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BESS Newsletter

Biosystems Engineering and Soil Science
Publications and Other Works

10-5-2009

BESS 10/5/09

Department of Biosystems Engineering and Soil Sciences

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TOP STORIES

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- [New Enrollment Data Shows Continued Upward Trend](#)
- [TDA Now Accepting Water Quality Grant Proposals](#)
- [EPA Announces Student Design Competition Focused on Sustainability](#)

SAVE THE DATE

BESS Holiday
Party is
December 14



Dr. Mike Buschermohle and Dr. Eric Drumm present gifts to Dr. George Grandle, including a plaque for his 37+ years of service

Dr. George Grandle's Retirement Celebrated

The faculty and staff of Biosystems Engineering and Soil Science hosted a retirement reception for Dr. George Grandle on September 16. Friends from throughout the Institute gathered to express their appreciation for his invaluable service and to wish him well on his future endeavors. (More photos [here](#)).

From the Department Head:

Our official fall enrollment data has come in, and both undergraduate and graduate enrollments are up. (Please see the graph of our undergraduate enrollment history is provided elsewhere in this newsletter.) Undergraduate enrollments in CASNR are up by 2.7%, which is the fourth consecutive year with an enrollment increase, in spite of the effect that the economy is having on higher education enrollments nationwide.

Our Biosystems Engineering (both undergraduate and MS) enrollments were both identified as college programs with high growth, suggesting that the focus on recruiting by our faculty and staff continues to be effective. Enrollment in the undergraduate Environmental and Soil Science degree program was only down slightly from last year, and we expect our new programs in engineering technology will produce solid growth in that program once they become available.

Elsewhere in this newsletter you will find some pictures of the retirement reception we recently held for Dr. George Grandle. Please send us news and pictures for future issues. ---Eric

MORE NEWS – CLICK BELOW

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BESS NEWS



**Retirement Reception for
Dr. George Grandle**

Clockwise from upper left:

Dr. Eric Drumm presents plaque for 37 years of service;

Guests enjoy viewing photos and some of the many livestock structure plans designed and managed by Dr. Grandle;

Dr. Grandle and grandson Daniel;

Friends from throughout the Institute gather for the reception;

Dr. John Tyner and Dr. Joanne Logan visit with Mrs. Riki Grandle and grandson Daniel;

Retirees Gary Honea and Paul Elliott share memories;

Former Department Head Dr. Houston Luttrell recalls recruiting Dr. Grandle to the department.

Photo credits: Tim Prather



CASNR NEWS

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CASNR Career Fair

The 25th anniversary CASNR Career Fair will be held **Wednesday, October 7**, 10 AM – 3 PM, in Hollingsworth Auditorium, Ellington Plant Sciences Building. Representatives from twenty-seven companies and UT groups will be available to talk to students about internships, part-time and full-time jobs. For a list of participating companies, please go to <https://utk-csm.symplicity.com/events/students.php?cf=2009CASNR&cck=1&au=&ck=>

EPA Greater Research Opportunities (GRO) Fellowships for Undergraduate Environmental Study

URL: http://www.epa.gov/ncer/rfa/2010/2010_gro_undergrad.html

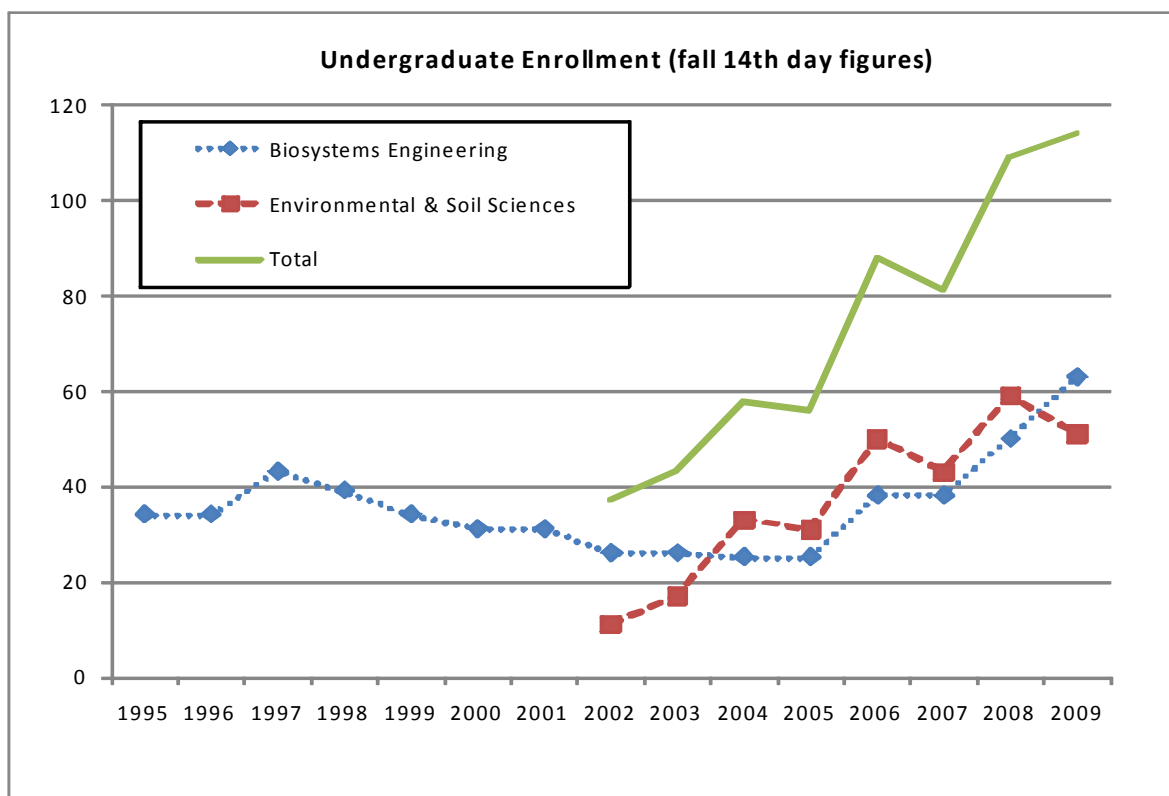
Open Date: 09/15/2009 - Close Date: **12/10/2009**

Summary: The U.S. Environmental Protection Agency (EPA), National Center for Environmental Research (NCER), invites applications for the Greater Research Opportunities (GRO) Fellowships for undergraduate environmentally related study for bachelor's level students. The deadline for receipt of applications is December 10, 2009. Subject to availability of funding, the Agency plans to award approximately 30 new fellowships by July 30, 2010. The fellowship provides up to \$19,250 per year of academic support and \$8,000 for internship support for a combined total of up to \$46,500 over the life of the fellowship.

The GRO program enhances and supports quality environmental education for undergraduates, and thereby encourages them to continue their education beyond the baccalaureate level, and pursue careers in environmentally related fields.

The actual amount awarded per year will vary depending on the amount of tuition and fees and the number of months the stipend is required. This fellowship is intended to help defray costs associated with environmentally oriented study leading to a bachelor's degree.

New Enrollment Data Shows Continued Upward Trend



STUDENT NEWS

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EPA-G2010-P3-Q1 thru Q5: 7th Annual P3 Awards-

A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet

EPA P3 Competition: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet

The National Center for Environmental Research, U.S. Environmental Protection Agency, **is seeking applications proposing to research, develop, and design solutions to real world challenges involving the overall sustainability of human society. The P3 competition highlights the use of scientific principles in creating innovative projects focused on sustainability.** The P3 Awards program was developed to foster progress toward sustainability by achieving the mutual goals of economic prosperity, protection of the planet, and improved quality of life for its people-- people, prosperity, and the planet – the three pillars of sustainability. The EPA offers the P3 competition in order to respond to the technical needs of the world while moving towards the goal of sustainability.

The P3 Award Program is composed of **two phases** that award grants on a competitive basis. The purpose of this Request for Applications (RFA) is to solicit science-based, innovative research design proposals to compete for the first phase of the P3 competition. In the spring following Phase I grant awards, Phase II grantees are required to present their designs at the annual National Sustainable Design Expo on the National Mall in Washington, DC where they will have an opportunity to compete for Phase II grant awards. Please see the P3 website ([here](#)) for more details about this program.

For complete information about this opportunity, please see the full solicitation ([here](#)).

Estimated Number of Awards: Approximately **40** awards for **Phase I**; Approximately **6** awards for **Phase II**

Anticipated Funding Amount: Approximately \$850,000 total for all awards

Potential Funding per Award: Up to \$10,000 per Phase I grant for one year including direct and indirect costs. **Upon the successful completion of Phase I**, Phase I grant recipients will have the opportunity to apply for **Phase II funding of up to \$75,000** for two additional years including direct and indirect costs. **Cost-sharing is not required for either Phase I or Phase II grants.** Complete award information is found in the full solicitation.

Agency Submission Deadline: Applications **must submitted no later than 11:59:59 pm Eastern Time on January 4, 2010.**

20th Annual International Environmental Design Contest 2010

Do you have what it takes in 2010?

Will you be a part of the solutions to global energy, environment and water challenges?

Task 1: [Portable Siphon Unit to Concentrate Pond Water and Bacteria into a more Manageable, Portable Sample](#)

Task 2: [Photovoltaic System Performance Indicator](#)

Task 3: [Reduction of Direct Greenhouse Gas Emissions from a Mine](#)

Task 4: [Green RO Pretreatment](#)

For more information www.werc.net/contest. Registration Deadline **December 4, 2009.**

Extension News

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Southern SARE Invites Producer and On-Farm Research Proposals

The call for proposals have been released for the 2010 Southern Region SARE [Producer Grants](#) and 2010 Southern Region SARE [On-Farm Research Grants](#). Proposals for both programs are **due by November 15, 2009**. Obtain the calls at: <http://www.southernsare.uga.edu/callpage.htm>

Southern SARE PRODUCER GRANTS are only open to farmers and/or ranchers or producer organizations. Any farmer/rancher or producer organization in the US SOUTHERN REGION is eligible to apply for the grants which have maximums of \$10,000 for individual producers and \$15,000 for producer organizations to be used within two years.

Southern SARE ON-FARM RESEARCH GRANTS are open to Extension, NRCS and NGO personnel who work with farmers. Any Extension, NRCS or NGO personnel who work with farmers in the US SOUTHERN REGION are eligible to apply for a SSARE On-Farm Research Grant. Applicants must work with at least one cooperating farmer or rancher and can apply for up to \$15,000 to be used within two years. The ON-FARM RESEARCH proposals will be accepted only through an online submission form which can be found at <http://www.southernsare.org>

While all SARE proposals must promote agricultural practices that are profitable, environmentally sound and good for rural communities, these two grant programs have identified nine broad focus areas. Proposals are invited that address: soil health, beneficial insect habitat, alternative crops/livestock, organic agriculture, marketing, sustainable grazing systems, improving the sustainability of existing farming practices, appropriate technology, and agroforestry.

The Southern Region is comprised of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, Puerto Rico and the U.S. Virgin Islands.

Full information and instructions can be found in the calls for proposals.

A copy of the calls for proposals can be obtained on the web at: <http://www.southernsare.uga.edu/callpage.htm> or by sending an email request to info@southernsare.org or by calling (770) 412-4787.

James H. Hill, 1890 Land Grant Liaison, Southern Region SARE Program, Office: 478:825-6263
Primary Email: jhill@southernsare.org and Hillj@fvsu.edu Web: www.southernsare.org

AgResearch & UTK Research News

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New Resources for Grantseekers:

The UTK Office of Research recently posted new information online that should help faculty who are or will be writing grant proposals. The url sequences are listed below.

GRANT WRITING WORKSHOPS: Topics range from general writing techniques to building proposals for agencies such as NSF and NIH. Each 2-hour workshop is offered twice, starting in late October. Graduate students are welcome to attend.

***UT Home Page/*Research/*Office of Research/*Proposal Development/*Workshops and Training**

GRANTSEEKER'S TOOL KIT: A compendium of helpful materials ranging from articles, guides and manuals to a library of successful proposals from federal agencies, state governments and private foundations.

***UT Home Page/*Research/*Office of Research/*Proposal Development/*Grantseeker's Tool Kit**

Please let me know if you or your faculty would like additional information or clarification.

Robert Porter, Ph.D., Director, Research Development, (865) 974-3053 reporter@utk.edu

(AgResearch and UTK Research News Continued next page)

Input Solicited on Microgravity Research:

Decadal Survey on Biological and Physical Sciences in Space

Statement of Task

Consistent with the direction in the Explanatory Statement accompanying the FY 2008 Omnibus Appropriations Act (P.L. 110-161), the National Research Council will organize a decadal survey to establish priorities and provide recommendations for life and physical sciences research in microgravity and partial gravity for the 2010-2020 decade. The committee will develop criteria for the prioritization.

The decadal survey will define research areas, recommend a research portfolio and a time line for conducting that research, identify facility and platform requirements as appropriate, provide rationales for suggested program elements, define dependencies between research objectives, identify terrestrial benefits, and specify whether the research product directly enables exploration or produces fundamental new knowledge. These areas will be categorized as either those that are required to enable exploration missions or those that are enabled or facilitated because of exploration missions.

The results of the decadal survey will assist in defining and aligning life and physical sciences research to meet the needs of exploration missions. The recommendations regarding the timeline and sequence of research are intended to allow NASA to develop an implementation plan that will impact future exploration missions. The survey should focus on the aforementioned tasks and should not recommend budgetary levels. This decadal survey should build upon the findings and recommendations of previous National Academies' studies conducted in this area.

Study Plan

The purpose of this study is to develop a decadal strategy for research in life and physical sciences research in reduced gravity. Work on this study will be finalized October 29, 2010 and will culminate in a consolidated report developed by the Steering Committee, which will utilize input from seven Panels.

This decadal study will consist of a Steering Committee of 18 members and seven focus Panels. These Panels will vary in size but will on average have eight members each, and each panel will address a targeted topic within the general topic of life and physical sciences research in reduced gravity. The focus area for each of these Panels will be determined by the Steering Committee at its first meeting in May 2009.

The following are examples of the areas of expertise likely to be incorporated into the various panels and/or the steering committee: fluid dynamics; heat and mass transfer; combustion; materials science; human physiology (bone and muscle development, immunology, endocrinology, cardiovascular systems, sensorimotor systems); developmental biology; plant biology; behavioral science; radiation effects; spacecraft power and propulsion systems; regenerative life support systems; in situ resource utilization; and power and energy storage systems.

Each of the seven Panels is expected to meet approximately three times each, and the steering committee will meet approximately five times during the course of the study. The committee and its panels will also work to obtain and incorporate broad community input to the study.

http://sites.nationalacademies.org/SSB/CurrentProjects/ssb_050845

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AAAS Science & Technology Policy Fellowships for 2010-2011

AAAS offers fellowships in the programmatic area of Energy, Environment, Agriculture & Natural Resources (30-40 Placements)

Engage in projects, policies, risk assessment, evaluation, and outreach initiatives to:

- Protect animal, plant and environmental health
- Address ecosystem degradation, pollution, and biological threats
- Tackle challenges and opportunities in agriculture, fisheries, climate change, and energy
- Safeguard air, water, land, wildlife, and natural resources

Anticipated placement opportunities:

- Department of Agriculture
- Forest Service
- Department of Energy
- Environmental Protection Agency
- National Oceanic and Atmospheric Administration
- National Science Foundation
-

Become a Fellow: Eligibility & Criteria

AAAS seeks candidates from a broad array of backgrounds and a diversity of geographic, disciplinary, gender, and ethnic perspectives as well as disability status. Fellows have ranged in age from late 20s to early 70s. They represent a spectrum of career stages, from recent PhD graduates to faculty on sabbatical to retired scientists and engineers. Fellows also come from a range of sectors, including academia, industry, non-profit organizations, and government labs. To be considered for a fellowship via AAAS, successful applicants must:

- Hold a doctoral level degree (PhD, ScD, MD, DVM, etc.), in any of the following:
 - Social and Behavioral sciences
 - Medical and Health sciences
 - Biological, Physical or Earth sciences
 - Computational sciences and Mathematics
 - Engineering disciplines (applicants with a MS in engineering and three or more years of post-degree professional experience also qualify).
- **Note:** All requirements for the degree must be completed by the application deadline
- Have solid scientific and technical credentials and the endorsement of three references
- Show a commitment to serve society
- Exhibit good communication skills, both verbally and in writing, and the ability to engage with non-scientific audiences
- Demonstrate integrity, problem-solving ability, good judgment, flexibility, and leadership qualities
- Hold U.S. citizenship (dual citizenship from the United States and another country is acceptable).
- Federal employees are not eligible for the AAAS Science & Technology Policy Fellowships*

NOTE: Some program areas and agencies seek additional qualifications.

For more information: http://fellowships.aaas.org/02_Areas/02_index.shtml

Funding Opportunities

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TDA NOW ACCEPTING WATER QUALITY GRANT PROPOSALS

Deadline is **December 1, 2009**

-Funds support projects aimed at improving water quality and reducing pollution-

The Tennessee Department of Agriculture is now accepting grant proposals for projects that will help improve water quality and reduce or eliminate nonpoint source pollution. The deadline for submitting grant proposals is Dec. 1. Proposals will be evaluated based on program

goals and objectives, performance evaluation criteria and applicable EPA Nonpoint Source grant guidelines.

“The purpose of the Nonpoint Source Pollution Program is to make a measurable difference in water quality by reducing runoff of sediment, nutrients and other pollutants,” said state Agriculture Commissioner Ken Givens. “This is a great opportunity for local governments and agencies to work with the department in addressing water quality problems and to improve water stewardship in both urban and rural areas.”

Local governments, regional agencies, public institutions, private nonprofit organizations and other state agencies are eligible to apply for federal dollars administered by TDA’s Water Resources office. Priority is given to projects that seek to make measurable improvements to waters known to be impaired by nonpoint source pollution.

Nonpoint source pollution is soil, urban runoff, fertilizers, chemicals and other contaminants that come from many different sources and degrades surface and groundwater quality. The Tennessee Department of Environment and Conservation assesses water quality and compiles a list of impaired waters. This information is described in that department’s 2008 303(d) list, which can be found online at

http://www.TN.gov/environment/wpc/publications/2008_303d.pdf.

Other priorities for funding include water quality related educational programs, projects that implement an approved Total Maximum Daily Load in a watershed area and projects that reduce urban runoff.

The FY 2009 Request for Proposals can be found online at <http://www.TN.gov/agriculture/water/nps.html>, or for more information contact TDA’s Nonpoint Pollution Program at 615-837-5306 or

Sam.Marshall@TN.gov.

Recent Grants.gov Postings:

HUD

Department of Housing and Urban Development Green and Healthy Homes and Technical Studies Program Grant
<http://www07.grants.gov/search/search.do?&mode=VIEW&flag2006=false&oppld=49611>

NSF

National Science Foundation

Building Engineered Complex Systems
Grant

<http://www07.grants.gov/search/search.do?&mode=VIEW&flag2006=false&oppld=49616>

DOI

Department of the Interior

Bureau of Reclamation

Bureau of Reclamation, Denver Office

Significance of Groundwater Divide in Water Accounting Return Flow Calculation for Lower Grant

<http://www07.grants.gov/search/search.do?&mode=VIEW&flag2006=false&oppld=49617>

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Tennessee Teaching and Learning Center Announce Faculty Fellows

The Tennessee Teaching and Learning Center is pleased to announce the appointment of three Faculty Fellows for 2009-10: Mr. Jed Diamond, Director of the Acting Program at UT, Dr. Robert Kronick and Dr. John Peters for the Department of Educational Psychology and Counseling. Each will facilitate a *Faculty Inquiry Group* in their specific area of expertise. Mr. Diamond will focus on applying principles of acting to teaching delivery strategies. Dr. Kronick will work with interested faculty in designing service learning components into course curricula. Dr. Peters will focus on developing reflective practice skills that can be employed to enhance classroom teaching and learning effectiveness.

David W. Schumann, Ph.D., Director, Tennessee Teaching and Learning Center, (O)865.974.3932,

Hodges Library: Fall Data Workshops, Roper Center, and ICPSR

This semester I will be conducting workshops on secondary data resources. Please go to <http://www.lib.utk.edu/instruction/workshop/> for a full description and to register. These workshops are geared toward faculty and graduate students. All workshops are held in 211 Hodges Library.

Reminder: UT Libraries is a member of the Roper Center for Public Opinion Research, which gives us access to both the iPOLL database of U.S. public opinion questions (with topline results) and the datasets collection (respondent-level data for secondary analysis). You may access the Roper Center database from the Libraries' databases page under the "datasets" category.

Note: ICPSR has recently made many changes to their website, including navigation and download options, and has revised the Social Science Variables Database to include variables from about 1300 studies (up from 65 previously). Other enhancements and improvements are coming in the near future, including an advanced search which uses true Boolean searching. Access ICPSR from the databases page under the "datasets" category.

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