



The Basic Facts

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

Engineering Technology and Industrial Studies (ETIS) Activities

The Science of Success

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During the week of finals, Concrete Industry Management (CIM) staff were busy hosting their supporters. On Tuesday the Patrons (local supporters) met. On Wednesday the Executive Advisory Council (regional supporters) met. Finally, on Thursday the National Steering Committee met at MTSU. Tuesday CIM hosted a dinner for graduates and on Wednesday they hosted a golf tournament to raise funds for a new CIM building.



On April 13-14, 2007, NASA's Marshall Space Flight Center

sponsored their 14th Annual Great Moonbuggy Race at the U.S. Space & Rocket Center in Huntsville, Alabama. MTSU placed 7th out of the 30 university teams that competed that Saturday. Teams from Germany, Canada, and Puerto Rico also participated in this year's national/international competition.

Saeed Foroudastan, faculty advisor of the project, would like to thank the dedicated and hardworking 2006-07 Moonbuggy team members and their Team Leaders, Suria Saupreseuth and Johnny Guidry.

The ETIS department held an

Open House on April 26. Students and faculty members made many poster presentations and hosted visitors from the MTSU campus and Murfreesboro community. ETIS student



teams presented nationally competitive projects such as solar car, moon buggy, mini Baja, and SAE Formula 1 vehicles, which were designed and built by students. Research and service projects that were displayed included a plug-in hybrid vehicle and the lead abatement grant. The event was well attended.



Military ~ Groundbreaking ~ Goldwater

Military Commissioning

Military Science held their annual awards and commissioning ceremony April 24, at which time 10 cadets were commissioned as 2nd Lieutenants. For the year they will commission 17 officers, exceeding their goal as always.

Groundbreaking for Observatory

With support from Congressman Gordan through NASA, the second phase of the Middle Tennessee State University Observatory project is underway. A groundbreaking ceremony was held on April 12, 2006 on the site between WPS and the Naked-Eye Plaza. The new observatory build-

ing will house state-of-the-art technology including a large flat screen visible from the outside that can be connected to the telescope for live viewing. The new part will compliment the existing plaza and provide a complete center for teaching, research, and service.

Goldwater Designation

Taylor A. Barnes, a 16-year-old science prodigy at MTSU, has been named as a Goldwater Scholarship recipient, a national award considered one of the top academic awards for students studying mathematics, science and engineering.

"I was very surprised and pleased when I heard about the award,"

Barnes said. "My parents gave me every opportunity to learn as I was growing up. This, combined with the wonderful support I have received from Preston MacDougall and Gary Wulfsberg, helped prepare me for where I am today." Congress established the Barry M. Goldwater Scholarship and Excellence in Education Program in 1986 to honor the Arizona senator, who served his country for 56 years as a soldier and statesman, including 30 years in the U.S. Senate. The Foundation provides a continuing source of highly qualified scientists, mathematicians and engineers by awarding scholarships to students who intend to pursue those careers.

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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

Agrribusiness/ Agriscience

On Saturday, April 28, the Middle Tennessee State University Horse Science program hosted another Alumni Reunion and Awards Ceremony. Nearly 40 alumni attended the afternoon activities at the Horse Science Center on Thompson Lane. Activities included updates by faculty and staff, demonstrations by students, and tours. The Awards Ceremony, held at the Doubletree, was well attended and highlighted the success of the judging teams and the equestrian teams.

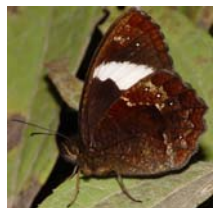
Several individuals and the Western Riding Teams competed at the National Intercollegiate Horse Show Association in early May. The team placed 4th nationally.

Biology

Andrew Brower's \$290,000 grant entitled "Molecular Systematics and Biogeography of South American Pronophilina Butterflies (Lepidoptera: Nymphalidae: Satyrinae)" was approved by NSF. He proposes to study the phylogenetic relationships of a poorly-known group of Satyrine Butterflies that live mainly in the Andean cloud forests of South America. The research will build a phylogenetic framework for relationships among Satyrinae, and more detailed study of Pronophilina, based on molecular data, as well as a state-of-the-art monograph and phylogenetic analysis, web-based keys, catalogs and identification guides for south-temperate genera. The study addresses fundamental questions of the history and biogeography of life in the southern continents.

Karen Hargrove, MTSU Biology Center for Environmental Education, and Greg Upham, Smyrna storm water program coordinator, presented an interactive program with over 1,100 Rutherford County 3rd graders, teachers, and volunteers at Kids' City, April 26-27, emphasizing how everyone's "at home habits" affect water quality in Stones River. Most of the students and adults were surprised to learn that storm water, unlike sewage, is not treated as it flows into storm drains and then into the river. Both Hargrove and Upham are also members of the Stones River Watershed Association.

Cindi Smith-Walters is working with the Tennessee State Department of Education's CENTS program to revise the Tennessee Science Framework Standards for the High School Courses Ecology and Environmental Science. Cindi Smith-Walters and Kim Sadler are also working with the



State Science Consultant to revise Biology I, Biology II, Anatomy/ Physiology, and Biology for Technology frameworks.

Drs. Smith-Walters and Sadler submitted the paper "An Argument for Environmental Education Through Situated Systematic Nature Studies in Preservice Teacher Preparation Programs" which was accepted at the International Conference on Scientific Inquiry and Human Development to be held in Beijing, China in October of 2007.

Cindi Smith-Walters and Padgett Kelly have judged several elementary and middle grades science fairs this spring, including one at Hobgood Elementary which is adjacent to the MTSU campus.

The MTSU Center for Environmental Education has teamed with the Tennessee Academy of Science to develop a brochure to advertise the TAS Visiting Scientist Program. Cindi Smith-Walters and Cynthia Allen, secretary for the Center, completed this effort. Cindi Smith-Walters, president-elect of Tennessee Academy of Science (TAS), recently met with representatives from Rep. Bart Gordon's office and received confirmation that Gordon will be the plenary speaker at the November 2007 TAS Conference to be held at Volunteer State Community College.

Padgett Kelly wrote a thought-provoking article that was printed in the Issues section of the Sunday *Tennessean* (May 6th 2007) reflecting on habitat destruction and urban growth. His article was part of a collaboration response to the newspaper's question "Why are animals in our backyards?"

Chemistry

Perry Wilbon, who is finishing his Masters Degree with John DiVincenzo in Chemistry, gave an oral presentation entitled "Gas Chromatography Analysis of Polycyclic Aromatic Hydrocarbons in Sediment and Stormwater Runoff Samples Collected in Murfreesboro, Tennessee" at the 17th Tennessee Water Resources Symposium in Burns, Tennessee on April 19.

Preston MacDougall gave the keynote address at a Career Fair in Research Triangle Park in North Carolina.

GRITS are cookin'. Dr. Judith Iriarte-Gross, director of Girls Raised in Tennessee Science program (GRITS), reports that the program is off and running, or cooking I guess we should say. Karen Claud, assistant director, came on board in February and has been hard at work. The GRITS Web site is now on-line at www.mtsu.edu/~grits. Video conferences have been scheduled for fall 2007, visits have been made to Memphis and Chattanooga with contact teams established for planning "Expanding Your Horizons Math and Science" conferences for fall 2008, and plans are underway for an in-service workshop on July 9.

Mathematical Sciences



Professor Don Hong congratulated graduates from the Actuarial Sciences Program during the Commencement of May 2007.

Pictured from left to right are Don Hong, Zol Hooper, Dipti Natha, Chance Phelps, and Kearstin Chaffin. Zol Hooper, Magna Cum Laude Honor Graduate, will continue his graduate school study in actuarial sciences at the University of Waterloo. Dipti Natha, Summa Cum Laude Honor Graduate, will start her career as an actuary at CIGNA - Hartford, CT. Chance Phelps, president of the Actuarial Math Student Association, will start his career as an actuary at Blue Cross and Blue Shield of Tennessee in Chattanooga. Kearstin Chaffin is working as an actuarial intern at Willis Insurance in Nashville, Tennessee.

Don Hong has published a paper "Piecewise Linear Prewavelets Over Type-2 Truncations" in the *Journal of Applicable Analysis*, Vol. 86 (2007), pp. 83-98. His co-author is Jiansheng Cao of East Tennessee State University.

Nursing

During April, Suzanne Prevost gave three invited presentations in Hong Kong, China. She provided the keynote address, "Evidence-Based Practice and the Future of Nursing" for the International Conference on Evidence-Based Nursing. She also presented a breakout session for the same conference titled "Paradigms, Knowledge Development, & Practice." Finally, she presented "Honor, Responsibility, and Opportunity" for the annual meeting and induction ceremony of the Hong Kong chapter of the nursing honor society, Sigma Theta Tau International.

The following faculty made presentations at the Annual Alumni CE Conference this past May 11. Platform Presentations: Pam Taylor-"Improving Healthcare through Informatics," Amy Turner-"Management of Low Back Pain"; Poster Presentations: Jenny Sauls & Shelia Marquart-"Student Habits of BSN Students in a Baccalaureate Program," Judy Campbell - "Influences of Attitudes and Health Literacy on Completion of Advanced Directives Among Community Dwelling Older Adults," Janice Harris and Suzanne Prevost - "The Backyard Medicine Cabinet," Sandy Mixer-"Nursing Faculty Career Expressions, Patterns and Practices Related to Teaching Culture Care," Lynn Parsons - "Acute and Chronic Pain Management," Carolyn Hix - "Introducing Nurses to Practice-Based Learning and Improvement: Evaluation of the Student Integrated Quality Improvement Project."

Physics

Students in the Physics & Astronomy Department gathered after the May graduation



ceremony for a photo-op with the record number of physics majors captured in graduation regalia at one time at Middle Tennessee State University. These gathered late in the evening with friends and junior members of the department at the home of Vic Montemayor to express their relief and celebrate their success in a challenging course of study.

CBAS

The MS-PS Program is growing. Four students graduated from the Master of Science in Professional Science (MS-PS) program. Andrew Gould and Jeri F. Shull received their degree in Biotechnology. Kristin Denique Brown and Shane Anthony Crabtree received their degree in Biostatistics.



All of the students completed internships as follows: Jeri Shull, VI-Jon Company; Andrew Gould, Esoterix Center for Innovation; Kristen Brown, Center for Human Genetic Research and Computational Genomics Core; and Shane Anthony, Advanced Breath Diagnostics. We are proud of these students! The program reached the total of 49 students this past spring semester and is looking forward to graduating four more students this summer. Saeed Foroudastan is the director of the MS-PS program, and Ginger Holmes-Rowell, Rebecca Seipelt, Pat O'Leary, and Linda McGrew are program coordinators.

TLSAMP director, Mimi Thomas, was the recipient of the 2007 MTSU Student Organization Advisor of the Year Award. The ceremony took place April 19. The award is presented by the Office of Student Organizations and Community Service.

The CBAS Advisory Board met on April 23 in the Faculty Senate Room located in the James Union Building at Middle Tennessee State University. The Board was divided into four committees: Executive, Finance, Partnership, and Science. The committees developed action steps focused on improving the College of Basic and Applied Sciences role at Middle Tennessee State University.

The CBAS Student Advisory Board met on April 19 in the Hazelwood Dining Room of the James Union Building at Middle Tennessee State University. The participants developed a list of suggestions and questions from the student perspective at Middle Tennessee State University. This list will be provided to the CBAS Advisory Board for review.