workshop will cover many forensic science techniques. Dr. Melton will teach a Buchanan Honor's course in spring 2008 entitled, "Chemistry and Crime," which will use many of the laboratory procedures.

### Computer Science

**Zhijiang Dong**, **Cen Li** and **Medha Sarkar** attended the Council on Undergraduate Research (CUR) Dialogues conference.

**Suk Jai Seo**, **Jungsoon Yoo** and **Sung Yoo** attended the Innovations in Computing Forum.

**Suk Jai Seo** presented "On Coupled and Proper-Coupled-Domination" at the 38th Southeast International Conference on Combinatorics Graph Theory and Computing.

**Cen Li** presented "Improving Railroad Wheel Inspection Planning Using Classification Methods" at the ISTED International Conference on Artificial Intelligence in Applications.

### Engineering Technology/Industrial Studies

Teams are being organized at MTSU & Middle Tennessee Medical Center for a Lean project involving Emergency Room Efficiency and a Six Sigma project involving "Fall Prevention of Elderly Patients" that are led by graduate students Wolday Anday and Santosh Karpathi and include other graduate and undergraduate team members from ETIS and the Nursing Departments. Also, teams are in place for both projects at Bridgestone-Firestone, USA, as well as Stinger Medical, Inc., Asurion Corporation, and General Mills. These projects are required for graduate students for certifications within related courses taught by **David Gore**.

**Heather J. Brown** was recently promoted to Director of the CIM program. She was also given the Directors Award at the Tennessee Concrete Association Annual Convention.

**Heather J. Brown** was the keynote speaker at the Systech Customer Conferences. In addition, she spoke to Nashville Public Works, and will be featured on Smyrna Channel 3 Town Hall Meeting.

Adtec Digital recently provided a Middle Tennessee State University senior engineering student, Jayme McQuillan, with an opportunity to build a push-button control device for Adtec's MPEG players, giving him valuable experience in the technology industry. This project was assigned by MTSU engineering professor, **Karim Salman**.

ETIS will be having an open house on Thursday, April 26, with poster presentations, from 3:30-5:30pm in the Tom H. Jackson Hall. Refreshments will be provided. Anyone is invited to come to it, especially BAS Administration, Faculty, Staff, and students.

### Mathematical Sciences

**Zachariah Sinkala** is co-author of "A High Order B-Spline Collocation Method for Linear Boundary Value Problems" that is to appear in *Applied Mathematics and Computation*.

**Don Hong** has published a paper "Airline Revenue Optimization Problem: A Multiple Linear Regression Model" in the *Journal of Concrete and Applicable Mathematics*, 5 (2007), pp. 153-167. His co-

### Nursing

Congratulations to Leigh Ann McInnis, Lynn Parsons, and Maria Smith for their new publications in the March, 2007 issue of the journal *Critical Care Nursing Clinics of North America*. Publications are as follows: Parsons, L. and Krau, S. (2007). Bacterial infections: Management By Acute and Critical Care Nurses; Krau, S. and Parsons, L. (2007). Avian Influenza: Are We Ready?; Smith, M. and McInnis, L. (2007). Antimicrobial Resistance in Critical Care; Smith, M., Smith, T., and Davidson, B. (2007). Managing the Infected Heart; Cisneros-Farrar, F. and Parsons, L. (2007). Antimicrobials: Classifications and Uses in Critical Care.

### Physics

**Robert Carlton**, MTSU's Oak Ridge Associated Universities Councilor, served as a proposal reviewer for ORAU's Junior Faculty Enhancement Awards.

**Robert Carlton** visited the Oak Ridge Center for Advanced Studies (ORCAS) with Dr. Michael Allen, MTSU's new Vice Provost for Research. He represented MTSU at the annual council meeting of the ORCAS and provided the introduction of the keynote speaker Congressman Bart Gordon.

**Bill Robertson** and his former undergraduate research student Jeremy Munday had a paper entitled, "Observation of Negative Group Delays Within a Coaxial Photonic Crystal Using An Impulse Response Method," which was published in the journal *Optics Communications*.

The Naked Eye Observatory at Middle Tennessee State University has earned an honor award for engineering excellence by Nashville engineering firm Hart Freeland Roberts, Inc.



**First Friday Star Parties**  
Spring, 2007  
6:30 p.m., WPS 102

4/6 White Dwarf Stars  
5/4 Sounds of Space

### CBAS

**Saeed Foroudastan**, associate dean and director of the MS-PS Program, gave an invited presentation entitled, "Professional Science Master's Initiative" at the 2007 annual Conference of Southern Graduate Schools.

