

Grants Awarded Report

From: 3/1/10 to 3/31/10

Project Title: Field Evaluation of Traffic Signal Based Interchange Treatments

Activation Amount: \$13,400.00

Agency: Tennessee Department of Transportation

Personnel:

PI - Steven Click, Civil and Environmental Engineering

Abstract:

Recent research performed for TDOT used simulation to evaluate several non-traditional interchange treatments, including some which only require changes to the traffic signal operations at each ramp intersection. Two of these treatments, the Texas 3-Phase and Texas 4-Phase, demonstrated the potential to reduce delay and extend the service life of the current geometry, helping to put off the need to widen existing structures. Given this positive simulation result, field tests are now proposed at the I-75 interchange at Exit 20 (APD 40) to verify these results and to provide a demonstration of the potential benefits of these treatments. This investigation should span multiple years to help document each treatment's response to changes in traffic conditions.

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From: 3/1/10 to 3/31/10

Project Title: I Can Do It, You Can Do It, Upper Cumberland

Activation Amount: \$15,000.00

Agency: Slippery Rock University (via U. S. DHHS)

Personnel:

Co-PI - J. P. Barfield, Exercise Science and Physical Education

PI - Christy Killman, Exercise Science and Physical Education

Abstract:

Individuals with disabilities typically participate in physical activity less frequently than the general population, resulting in increased risk for obesity, heart disease, and premature death. The I Can Do It, You Can Do It! Program is a health-promotion model which can be administered in community-based programs to increase physical activity specifically within this population. To this end, Tennessee Technological University (TTU) proposes to implement and manage a new I Can Do It, You Can Do It! program through five sites of a community-based day program for adults with developmental disabilities in middle Tennessee. On-site activity mentors will be trained to encourage and lead daily 30-minute physical activity bouts over three consecutive eight-week sessions. The proposal includes the implementation of the Office of Disability's Evaluation System for monitoring and assessment and includes programming details for program sustainability. The purpose of the project is to increase the physical activity levels of adults with development disabilities through implementation of the I Can Do It, You Can Do It! Program.

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From: 3/1/10 to 3/31/10

Project Title: Effects of Antimycin Application for Native Brook Trout Restoration to Benthic Macroinvertebrate Communities in Lynn Camp Prong Watershed, GSMP

Activation Amount: \$4,920.00

Agency: Carlos C. Campbell 2010 Memorial Fellowship

Personnel:

Co-PI - W. Keith Gibbs, Biology

PI - Bradford Cook, Biology

Abstract:

Mr. Keith Gibbs is the recipient of the 2010 Carlos C. Campbell Memorial Fellowship. This award will contribute to the completion of Keith's current graduate research.

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From: 3/1/10 to 3/31/10

Project Title: Studies of Fluctuation Processes in Nuclear Collisions

Activation Amount: \$37,000.00

Agency: U. S. Department of Energy

Personnel:

PI - Sakir Ayik, Physics

Abstract:

This project continues the investigations of spinodal instabilities in charge asymmetric nuclear systems in the framework of the stochastic one-body transport theory, which was previously proposed by the PI and has emerged as a promising microscopic approach for describing dynamics of density fluctuations in heavy-ion collisions.

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From: 3/1/10 to 3/31/10

Project Title: Development of a Regional Assessment/Implementation SEN Delivery Partnership System

Activation Amount: \$35,000.00

Agency: West Virginia University

Personnel:

PI - Mahesh Panchagnula, Mechanical Engineering

Senior Personnel - Robert Craven, Energy Center

Abstract:

This is an expansion of the West Virginia University's (WVU) program entitled "Development of a Regional Assessment Implementation SEN Delivery System Partnership." Two energy assessments for large-sized manufacturing facilities will be conducted by utilizing an enhanced assessment process. This includes pre-assessment activities of BestPractices software tools, overview of energy systems, baseline energy use analysis using QuickPEP, data collection, barriers to implementation, and economics of implementation, safety, and confidentiality issues. TTU will provide information from the above mentioned energy assessments for the development of the Energy Efficiency Knowledge Center (EEKC). TTU will also work with WVU to market the project in Western Pennsylvania.

Grants Awarded Report

From: 3/1/10 to 3/31/10

Project Title: TBR-26 Tennessee Technology Centers Statewide Marketing

Activation Amount: \$45,000.00

Agency: Tennessee Board of Regents

Personnel:

PI - Kevin Liska, Business Media Center

Support Personnel - Michael Aikens, Business Media Center

Support Personnel - Paul Harrison, Business Media Center

Abstract:

The purpose of this project is to develop the Tennessee Technology Centers website for state-wide use with emphasis on non-traditional student information and career guidance.

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From: 3/1/10 to 3/31/10

Project Title: Nuclear Energy Research Initiative for Consortia (NERI-C)

Activation Amount: \$25,000.00

Agency: Washington State University

Personnel:

PI - Dale Ensor, Chemistry

Abstract:

The radiochemistry laboratory at Tennessee Technological University will evaluate the separation potential of new complexants and phase transfer reagents containing soft donor atoms. Basic liquid-liquid distribution studies of the lanthanides and minor actinides will be done to evaluate the ability of new reagents to separate these two chemically similar families. Using radiotracer techniques, the most promising systems will be fully characterized, and the resulting information used to improve the design of future complexants. Promising phase transfer reagents will also be used to develop new chromatographic materials which could be used for analytical separations and analysis. This technique is especially useful for compounds with limited solubility in normal hydrocarbon diluents. Dry weight distribution ratios, D_w , for Eu(III) and Am(III) using these chromatographic materials will be measured. Based on the D_w values, the best materials will undergo more extensive column studies to completely evaluate their potential for separation of the lanthanides from the minor actinides.