

GRANT OPPORTUNITIES

Newsletter of the Office of Grants and Program Review

December 2003

UTC to Acquire New Fluorescence Imaging System through NSF Grant

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Innovative research demands sophisticated research equipment. To address these needs, the National Science Foundation (NSF) designed its Major Research Instrumentation Program (MRI) to improve and expand scientific investigation and training by providing instrumentation for research-intensive learning environments. Recently, UTC was awarded a grant of \$95,100 to purchase the FMBio III *Plus* fluorescence imaging system. Dr. Margaret Kovach, Professor in the Department of Biological and Environmental Sciences headed up the efforts for this NSF proposal. This instrumentation is multi-disciplinary, as both the Department of Biological and Environmental Sciences and the Department of Chemistry will utilize the system's capabilities.

The FMBio III *Plus* is a laser-based imaging system with four-color fluorescence detection and storage phosphor imaging capability. Applications for this state-of-the-art system include genotyping, differential display, mutations

detection, and forensics. The FMBio III *Plus* is also compatible with UTC's current equipment used to analyze DNA, RNA, and protein samples. Another benefit of fluorescent imaging is that it eliminates the safety concerns and specialized training required by other methods of radioisotopic detection.

Dr. Kovach has a great deal of experience with fluorescent image analysis. While working at Southern Illinois University-School of Medicine, Dr. Kovach was the main user of an earlier model of the FMBio III *Plus*. In her research, she employed the instrument in a vast array of scientific applications. Dr. Kovach will be in charge of everyday maintenance of the system, and also will provide instruction and assistance to all faculty and staff users.

Several faculty members already have plans for the new FMBIO III *Plus*. In the NSF proposal, Drs. Margaret Kovach, Sean Richards, and Henry Spratt, (from the Department of Biological and Environmental Sciences) and Drs. Gail Meyer, and Manuel Santiago, (from the Department of Chemistry), all submitted pro

posed research projects and laboratory training activities that will employ the new system in the Departments. Research and training opportunities spread into the fields of Molecular Biology and Genetics, Environmental Toxicology, Microbiology, and Biochemistry. These faculty members hope to introduce this technology into many of their junior and senior level courses, and also provide undergraduate researchers the opportunity to use this equipment on a regular basis.

UTC faculty and students will not be the only people to benefit from this new technology. Dr. Kovach and the Department of Biological and Environmental Sciences and the Department of Chemistry hope to reach out to the local scientific, educational, medical, and industrial communities of Hamilton and neighboring counties. Such efforts support UTC's mission to foster successful partnerships between the academic community and public and private partners.

GRANTS AND RESEARCH
December 1, 2003 — December 30, 2003

FUNDED GRANTS

COLLEGE OF ARTS AND SCIENCES

DR. BARBARA MEDLEY

Tivoli Theatre/Memorial
Auditorium

Economic Impact Study

\$2,617

COLLEGE OF EDUCATION & APPLIED PROFESSIONAL STUDIES

DR. LINDA CUNDIFF

TN Board of Architectural
& Engineering Examiners

Software for Interior Design Program

\$1,358

COLLEGE OF ENGINEERING & COMPUTER SCIENCE

DR. MICHEL HOLDER

TN Board of Architectural &
Engineering Examiners

Programmable Controllers for the General Engineering
Program

\$15,000

DR. ANDY NOVOBILSKI

Symantec Corporation

Support for Undergraduate Student

\$2,500

OTHER

DR. JOHN MCCORMACK

Corporation for Public
Broadcasting

Radio Community Service Grant 2003-2005

\$118,098