

PATHFINDERS MONTHLY

Newsletter of the Office of Grants and Program Review
February 2006

UTC Faculty Members Champion Assistive Technology

As K-12 schools embrace an inclusion model that values placing children with disabilities in the least restrictive classroom environments possible, developments in assistive technology have enabled an increasing number of children with disabilities to attend public schools and to be served in mainstream classrooms. To support the development of assistive technologies and to ensure that these technologies are accessible to Tennessee teachers and students, the Tennessee Department of Education's Division of Special Education has instituted the Assistive Technology (AT) grants program. This program supports the development of full-service AT centers, training in AT devices and software for pre-service teachers, and the implementation of AT applications in inclusive classroom settings. Within the last year, UTC faculty members have received a total of \$37,500 in funding for AT projects.

Dr. Ed McMahon, Professor of Engineering, and **Dr. Cecelia Wigal**, UC Foundation Associate Professor of Engineering, received \$32,500 from the AT program to implement their Technology Designed to Benefit (TDB) project. The TDB project will enable UTC faculty and students, Signal Centers, and the Tennessee Early Intervention System to

collaborate in designing assistive and adaptive technologies for sixty-nine local infants, toddlers, and preschoolers with disabilities.

Drs. McMahon and Wigal will engage a team of freshman, junior, and senior level UTC engineering students to design, prototype, and test AT products. Freshmen will complete short-term projects involving adaptation of toys and switches, while juniors and seniors will address complex projects such as walking and movement mechanisms. This unique applied learning experience will constitute an integral part of three engineering courses at UTC. Through this project, Drs. McMahon and Wigal hope to empower children with disabilities by providing them with the assistive and adaptive technologies they need to transition from early intervention to inclusive education. In addition to contributing to the AT resources available to young children with disabilities, Drs. McMahon and Wigal will provide engineering students with applied experience in developing assistive technologies.

While these development activities are critical to enriching learning opportunities for children with disabilities, it is also imperative that educators be prepared to support the use of AT among students and have the knowledge and skills to incorporate AT into classroom

activities. Recognizing the need to prepare teachers to adopt and support the use of a variety of assistive technologies, **Dr. Linda Johnston**, Assistant Professor in the Teacher Preparation Academy, secured \$5,000 to purchase a variety of software programs to equip an AT workstation. Dr. Johnston and her colleagues identified critical AT software programs that provide adaptive technologies for students with visual impairments, hearing impairments, language difficulties, and limited motor skills.

In partnership with Molly Littleton at Signal Centers, Dr. Johnston will offer training in the use of this software to faculty in the Teacher Preparation Academy, Human Ecology (which houses the PreK-3 program), and the Graduate Studies Division within the College of Health, Education and Professional Studies. Faculty members will then integrate this software into their course curricula, preparing pre-service and in-service educators to meet the individual needs of students with disabilities and ensure that these students are able to access the curriculum. The AT workstation will also be used to meet the learning and adaptive technology needs of UTC students with disabilities. By securing these AT instructional and learning resources, Dr. Johnston will provide a valuable addition to the

THE UNIVERSITY OF TENNESSEE AT CHATTANOOGA

education curriculum, enabling UTC graduates to enter the classroom prepared to modify and accommodate instruction for students with disabilities.

Drs. McMahon, Wigal, and Johnston have taken the initiative in developing assistive and adaptive technologies and in training teachers to utilize them to the fullest extent possible. These

projects exemplify UTC's metropolitan mission because they engage students in learning and research activities that directly benefit the community. In addition to the immediate benefits of new assistive technologies and software and better-prepared teachers, these projects will bring long-term benefits to UTC students, preK-12 students, the community, and the

university because they increase our capacity to meet the challenges of a changing society. In addition to furthering UTC's metropolitan mission, the efforts of Drs. McMahon, Wigal, and Johnston will enable a new generation of children with disabilities to achieve success in the classroom.

FUNDED GRANTS AND RESEARCH

FEBRUARY 1, 2006 – FEBRUARY 28, 2006

COLLEGE OF ARTS & SCIENCES

DR. BARBARA MEDLEY

Chattanooga-Hamilton County
Medical Society

Physicians' Non-English Language Capacity Survey \$1,054

COLLEGE OF ENGINEERING & COMPUTER SCIENCE

SIM CENTER

University of Iowa

Unsteady RANS Simulation for Ship Planar Motion
Mechanism Maneuvers \$20,000

PROGRAM REVIEWS

Geology Program

THEC Assessment Score: 100%

The reviewer for the Geology program noted the faculty's exceptional commitment to providing students with research opportunities and field experiences. The program's annual trip to Costa Rica and its new NSF-funded analytical x-ray lab were cited as evidence of this commitment.

History Department

THEC Assessment Score: 100%

The reviewer credited the History Department's excellent faculty for maintaining academic rigor despite heavy teaching loads by continuing to require essay examinations. The reviewer also applauded the addition of courses in African American History, which has broadened and diversified the curriculum.

Physics Program

THEC Assessment Score: 100%

The reviewer for the Physics program was particularly impressed with the exceptional dedication of the faculty to educating students, noting their extraordinary efforts to maintain current offerings, especially of upper level courses, while shouldering heavy teaching loads. The reviewer also praised UTC's extensive public astronomical program, which is operated by the Physics program.