

# PATHFINDERS MONTHLY

## Newsletter of the Office of Grants and Program Review February 2007

### **Drs. Ossama Saleh and Ron Smith Offer Real-World Math Workshop for High School Teachers**

The nation's top science and mathematics education experts emphasize the important link between teacher professional development and student performance. In recognition of the regional need for innovative and engaging mathematics instruction in high school classrooms, **Dr. Ossama Saleh**, UC Foundation Associate Professor of Mathematics, and **Dr. Ron Smith**, Professor of Mathematics, developed the "Applications of Algebra and Statistics III" project. Through the project, Drs. Smith and Saleh will empower teachers with strategies and content knowledge to enhance student learning while adhering to the basics of algebra instruction. Drs. Saleh and Smith have secured a grant of \$73,000 from the Tennessee Higher Education Commission (THEC)'s Improving Teacher Quality Grant Program to offer this exciting professional development opportunity to twenty-two high school mathematics teachers from Hamilton County, Meigs County, Polk County, and Cleveland City school systems.

Drs. Smith's and Saleh's award is particularly noteworthy as it marks the sixth consecutive year of THEC funding for this project. Drs. Smith and Saleh have met with such tremendous success in attracting THEC funds for their workshop because their curriculum remains responsive to the needs of regional school districts. Teachers who participated in past THEC-funded workshops offered by Drs. Smith and Saleh have repeatedly lauded the careful alignment of the material presented with the content of their courses.

During a week-long summer workshop, Drs. Saleh and Smith will offer participating teachers strategies to enhance their students' understanding of algebra and statistics using real-world mathematics applications in science and business. Workshop participants will learn new applications of linear and exponential equations as well as regression analysis, measures of central tendency and dispersion, normal distribution, and basic probability. Participating teachers will also learn how to

present these applications using a discovery-oriented approach designed to stimulate students' interest. Drs. Saleh and Smith have engaged Dr. Deborah McAllister, UC Foundation Professor in the Teacher Preparation Academy, as a partner in presenting the workshop. Among other things, she will provide an index of helpful websites geared toward high school mathematics instruction.

In addition to providing teachers with advanced content knowledge and effective instructional strategies, Drs. Smith and Saleh will also supply workshop participants with valuable classroom resources. Each participating teacher and each participating school will receive a TI-84+ calculator, a Calculator-Based Laboratory (CBL2), a number of sensors, and resource books. Drs. Saleh and Smith will ensure that these teachers are equipped with the skills to use these technological resources to bring mathematical concepts to life in their classrooms via application and experimentation.

By offering high-quality professional development

opportunities to high school mathematics teachers over the past six years, Drs. Saleh and Smith have enabled more than 100 local teachers to help their students excel in high school and post-secondary mathematics courses (at the end

of this summer, the total value of equipment and supplies received by the teachers/schools over the six years that this project has received THEC funding will exceed \$200,000). Their efforts have significantly enhanced the quality of

mathematics instruction in area high schools while drawing attention to UTC's capacity to work as a powerful force for positive change in K-12 education.

## FUNDED GRANTS AND RESEARCH JANUARY 1, 2007 – FEBRUARY 28, 2007

### COLLEGE OF ARTS & SCIENCES

#### DRS. DAVID EDWARDS & STEPHANIE BELLAR

WhykNOw Abstinence Education, Inc.	WhykNOw Abstinence Education	\$19,289
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### COLLEGE OF ENGINEERING & COMPUTER SCIENCE

#### SIM CENTER

NASA	A Generalized Framework for Constrained Design Optimization of General Supersonic Configurations using Adjoint Based Sensitivity Derivatives	\$700,674
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#### SIM CENTER

Private Funder	Letter Contract 7106-108 for ARES II	\$180,000
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### COLLEGE OF HEALTH, EDUCATION & PROFESSIONAL STUDIES

#### MS. ANNE GAMBLE & DR. MARY TANNER

United Way of Greater Chattanooga	Continuation of Project Ready for School	\$82,131
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