



# The Basic Facts

Volume 3, Issue 9 September 2002

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

## Two More Large NSF Grants

### The Science of Success

#### Inside this issue:

NSF Grants Received	1
Belle Aire Move	1
Outstanding Winners	1
Our B.E.S.T	2



**D**r. Steve Wright and Dr. Becky Seipelt (BIOL) received

official notice that their NSF Partnership for Innovation (PFI) grant was funded. The grant for \$835,000 will fund the Biotechnology Resource Group (BRG) as



they support the expansion of the biotech industry and education of K-12 students and teachers about the biotech industry. Several other area colleges and universities and biotech firms will participate. Great job Steve and Becky.

The Tennessee Louis Stokes Alliance for Minority Participation, housed at TSU, will involve MTSU and other Tennessee universities with significant

minority population. Dr. Mary Martin (MATH) represented CBAS on the Co-PI list for the grant that will bring over \$400,000



to MTSU to help double the number of African-American students we graduate in science, technology, engineering and mathematics. Thanks, Mary.

## The Move Into Belle Aire

**M**oving right along — the Center for Environmental Education and the Tennessee Center for the Advancement of Math, Science, and Technology Education staff have moved to their new (and they hope, final) location. Their new home is in the building formerly used by the Belle Aire Baptist Church (still called the Belle Aire Building).

Dr. Ray Phillips, Associate Dean for Research and Outreach, and Dr.

Cindi Smith-Walters, Professor of Biology, are the co-directors of the Tennessee Center for the Advancement of math, Science, and Technology Education. The center's plans for the future include getting funding to furnish the teacher training room and computer lab.

Sharing space at Belle Aire is the Environmental Education Center directed by Smith-Walters and Dr. Padgett Kelly. The Environmental Ed staff is

hopeful the move into Belle Aire Building will make them more accessible to teachers, youth leaders, and home schoolers who don't typically frequent campus. Also, the added space, which they previously had to "borrow" from other sites around town, will allow them to host functions. Additional staff include Dr. Kim Sadler, and Ms. Karen Hargrove.



Visit our newsletter web site to view all *The Basic Facts* issues:

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

## CBAS Faculty Shine

**F**or the third year in a row, CBAS faculty won more university awards than any other college. College faculty won six university-wide awards at the August 16 faculty convocation.

Winners are Dr. Marion Wells, (BIOL), Career Achievement Award; Dr. Pat Patterson (CHEM) and Ms. Mary Jane Lavender (NURS), Outstanding Teacher Award; Dr. Pat O'Leary (NURS) and Dr. Mary Enderson (MATH), Outstanding Achievement in Instructional Technology Award; and Dr. Gary

Wulfsberg (CHEM), Distinguished Research Award.

Each recipient received a check for \$3,000 from the MTSU Foundation and an engraved token from the college.

We extend congratulations to each of the six for their outstanding

performance which led to their selection.





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

All departments are invited to submit items for this column

**A**gribusiness/Agriscience  
**Warren Anderson, Tony Johnston, Frank Bailey (BIOL), and John DiVincenzo (CHEM)** published "Copper and Zinc Levels at a Middle Tennessee State University Vineyard Site," in the *Journal of the Tennessee Academy of Science* along with former Chemistry graduate student **Katherine Parks**.

**Warren Anderson** and D. Richardson (retired professor from UTK) discussed "The Purchase and Installation of Drip Irrigation Systems" at the August meeting of the Master Gardeners of Rutherford County.

### FARM FESTIVAL DAY Friday, October 25 8:00 am—3:00 pm

**Joey Mehlhorn** recently co-authored an article entitled, "Surface Amendments to Minimize Emissions from Beef Cattle Feedlots" which was published in the *Transactions of the American Society of Agricultural Engineers*. The paper received a superior paper award.

**Warren Anderson** attended the 4H-FFA Land Judging Arrangement Committee meeting in September at the Ellington Agriculture Center in Nashville.

**Dave Whitaker** lectured on "The Genetic Transmission of Coat Color in Horses" at the Walking Horse Celebration Seminar and Clinic Series.

The **Horse Science** program managed and co-sponsored Youth Day at the Celebration in August with over 250 youth entered in the competition which included judging, speech contests, and showing. Also, the program will conduct the state FFA Horse Judging Contest in September with some 400 students from across the state competing.

### Biology

**Kim Sadler and Cindi Smith-Walters** presented a workshop session at the Tennessee Environmental Education Association statewide conference in September. The session focused on threatened and endangered species and habitats in TN.

### Chemistry

**Earl Pearson** presented a paper at the Seventeenth Biennial Conference on Chemical Education in July in Bellingham, WA. The paper was entitled "Use of CourseInfo for Total Material Deliv-

ery in Freshman Chemistry."

**Preston MacDougall** was invited to speak during the symposium "What Can We Teach (and Learn) With Electron Density" at the Seventeenth Biennial Conference on Chemical Education in July in Bellingham, WA. His presentation which featured state-of-the-art computer graphics developed in collaboration with NASA, was entitled "Volume Rendering: The Electron Density Inside and Out, and Everywhere in Between."

**Norma Dunlap, Wosenu Mergo, and James Jones** authors of a poster entitled "Use of <sup>13</sup>C-NMR in a Dehydration Experiment for Organic Chemistry," was presented by **Mergo** at the 224th National American Chemical Society Meeting in Boston, MA.

### Computer Science

**Cen Li** recently published "Applying the Hidden Markov Model Methodology for Unsupervised Learning of Temporal Data" in the *International Journal of Knowledge-Based Intelligent Engineering Systems*.

MTSU has received notification from the National Science Foundation that its application for a High Performance Network Computing grant has been approved. **Richard Detmer (CSCI)** assembled the grant proposal and is the Principal Investigator. **Ralph Butler (CSCI), Ngee-Sing Chong (CHEM), Preston MacDougall (CHEM) and Zachariah Sinkala (MATH)** are co-principal investigators. The grant will provide partial funding for establishing an 'Internet 2' connection on campus. Internet 2 is a research network that provides bandwidth of at least 45 Mbps to researchers' desktops. The co-PIs for this grant have specific research projects planned, but the network may be used for additional MTSU research efforts in the sciences and in other disciplines. The high performance connection should be available on the MTSU campus in early 2003.

### Engineering Technology/ Industrial Studies

**Walter Boles** gave a presentation entitled "The Potential of Microwave Radiation for Processing Martian Soil" at the weekly seminar series of the Chemistry Department on September 12.

**B.S. Sridhara** attended the executive committee meeting of the Nashville section of the American Society of Me-

chanical Engineers in August.

**Austin Cheney** attended the American Society of Concrete Contractors (ASCC) in Nashville in September.

**Heather Brown** attended a Portland Cement Association seminar concerning "Economics and Design of Reinforced Buildings" which was held in Chicago, IL in August. She also presented at the American Concrete Institute Middle Tennessee Chapter in September. Her topics were whitetopping, the pervious parking lot at MTSU, self-compacting concrete and high volume fly ash concrete.

**Saeed Foroudastan** was a speaker and session moderator at the American Society for Engineering Education in June in Montreal, Canada. He presented a paper entitled "How to Stimulate Interest in Freshmen Students Through Project Innovation."

**Ken Sergeant** attended an educational forum at the Georgia Institute of Technology—Manufacturing Research Center in August. The forum was titled "Mass Customization Enabled by Rapid Technologies."

For the fourth year, the MTSU Solar Bike Team from ETIS has competed in the national Solar BikeRayce USA held in May in Topeka, KA. The Raider Raycer finished third in the Rayce.

### Mathematical Sciences

**Ginger Rowell, Leann Hooge, Ileah McKee, and Keeley Hutchison** attended the 2002 Joint Statistical Meeting in New York City in August. **Rowell** was invited to participate in a panel discussion entitled "Our Toolbox is Overflowing: Toward a Framework for Mapping Technologies and Topics in Introductory Statistics."

**Xiaoya Zha** co-authored a paper entitled "Genus Bounds for Embeddings With Large Minimum Degree and Representativity," which was published in the journal *Discrete Mathematics*. He also co-authored "Isoperimetric Constants of Infinite Plane Graphs" which appeared in *Discrete and Computational Geometry*.

**Jan Zijlstra and Xiaoya Zha** organized a Sixth Grade Math Workshop for Hobgood Elementary School students in August. The students were lead through investigations in the fields of geometry and networks. Also, they were introduced to mathematical 'black holes' and

some combinatorics.

### Military Science

Six cadets from the MTSU ROTC program attended this year's Leadership Training Course in Fort Knox, Kentucky in June. The training course focuses on leadership training and targets sophomores and juniors who want to join the ROTC program but missed their freshman and even sophomore level military science classes.

### Nursing

**Stephen Krau** presented "End of Life Overview and Considerations," in August at the Hastings Conference MTMC in Murfreesboro. He also presented "Cultural Considerations in End of Life Care."

**Lynn Parsons and Karen Ward** made the following two presentations at the American Association Spinal Cord Injury Nurses 19th Annual Conference in Las Vegas, NV in September: "Converging Values — Matures, Boomers, Xers, and Nexters in the Nursing Workforce," and "Action Strategies for Managing Clients with Spinal Cord Injury Carrying a Psychiatric Diagnosis."

**Suzanne Prevost** presented "Measuring Outcomes and Quantifying Financial Impact" at the American Association Spinal Cord Injury Nurses 19th Annual Conference in September in Las Vegas, NV.

**Maria Smith** co-presented the following posters at the Geographical Renaissance at the Dawn of the Millennium in Durban, South Africa in August: "Safe Water/Sanitation and Hygiene Intervention Strategies in Three Informal Settlements in Durban," "Partners: A Model of HIV/AIDS Prevention in Informal Settlements," "Community Health Diagnosis of Three Informal Settlements in Durban," and "The U.S.-South Africa Research Partnership for KwaZulu-Natal's Informal Communities."

**Stephen Krau** recently published "Men in Nursing: A Different Voice and a Different Brain" in *SCI Nursing*.

**Lynn Parsons** recently published "The Graying of Nurses and Aging in America: A Conundrum" (an Editorial) in *SCI Nursing*.