

TOP STORIES

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IMPORTANT GRADUATE SCHOOL DEADLINES:

All graduating graduate students must have **pass/fail forms** completed and submitted to the Graduate School by **5:00 p.m. on Friday, November 20.**

The deadline for submission of **theses and dissertations** to the thesis consultant is **5:00 p.m. on Friday, November 20,** in order to graduate Fall 2009.

From the Department Head:

BESS was well represented at the recent 2009 International Annual meeting of the ASA-CSSA-SSSA (American Society of Agronomy, Crop Science Society of America, Soil Science Society of America) in Pittsburg PA. In addition to a number of technical papers and posters presented by our faculty and students, we had a graduate student recruiting display coordinated by Dr. Jaehoon Lee. Here on campus, our student chapter of the American Society of Agricultural and Biological Engineers (ASABE) won first place in the student organized Engineers Day event held on October 12, 2009. Nearly 600 students from 30 different high schools traveled to UT's campus to learn about the various aspects of engineering through discussions, project demonstrations and exhibits prepared by UT engineering student clubs and societies. Our ASABE student group, led by President Jay Bevington, won 1st Place in the Class II Exhibits category for their display "Switchgrass: From the Field to the Tank." Finally, I would like to remind you of the upcoming BESS Holiday Social, December 14, 3-5pm in Hollingsworth Auditorium. Alumni, retirees and friends of BESS are invited. Hope to see you there!

-- Eric

Dear Alumni, Retirees,
and Friends

Please Join
BESS
Faculty
& Staff

for our
Holiday Party

December 14
3-5 p.m.
Hollingsworth
Auditorium

MORE NEWS – CLICK BELOW

Funding Opportunities

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UTIA

Please submit items to Darla O'Neill doneill1@utk.edu
 BESS NEWS is issued on 1st & 3rd Mondays of each month.
 Archived issues post to [departmental website](#).

BESS NEWS

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On Wednesday, November 18, 2009, Biosystems Engineering students, faculty and staff got together for a little friendly competition. They met at the University Center's Down Under to show off their bowling skills. Overall, there were 19 people in attendance. After two hours of bowling, the faculty and staff averaged 107 pins and the winning team, the students, averaged 109 pins. The low score was a dismal 63 pins (cough, cough, Sean Nester) and the high was a whopping 197 pins (way to represent Mark Newlin!). The event was a success and enjoyed by all in attendance.

-- -Becca Messer



STUDENT NEWS

Peary Wilemon-National Cotton Ginners' Scholarship

The Peary Wilemon-National Cotton Ginners' Scholarship Foundation was established with the following goals:

- Encourage young people to join the cotton ginning industry, while equipping them for service through gin-related college studies and graduate research programs.
- Through the use of scholarship funding, establish a partnership with universities that will direct their teaching resources and research efforts toward gin industry priorities.
- Through systematic planning to define current and long-term priorities, engage the scholarship recipients, both student and university, to address specific industry needs.
- Honor the dedicated industry service of Peary Wilemon, who was the mainstay at National Cotton Ginners Association for over 25 years.

Accordingly, we are pleased to announce the availability of scholarships from our Foundation for juniors, seniors, and graduate students in agricultural engineering or related studies. We would appreciate your publicizing this scholarship opportunity to interested and qualified students.

Information, including a downloadable application form, is also available on the NCGA website, <http://ncga.cotton.org> by clicking on the PearyWilemon tab in the left hand column.

For scholarships to be awarded in the 2010 Spring term, completed scholarship applications and associated required information should be forwarded to by **December 18** to:

W. Harrison Ashley, Executive Vice President

National Cotton Ginners' Association, P.O. Box 2995 · Cordova, TN 38088-2995 · 901.274.9030 · Fax 901.725.0510

Fellowship Opportunities for Students:

The East Asia and Pacific Summer Institutes (EAPSI)

These programs are designed to provide U.S. graduate students in science and engineering: 1) first-hand research experience in Australia, China, Japan, Korea, New Zealand, Singapore or Taiwan; 2) an introduction to the science and science policy infrastructure of the respective location; and 3) orientation to the society, culture and language. The goals of EAPSI are to introduce students to East Asia and Pacific science and engineering in the context of a research setting, and to help students initiate scientific relationships that will better enable future collaboration with foreign counterparts. The institutes last approximately 8-10 weeks from June to August. **Application deadline is **December 8, 2009****. For more information, please visit: <http://www.nsf.gov/eapsi> or <http://www.nsf.org>

Science, Mathematics and Research for Transformation (SMART) Scholarship for Service Program

The purpose is to promote the education, recruitment and retention of outstanding undergraduate and graduate students in science, mathematics, and engineering studies; the DoD is also interested in supporting the education of future scientists and engineers in a number of interdisciplinary areas. Scholarships and fellowships awarded include salary or stipend, full tuition, required fees, federal employee benefits, and up to \$1000 book allowance per year. The SMART Program will allow individuals to acquire an education in exchange for a period of employment with the Department of Defense. The program is intended for citizens of the United States; students must be at least 18 years of age to be eligible for an award. **Application deadline is **December 15, 2009****. For information and to apply online, go to <http://www.asee.org/smart>

The National Defense Science and Engineering Graduate Fellowship Program (NDSEG)

The fellowship program is sponsored by the Army Research Office, Office of Naval Research, Air Force Office of Scientific Research and the DoD High Performance Computing Modernization Program. This program is intended for U.S. citizens or nationals at or near the beginning of their graduate studies in science or engineering. The fellowships are for three-year tenures and include full tuition and fees, a competitive stipend, and a health insurance allowance. **The application deadline is **January 4, 2010****. Go to: <http://ndseg.asee.org> for the online application and detailed program information.

NASA Aeronautics Scholarship Program

The purpose of this NASA program is to help advance the nation's aeronautics enterprise by investing in the educational development of the future aeronautics workforce and to provide opportunities to attract highly motivated **undergraduate and graduate students** to aeronautics and related fields. Scholarships awarded include competitive stipend payments anticipated amount for undergrad up to \$15,000 and up to \$35,000 for graduate. There is an option to attend a summer internship (up to \$10,000 per summer) at a participating NASA Research Center. The undergraduate program is open to U.S. citizens, and applicants should have completed their sophomore year of college by fall of 2009, and should be in good standing at an accredited college or university. The graduate program is open to U.S. citizens, the applicants should be accepted or enrolled in an accredited program, and remain in good academic standing at their respected college or university. Application deadline is **January 11, 2010**. For more information, https://nasa.asee.org/about_the_program

“Scheduling Course Work in Ways Which Encourage Students to Stay Up-to-date in Their Work”

by Michael Theall, Youngstown State University, Youngstown, Ohio

reprinted from: TOMORROW'S PROFESSOR(sm) eMAIL NEWSLETTER

<http://cgi.stanford.edu/~dept-ctl/cgi-bin/tomprof/postings.php>

Background

Faculty often express interest in having students learn basic knowledge, understand major concepts, develop problem solving and critical thinking skills, acquire professional habits and attitudes, and become committed to lifetime learning. One thing that is less frequently mentioned is the need to create conditions under which these objectives can be most effectively achieved. Within this general category, lies an important practical skill: time management, which is one component of "self regulation" (1). While teachers put careful thought into how to fill the available time in a course, they sometimes do not consider or accurately estimate the amount of time that students will need to complete the assigned work. For many students the ability to manage coursework and balance it against other activities is the difference between success and failure. In fact, a major review of research on the effects of college (2) considered the impact of working (holding a job) on academic performance. Interestingly, the finding was that while working reduced the time available to do coursework, there was no significant difference in academic performance between those who worked and those who did not. The authors attribute this lack of difference to the possibility that, "...employment provides a context in which they (students) acquire efficient organizational skills and work habits" (p.

133). Thus, the critical issue seems to be how well one manages one's time rather than how much time is available. It seems important then, that teachers provide structures and models of effective work that encourage students to carefully balance their course work and other obligations. To use the common expression, teachers should help students to "work smart, not just work hard."

IDEA Item #3, "Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work" is directly connected with time management. It is unique in that it correlates with many other IDEA items touching on several dimensions of successful teaching (3). For example, item #3 is related to items as diverse as #1 (Displayed personal interest in students), #8 (Stimulated students to intellectual effort), #10 (Explained course material clearly), and #17 (Provided timely and frequent feedback). Although these items represent different teaching methods, their inter-relatedness suggests that they have in common a genuine commitment to the student and his/her educational welfare. Item #3 is also correlated with IDEA objectives at several taxonomic levels, and with developing professional skills and competencies (IDEA items 21-24). These correlations directly reflect the goals many teachers list as critically important. They also reflect new descriptions of "significant learning" as described by Fink (4, p. 9 and p. 30). In Fink's terms, learning is "significant" when students are engaged and energetic and when the outcomes of that learning are lasting change and continued value in life. Acquiring effective time management and self-regulatory skills is particularly important with respect to academic success, and developing these skills can be built into course design.

Helpful Hints

Research on the dimensions of college teaching (3) provides powerful evidence of the importance of helping students to organize their time. With respect to student achievement, the most strongly correlated teaching dimensions are organization and clarity. When teachers make clear how topics fit and how the assigned work can be efficiently carried out, they help students to construct accurate schemas and clarify the structure of the discipline. The result is better student learning and increased student satisfaction because that learning becomes more apparent. Provide an organizational structure that helps students plan and carry out coursework. This not only keeps students on task, but it is also motivational in that it demonstrates that the teacher wants to promote deep learning rather than busy work and surface learning (5). For example, break work down into manageable chunks and suggest progress benchmarks so that students have the greatest chance for consistent success. In Keller's (6) description of a motivational design of instruction, key elements involve creating conditions that promote positive expectations and provide opportunities for success. Helping students to stay organized and on task are two such conditions.

A complete syllabus with clear timelines is a solid beginning. Reinforcing the syllabus with regular checkpoints via class dialogue, e-mail, or other communications will help. Personal contact with students who are lagging behind is absolutely necessary. Using collaborative or group work provides a way for students to help each other (as long as the group work is itself organized and supervised). A very useful technique is to ask students, from early in the course, how they plan to organize their time and what they will do to most efficiently carry out the work. An early exploration of these issues will enhance students' investments in the course and raise issues that might otherwise be missed.

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Assessment Issues

Assessments addressing this item are somewhat different than those used to determine more typical cognitive or affective outcomes. Angelo and Cross (7) offer some methods for determining the success of assignments (pp. 343-361), but other options more specifically addressing workload, currency of work, and the extent to which students understand the "why" and "how" as well as the "what" of assignments can be very useful. Some research (8) has demonstrated that when students understand the rationale for assignments and when they see value in doing the work, they are more motivated to do the work carefully. As this understanding increases, so do students' positive opinions about the course and the teacher. Three techniques can be helpful. First, an adaptation of the Small Group Instructional Diagnosis (SGID) process (9) can assess the degree to which students are keeping up. Second, the use of electronic communications available in course management systems can provide a way for students to report difficulties and for the teacher to monitor progress. Third, and most important, conduct regular dialogues with individuals and the class about progress. The instructor's personal involvement (in casual conversations, e-mail, or class dialogue) in keeping students on track demonstrates both concern for student progress and the importance of the work. It is necessary for students to "learn the material," but often it is equally important to provide guidelines for "learning how to learn," that demonstrate how to best manage course workload and meet deadlines.

References

- (1) Pintrich, P. R. (Ed.). (1995). Understanding self-regulated learning. *New Directions for Teaching and Learning*, 63. San Francisco: Jossey-Bass.
- (2) Pascarella, E. J., & Terenzini, P. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey-Bass.
- (3) Feldman, K. A. (1989). The association between student ratings of specific instructional dimensions and student achievement: Refining and extending the synthesis of data from multisection validity studies. *Research in Higher Education*, 30, 583-645.
- (4) Fink, L. D. (2003). *Creating significant learning experiences*. San Francisco: Jossey-Bass.
- (5) Entwistle, N., & Tait, H. (1994). Approaches to studying and perceptions of the learning environment across disciplines. In N. Hativa & M. Marincovich (Eds.), "Disciplinary differences in teaching and learning: Implications for practice." *New Directions for Teaching and Learning*, 64. San Francisco: Jossey Bass.
- (6) Keller, J. M. (1983). Motivational design of instruction. In C. M. Riegeluth (Ed.) *Instructional design theories and models: An overview of their current status*. Hillsdale, NJ: Lawrence Erlbaum.
- (7) Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco: Jossey-Bass.
- (8) Franklin, J., & Theall, M. (1995). The relationship of disciplinary differences and the value of class preparation time to student ratings of instruction. In N. Hativa & M. Marincovich, (Eds.) "Disciplinary differences in teaching and learning: Implications for practice." *New Directions for Teaching and Learning*, 64. San Francisco: Jossey-Bass.
- (9) Clark, D. J., & Bekey, J. (1979). Use of small groups in instructional evaluation. *Insight Into Teaching Excellence*. 7(1), 2-5. Arlington, TX: University of Texas at Arlington.

IDEA Paper No. 40: Getting Students to Read: Fourteen Tips, Hobson IDEA Paper No. 41: Student Goal Orientation, Motivation, and Learning, Svinicki IDEA Paper No. 42: Integrated Course Design, Fink IDEA Paper No. 27: Writing a Syllabus, Altman and Cashin

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NOTE: Anyone can SUBSCRIBE to the Tomorrows-Professor Mailing List by going to:

<https://mailman.stanford.edu/mailman/listinfo/tomorrows-professor>

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tomorrows-professor mailing list

tomorrows-professor@lists.stanford.edu

<https://mailman.stanford.edu/mailman/listinfo/tomorrows-professor>



2009



Land Judging Contest



The Jefferson County 4-H **land judging** team took top honors in state competition, November 9, 2009, at the West Tennessee Research and Education Center in Jackson. Standing left to right are Jim Satterfield, coach; McKenzie Shultz; Chris Kennedy; Amanda Hull; Isaac Bureson; and Josh Weber representing Tennessee Farmers Mutual Insurance Companies.

4-H state land judging is a cooperative effort of UT Extension, UT Ag Research, FFA, NRCS, Tennessee Department of Agriculture, Tennessee Farm Bureau Federation and others. This years pit judges included our own Dr. Don Tyler (2009 host), Dr. Hugh Savoy, UT Martin's Dr. Paula Gale and Dr. Steve Monteith from NRCS.

POWERPOINT: "Agricultural research, extension and education: bringing focus to meet society's grand challenges and the role of the National Institute of Food and Agriculture"

Plenary lecture presented by Roger Beachy at the Tri-Societies ASA, CSSA, SSSA Annual Meeting is available on BESS Sharepoint site. Please look for it under the "Home" tab and then the "Shared Document" link. It is named "Beachy Presentation, TriSocMtg"

Roger Beachy is the director of the USDA's newly established National Institute of Food and Agriculture in Washington, DC. Prior to his appointment to the Obama administration, Dr. Beachy served as the founding president of the Donald Danforth Plant Science Center in St. Louis, MO. He is internationally known for his groundbreaking research on development of virus-resistant plants through biotechnology. The new Institute takes the existing USDA-CSREES (Cooperative State Research, Education, and Extension Service) and transforms it into a cross-agency "federal science enterprise," according to USDA Secretary Vilsack. In his lecture he presented his outlook for the new institute.

NSF Post-Doc Mentoring Workshop

NSF has instituted a post-doc mentoring requirement. To assist PIs in meeting this requirement or to prepare for future awards, the UT Office of Research (UTOR) will be offering a Post-Doc Mentoring Workshop at various times throughout the year. The first workshop will be offered on **December 2 from 11:00 to 3:30** (lunch provided).

Participants will receive a copy of "Making the Right Moves: A Practical Guide to Scientific Management for Post-Docs and New Faculty". This workshop is open to PIs, their post-docs and doctoral students who are approaching the end of their program.

To register for the workshop, send an email to ortraining@utk.edu.

Questions regarding this announcement may be directed to:

Dr. Greg Reed, Associate Vice Chancellor for Research, 974-0437 or gcreed@utk.edu

AgResearch & Extension News

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November 12, 2009

All:

Please see the note below concerning an online grantsmanship workshop focusing on system-based USDA NIFA grant programs. This workshop has direct relevance to many of our programs including those which could be supported by the SARE program, the Integrated Organic Program, the Specialty Crop Initiative among many others. The workshop will take place Thursday December 10 from 8:30 am to 5:00 pm. The deadline for registration is December 3. Again, this is an online workshop, and should be very helpful especially as we transition from CSREES to NIFA.

Best regards.

Bill Brown

WORKSHOP ANNOUNCEMENT: Preparing proposals for systems-based USDA grant programs.

This one-day workshop can be attended on-line at no cost.

Information is available at <http://blogs.cce.cornell.edu/usdasystems>

Planning and Managing Systems Based Trans-disciplinary Projects for USDA/NIFA Programs

Dec 10, 2009 8:30 AM to 5 PM, Ithaca, New York

In the 17th century, philosophers debated whether scientific inquiry should be based on a reductionist approach, in which complex processes and systems are viewed as the sum of their parts, or on a systems approach, in which all the components of processes and systems are studied in relation to each other. For over 300 years, the reductionist approach dominated with remarkable results. With our current ability to manage large and complex data sets, there is renewed interest in adapting a systems science approach to modern challenges in agricultural and food science to uncover solutions at the speed of modern life. The Sustainable Agriculture Research and Education program (SARE), the Integrated Organic Program (IOP) and the Specialty Crop Research Initiative (SCRI) within the National Institute of Food and Agriculture require that applicants use a systems approach to meet challenges faced by producers and consumers. The directors of these programs, in partnership with Cornell University, are offering a one-day, national workshop on the preparation and management of competitively awarded, systems-based grant applications.

The program will be produced in Ithaca, New York, and will be available in two formats:

Live at Call Alumni Auditorium in Kennedy Hall (morning) and the Industrial School of Labor Relations Conference Center (afternoon)

Webcast available live on-line. Please see the Sessions and Lodging Info links on the right for additional information.

To register, go to <http://cceconferences.wufoo.com/forms/usdanifa-training-registration-form/> (registration deadline: December 3, 2009)

****FREE**** EPA Watershed Academy Webcast on An Urgent Call to Action:

"An Urgent Call to Action: Nutrient Innovations Task Group Report"

Webcast on Tues. Dec. 1, 2009 at 1:00 - 3:00 pm Eastern

Nutrients have been identified as one of the top causes of water quality impairment in the United States. This Webcast will present findings from the new report called An Urgent Call to Action: Report of the State-EPA Nutrient Innovations Task Group posted at www.epa.gov/waterscience <<http://www.epa.gov/waterscience>>. Tune into this Webcast to learn about this report, which characterizes the scope and major sources of nutrients, and includes recommendations to address the issue. The Webcast will also include a presentation from the Environmental Working Group on effective ways to address nutrient pollution from agriculture. And finally, Utah's Department of Environmental Quality will share successful approaches to reduce nutrient pollution from agricultural livestock and municipal sewage treatment plants.

Webcast participants are eligible to receive a certificate for their attendance. The Webcast presentations are posted in advance at www.epa.gov/watershedwebcasts <<http://www.epa.gov/watershedwebcasts>> and participants are encouraged to download them prior to the Webcast.

Registration -- You must register in advance to attend this Webcast. Register at the Watershed Academy Webcast Web site at: www.epa.gov/watershedwebcasts. Note: Your computer must have the capability of playing sound in order to attend this Webcast. You also can view past archived Webcasts, at www.epa.gov/owow/watershed/wacademy/webcasts/archives.html <<http://www.epa.gov/owow/watershed/wacademy/webcasts/archives.html>>.

Questions? Please contact Amber Marriott at amber.marriott@tetrattech.com <<mailto:amber.marriott@tetrattech.com>>

POST DOC OPPORTUNITIES

The Naval Research Laboratory (NRL) Postdoctoral Fellowship Program

This program is open to US citizens and legal permanent residents and offers a competitive stipend as well as insurance, relocation, and travel allowances. This program offers one to three year postdoctoral fellowships designed to increase the involvement of scientists and engineers from academia and industry to scientific and technical areas of interest and relevance to the Navy. **This program has a rolling admission.** For more information, <http://www.asee.org/nrl/about.cfm>

FACULTY OPPORTUNITIES

The Air Force Summer Faculty Fellowship Program (SFFP)

This program is intended for US citizens or permanent residents who have an earned doctorate in science or engineering and who hold full-time science or engineering faculty positions at US colleges, community colleges and universities. The duration of this summer fellowship is from 8 to 12 continuous weeks and research is performed on-site at Air Force laboratories. There is a competitive weekly stipend, and relocation and daily expense allowances are available for those who qualify. **The application deadline is December 1, 2009.** To apply online, go to: <http://www.asee.org/sffp>

The Office of Naval Research (ONR) Summer Faculty Research and Sabbatical Leave Program

This program is intended for US citizens who hold teaching or research appointments relating to science and/or engineering at U.S. academic institutions. A competitive stipend, relocation and travel allowances, and a pre-program site visit are offered. **The application deadline is December 4, 2009.** For more information go to <http://www.asee.org/summer>

KNOXVILLE AREA URBAN LEAGUE HOSTS NATIONAL URBAN LEAGUE/WALGREENS WELLNESS TOUR

The National Urban League and Walgreens Wellness Tour, a national mobile health screening tour with the goal of promoting better health in urban communities across the country, will visit Knoxville, Tennessee from Nov. 13 through Nov. 23, 2009.

“Early detection and disease prevention are crucial to overcoming health care disparities,” said Phyllis Y. Nichols, Knoxville Area Urban League President and CEO. “The National Urban League/Walgreens Wellness Tour brings free screenings and educational information to people who otherwise may not have access to these basic health resources. The Knoxville Area Urban League is pleased to have established the tour stops throughout the greater Knoxville area, making health screenings available to residents in all communities.”

Through the wellness tour, the National Urban League and Walgreens will provide adults convenient, free access to six health screenings - blood glucose, body mass index, blood pressure, cholesterol, bone density and waist circumference - collectively valued at \$140. Screening results are instantly provided and consumers are encouraged to visit a doctor or health care provider to discuss the details. Visitors will also have access to free educational information on a variety of health and wellness issues

- Friday, Nov. 20, 2 to 8 p.m., Knoxville Flea Market, Knoxville Expo Center
- Saturday, Nov. 21, 11 a.m. to 5 p.m., Knoxville Center Mall, 3001 Knoxville Center Drive
- Sunday, Nov. 22, noon to 6 p.m., Walgreens, 255 N. Hall Road, Alcoa
- Monday, Nov. 23, noon to 6 p.m., Walgreens, 4001 Chapman Highway

The National Urban League and Walgreens Wellness Tour is one of two national health screening campaigns created by Walgreens.

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services. All qualified applicants will receive equal consideration for employment without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity, age, physical or mental disability, or covered veteran status.

Funding Opportunities

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Our Funding Opportunities Section is chock-full of new NIFA grant openings as well as EPA, NSF, and DOD. Click on the links below to jump to the announcement.

If you are interested in applying for any of these, please e-mail aggrant@utk.edu and one of the Program Development Team members will contact you and prepare all required forms.

[NIFA: Organic Agriculture Research and Extension Initiative](#)

[NIFA: International Science and Education Competitive Grants Program](#)

[NIFA: Youth Farm Safety and Education Certification Program](#)

[NIFA: Specialty Crop Research Initiative \(SCRI\)](#)

[NIFA: Higher Education Challenge Grants](#)

[EPA: Increasing Scientific Data on the Fate, Transport and Behavior of Engineered Nanomaterials in Selected Environmental and Biological Matrices](#)

[DOD-SERDP: ENVIRONMENTAL RESEARCH AND DEVELOPMENT](#)

[NSF-PA-10-502: Innovations in Engineering Education, Curriculum and Infrastructure \(IEECI\);](#)

[NSF 10-506: Cyber-Enabled Discovery and Innovation \(CDI\)](#)

[Philip Morris USA: Applied tobacco research, extension, and educational programs 2010.](#)

[Tennessee Soybean Promotion Board](#)

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NIFA: Organic Agriculture Research and Extension Initiative

The OREI seeks to solve critical organic agriculture issues, priorities, or problems through the integration of research and extension activities. The purpose of this program is to fund projects that will enhance the ability of producers and processors who have already adopted organic standards to grow and market high quality organic agricultural products. Priority concerns include biological, physical, and social sciences, including economics. The OREI is particularly interested in projects that emphasize research and outreach that assist farmers and ranchers with whole farm planning and ecosystem services, especially those relating to climate change. Projects should plan to deliver applied production information to producers. Fieldwork must be done on certified organic land or on land in transition to organic certification, as appropriate to project goals and objectives. Refer to the USDA National Organic Program (<http://www.ams.usda.gov/nop>) for organic production standards.

Who Is Eligible to Apply

- 1862 Land-Grant Institutions
- 1890 Land-Grant Institutions
- 1994 Land-Grant Institutions
- For-profit Organizations Other Than Small Businesses
- Individuals
- Other or Additional Information (See below)
- Private Institutions of Higher Ed
- State Agricultural Experiment Stations
- State Controlled Institutions of Higher Ed

More Information on Eligibility

The following entities are eligible: 1. State agricultural experiment stations; 2. colleges and universities; 3. university research foundations; 4. other research institutions and organizations; 5. Federal agencies; 6. national laboratories; 7. private organizations or corporations; 8. individuals who are United States citizens or nationals; or 9. any group consisting of 2 or more of the entities described in subparagraphs (1) through (8).

[Request for Application \(RFA\)](#) | Apply: [Electronic](#) | [Abstracts of Funded Projects](#)

Solicitation Date (Opening)	November 18, 2009
Letter of Intent Due Date	None
Due Date (Closing)	February 9, 2010
Anticipated Award Date	None
Estimated Total Program Funding	\$19,000,000.00
Range of Awards	\$0.00 to \$3,000,000.00
Percent of Applications Funded Last Fiscal Year	20%
Cost Sharing Requirements	See RFA
For More Information Contact	Mary Monnig Peet
Funding Opportunity Number	USDA-NIFA-ICGP-002696
CFDA Number	10.307
Contact for Electronic Access Problems	webcomments@nifa.usda.gov

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NIFA: International Science and Education Competitive Grants Program

The International Science and Education Competitive Grants Program (ISE) supports research, extension, and teaching activities that will enhance the capabilities of American colleges and universities to conduct international collaborative research, extension and teaching. ISE projects are expected to enhance the international content of curricula; ensure that faculty work beyond the U.S. and bring lessons learned back home; promote international research partnerships; enhance the use and application of foreign technologies in the U.S.; and strengthen the role that colleges and universities play in maintaining U.S. competitiveness.

- **Who Is Eligible to Apply**
- 1862 Land-Grant Institutions
- 1890 Land-Grant Institutions
- 1994 Land-Grant Institutions
- Other or Additional Information (See below)
- Private Institutions of Higher Ed
- State Controlled Institutions of Higher Ed

More Information on Eligibility

College/university must 1) admit as regular students only persons having a certificate of graduation from a school providing secondary education, or the recognized equivalent of such a certificate, 2) be legally authorized within such State to provide a program of education beyond secondary education, 3) provide an education program for which a BA/BS or any other higher degree is awarded, 4) be a public or other nonprofit institution, & 5) be accredited by a nationally recognized agency.

[Request for Application \(RFA\)](#) | Apply: [Electronic](#) | [Abstracts of Funded Projects](#)

Solicitation Date (Opening)	November 10, 2009
Letter of Intent Due Date	None
Due Date (Closing)	January 28, 2010
Anticipated Award Date	July 1, 2010
Estimated Total Program Funding	\$2,500,000.00
Range of Awards	\$0.00 to \$150,000.00
Percent of Applications Funded Last Fiscal Year	23%
Cost Sharing Requirements	None
For More Information Contact	Patricia Fulton
Funding Opportunity Number	USDA-NIFA-SERDIP-002675
CFDA Number	10.305 International Science and Education Grants
Contact for Electronic Access Problems	webcomments@nifa.usda.gov

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NIFA: Youth Farm Safety and Education Certification Program

The Youth Farm Safety Education and Certification Program (YFSEC) supports national efforts to deliver timely, pertinent, and appropriate training to youth seeking employment or already employed in agricultural production. The program has critical ties to the current regulations for youth employment in agriculture, especially the exemptions provided in 29 CFR Part 570, subpart E-1 for youth under the age of 16 employed in some agricultural occupations having obtained certification. Significant changes in agricultural production and in the agricultural workforce since this regulation took effect in the early 1970's have encouraged the USDA to consider training and certification innovations along with developing appropriate training and restrictions on youth employment in hazardous agricultural jobs. YFSEC's funding has appeared under the Smith-Lever 3 (d) line for Youth Farm Safety Education and Certification since 2001.

- **Who Is Eligible to Apply**
- 1862 Land-Grant Institutions
- 1890 Land-Grant Institutions
- Other or Additional Information (See below)

More Information on Eligibility

Applications may be submitted by Cooperative Extension at 1890 Land-Grant Institutions, including Tuskegee University and West Virginia State University, at 1862 Land-Grant Colleges and Universities, and the University of the District of Columbia. An applicant's failure to meet an eligibility criterion by the time of an application deadline will preclude NIFA from reviewing their application or making an award.

[Request for Application \(RFA\)](#) | Apply: [Electronic](#) | [Abstracts of Funded Projects](#)

Solicitation Date (Opening)	November 9, 2009
Letter of Intent Due Date	None
Due Date (Closing)	January 21, 2010
Anticipated Award Date	May 3, 2010
Estimated Total Program Funding	\$466,650.00
Range of Awards	\$100,000.00 to \$300,000.00
Percent of Applications Funded Last Fiscal Year	50%
Cost Sharing Requirements	None
For More Information Contact	Bradley Rein
Funding Opportunity Number	USDA-NIFA-SLBCD-002673
CFDA Number	10.500 COOPERATIVE EXTENSION SERVICE
Contact for Electronic Access Problems	webcomments@nifa.usda.gov

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Funding Opportunities

EPA: Increasing Scientific Data on the Fate, Transport and Behavior of Engineered Nanomaterials in Selected Environmental and Biological Matrices

The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, the National Science Foundation (NSF), and the National Institute of Food and Agriculture (NIFA) of the U.S. Department of Agriculture (USDA), are seeking applications proposing research to provide data that improves the scientific understanding of fate/transport and behavior of engineered nanomaterials.

□ [Request for Application \(RFA\)](#) | Apply: [Electronic](#)

Solicitation Date (Opening)	November 6, 2009
Letter of Intent Due Date	None
Due Date (Closing)	February 2, 2010
Anticipated Award Date	None
Estimated Total Program Funding	\$1,800,000.00
Range of Awards	Unavailable
Percent of Appl Funded Last Fiscal Year	0%
Cost Sharing Requirements	None
For More Information Contact	Hongda Chen
Funding Opportunity Number	EPA-G2010-STAR-N1
CFDA Number	10.310
Contact for Electronic Access Problems	webcomments@nifa.usda.gov

The sponsors of this request for applications (RFA) are interested in supporting fundamental and applied research related to engineered nanomaterials in the following two areas. Applications must address one of these two areas. Fostering international research collaboration is one aim of this solicitation and international research collaboration is encouraged.

Fate, Transport and Behavior of Engineered Nanomaterials, EPA-G2010-STAR-N1

Research Area 1: Evaluation of potential exposures to engineered nanomaterials including an exploration of environmental and biological fate, transport, and transformation of these materials throughout their lifetimes

There is an urgent need to evaluate the fate and transport of nanomaterials in the environment and to consider the possible impacts of nanomaterials from their initial generation through product manufacturing, use and final disposition. As nanomaterials are released and migrate from one media to another, they may be physically altered. Current toxicity literature indicates that alterations of nanomaterials (coated, agglomerated/aggregated, suspended, functionalized, etc.) can change their toxicity. Consequently, it is necessary to characterize the nanomaterials during exposure to living organisms. Such information will enable the development of benign nanomaterials that, should exposure occur, will not result in adverse effects upon human health or the environment. The generation of this data requires scrutiny of the entire life cycle of the material. Developing life cycle perspectives for nanomaterials will provide critical information concerning the material form of nanoproducts and the applicable environmental media in which they will likely exist. In addition, information concerning the persistence and bioavailability will be obtained to help quantify potential dosages. The fate and transport of nanomaterials may be influenced by geochemical conditions of the media, and processes such as sorption, dissolution, deposition, etc. Specific nanomaterials of interest include nano silver, titanium dioxide, cerium oxide, nano-scale zero-valent iron (nZVI), quantum dots, and carbon-based.

Fate, Transport and Behavior of Engineered Nanomaterials, EPA-G2010-STAR-N2

Research Area 2: Improve the scientific understanding of engineered nanoscale additives and ingredients that may be intentionally introduced into food for delivery of important micronutrients and modification of sensory attributes.

Research and development at nanoscale science have significantly extended into the food and agriculture sector over the last few years both in the US, EU and other parts of the world. Applications of nanotechnologies aimed at improving human health and well being through food products and sustaining economic growth have been actively investigated. With the expectation of new products incorporating novel nanostructured food additives, ingredients and micronutrients, it is important to scientifically understand the characteristics and safety of engineered nanoscale food additives, ingredients, and micronutrient delivery complexes.

This Research Area is intended to address the urgent needs to scientifically understand the fate and properties of nanoscale materials and additives that may be used or introduced into foods. The pioneer study in this area is an important step towards responsible development and deployment of nanotechnology called for in the 2007 NNI Strategic Plan. It will also help to assess the adequacy of the existing characterization methods to study the critical questions, and establish the baseline for the needs of new characterization methodology. The information gained from this research will provide guidance on the extent of future investigation needs on the nanoscale food materials and additives. This research will complement proposed EU efforts to develop suitable techniques to detect nanostructures in food. It also complements other sections of this RFA regarding the environmental fate and transport properties of engineered nanoparticles.

The specific Strategic Goal and Objective from the EPA's Strategic Plan that relate to this solicitation are:

Goal 4: Healthy Communities and Ecosystems, Objective 4.4: Enhance Science and Research

The EPA's Strategic Plan can be found at: http://www.epa.gov/ocfo/plan/2006/entire_report.pdf (PDF) (184 pp, 9.87 MB, [about PDF](#))

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Funding Opportunities

NIFA: Specialty Crop Research Initiative (SCRI)

The Specialty Crop Research Initiative (SCRI) was established to solve critical industry issues through research and extension activities. SCRI will give priority to projects that are multistate, multi-institutional, or trans-disciplinary; and include explicit mechanisms to communicate results to producers and the public. Projects must address at least one of five focus areas: research in plant breeding, genetics, and genomics to improve crop characteristics; efforts to identify and address threats from pests and diseases, including threats to specialty crop pollinators; efforts to improve production efficiency, productivity, and profitability over the long term; new innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production and processing of specialty crops.

Special Notation

[More SCRI Information.](#)

➤ **Who Is Eligible to Apply**

- 1862 Land-Grant Institutions
- 1890 Land-Grant Institutions
- 1994 Land-Grant Institutions
- For-profit Organizations Other Than Small Businesses
- Individuals
- Nonprofits with 501(c)(3) IRS status, other than Institutions of Higher Ed
- Nonprofits without 501(c)(3) IRS status, other than Institutions of Higher Ed
- Other or Additional Information (See below)
- Private Institutions of Higher Ed
- Small Business
- State Agricultural Experiment Stations
- State Controlled Institutions of Higher Ed

More Information on Eligibility

Applications may be submitted by Federal agencies, national laboratories, colleges and universities, research institutions and organizations, private organizations or corporations, State agricultural experiment stations, individuals, or groups consisting of 2 or more of these entities.

[Request for Application \(RFA\)](#) | Apply: [Electronic](#) | [Abstracts of Funded Projects](#)

Solicitation Date (Opening)	November 3, 2009
Letter of Intent Due Date	November 25, 2009
Due Date (Closing)	January 14, 2010
Anticipated Award Date	None
Estimated Total Program Funding	\$47,300,000.00
Range of Awards	\$0.00 to \$10,000,000.00
Percent of Applications Funded Last Fiscal Year	17%
Cost Sharing Requirements	100 %
For More Information Contact	Thomas (Tom) Bewick
Funding Opportunity Number	USDA-NIFA-SCRI-002672
CFDA Number	10.309 Specialty Crop Research Initiative
Contact for Electronic Access Problems	webcomments@nifa.usda.gov

Instructions - http://www.csrees.usda.gov/funding/rfas/pdfs/10_scri.pdf

RFA Call- <http://www.csrees.usda.gov/fo/specialtycropresearchinitiative.cfm>

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Funding Opportunities

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NIFA: Higher Education Challenge Grants

Projects supported by the Higher Education Challenge Grants Program will: (1) address a State, regional, national, or international educational need; (2) involve a creative or non-traditional approach toward addressing that need that can serve as a model to others; (3) encourage and facilitate better working relationships in the university science and education community, as well as between universities and the private sector, to enhance program quality and supplement available resources; and (4) result in benefits that will likely transcend the project duration and USDA support.

Who Is Eligible to Apply

- 1862 Land-Grant Institutions
- 1890 Land-Grant Institutions
- 1994 Land-Grant Institutions
- Hispanic-Serving Institutions
- Other or Additional Information (See below)
- State Controlled Institutions of Higher Ed

More Information on Eligibility

a) U.S. public or private, nonprofit colleges/universities offering baccalaureate or 1st professional degree in at least one discipline/area of food & agricultural sciences; b) land-grant colleges/universities (including those in Insular Areas); c) colleges/universities having significant minority enrollments & demonstrable capacity to teach food & agricultural sciences; & d) colleges/universities having demonstrable capacity to teach food & agricultural sciences.

[Request for Application \(RFA\)](#) | Apply: [Electronic](#) | [Abstracts of Funded Projects](#)

Solicitation Date (Opening)	October 23, 2009
Letter of Intent Due Date	None
Due Date (Closing)	February 5, 2010
Anticipated Award Date	July 15, 2010
Estimated Total Program Funding	\$5,200,000.00
Range of Awards	\$150,000.00 to \$500,000.00
Percent of Applications Funded Last Fiscal Year	31%
Cost Sharing Requirements	A grant recipient is required to match USDA funds awarded on a dollar-for-dollar basis.
For More Information Contact	Gregory Smith
Funding Opportunity Number	USDA-NIFA-CGP-002644
CFDA Number	10.217 HIGHER EDUCATION CHALLENGE GRANTS
Contact for Electronic Access Problems	webcomments@nifa.usda.gov

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Funding Opportunities

DOD-SERDP: ENVIRONMENTAL RESEARCH AND DEVELOPMENT

ARLINGTON, VA, October 29, 2009—The Department of Defense's (DoD) Strategic Environmental Research and Development Program (SERDP) is seeking to fund environmental research and development proposals. SERDP is DoD's environmental science and technology program, planned and executed in partnership with DOE and EPA. The Program invests across the broad spectrum of basic and applied research, as well as exploratory development. SERDP pursues solutions to DoD's most intractable environmental problems. Advances in the understanding and management of DoD's resources support the long-term sustainability of training and testing ranges and facilities. Innovative environmental technologies significantly reduce current and future environmental liabilities.

Proposals responding to focused Statements of Need (SON) in the following areas are requested:

Environmental Restoration — innovative technologies for the detection, characterization, containment, and remediation of a wide range of contaminants in soil, sediments, and water.

Munitions Management — advanced geophysical sensor and signal processing technologies for the detection, classification, and remediation of unexploded ordnance (UXO) and technologies for range clearance and reduced generation of UXO.

Sustainable Infrastructure — research to advance DoD's environmental management of its natural resources and to understand the impacts of climate change.

Weapons Systems and Platforms — advanced alternative environmentally benign technologies and materials that reduce, control, or eliminate the waste and emissions associated with the manufacturing, maintenance, and use of DoD weapons systems and platforms.

Proposals responding to the Fiscal Year (FY) 2011 SONs will be selected through a competitive process. Separate solicitations are available to federal and non-federal proposers. The SONs and detailed instructions for federal and private sector proposers are available on the SERDP web site at www.serdp.org/funding.

The Core SERDP Solicitation provides funding in varying amounts for multi-year projects. **FOR THE CORE SOLICITATION, PRE-PROPOSALS FROM THE NON-FEDERAL SECTOR ARE DUE BY THURSDAY, JANUARY 7, 2010. PROPOSALS FROM THE FEDERAL SECTOR ARE DUE BY THURSDAY, MARCH 11, 2010.**

SERDP also will be funding environmental research and development through the SERDP Exploratory Development (SEED) Solicitation. The SEED Solicitation is designed to provide a limited amount of funding (not to exceed \$150,000) for projects up to one year in duration to investigate innovative approaches that entail high technical risk and/or require supporting data to provide risk reduction or proof of concept. **ALL SEED PROPOSALS ARE DUE BY THURSDAY, MARCH 11, 2010.**

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Funding Opportunities

NSF-PA-10-502: Innovations in Engineering Education, Curriculum and Infrastructure (IEECI):

The National Science Foundation (Directorate for Engineering) is soliciting applications for the **Innovations in Engineering Education, Curriculum, and Infrastructure (IEECI) program**. The IEECI program supports research that addresses three aspects of engineering education: (AREA 1) how students best learn the ideas, principles, and practices to become creative and innovative engineers, and how this learning is measured; (AREA 2) how to more effectively translate successes in engineering education research into widespread practice with consideration of curriculum, student learning, innovation models, and cyber-learning technology; and (AREA 3) implementation of programs for students supported by the GI Bill.

[detailed information about this opportunity: <http://www.nsf.gov/pubs/2010/nsf10502/nsf10502.htm>].

Approximately \$8.5M is anticipated to support 35 - 40 awards (10 awards Area 1, 25-30 awards Area 2 & 3). Cost sharing is not required.

AREA 1 Deadline for Proposal Submission to Agency: **1/20/2010**

AREA 2 & 3 Deadline for Proposal Submission to Agency: **3/31/2010**

NSF 10-506: Cyber-Enabled Discovery and Innovation (CDI)

solicitation here: <http://www.nsf.gov/pubs/2010/nsf10506/nsf10506.htm>

Cyber-Enabled Discovery and Innovation (CDI) is NSF's bold five-year initiative to create *revolutionary* science and engineering research outcomes made possible by innovations and advances in computational thinking. Computational thinking is defined comprehensively to encompass computational concepts, methods, models, algorithms, and tools. Applied in challenging science and engineering research and education contexts, computational thinking promises a profound impact on the Nation's ability to generate and apply new knowledge. Collectively, CDI research outcomes are expected to produce paradigm shifts in our understanding of a wide range of science and engineering phenomena and socio-technical innovations that create new wealth and enhance the national quality of life.

CDI seeks ambitious, transformative, multidisciplinary research proposals within or across the following three thematic areas:

From Data to Knowledge: *enhancing human cognition and generating new knowledge from a wealth of heterogeneous digital data;*

Understanding Complexity in Natural, Built, and Social Systems: *deriving fundamental insights on systems comprising multiple interacting elements; and*

Virtual Organizations: *enhancing discovery and innovation by bringing people and resources together across institutional, geographical and cultural boundaries.*

Two types of CDI awards will be supported as a result of the FY 2010 CDI competition:

Type I awards will require efforts up to a level roughly comparable to: summer support for two investigators with complementary expertise; two graduate students; and their collective research needs (e.g. materials, supplies, travel) for three years.

Type II awards will require larger (than Type I) efforts up to a level roughly comparable to: summer support for three investigators with complementary expertise; three graduate students; one or two senior personnel (including post-doctoral researchers and staff); and their collective research needs (e.g. materials, supplies, travel) for four years. The integrative contributions of the Type II team should clearly be greater than the sum of the contributions of each individual member of the team.

For detailed information about this opportunity please see the attached solicitation (NSF 10-506).

\$36,000,000 available for 30 awards. Cost sharing **is not** required.

Deadline for Proposal Submission to Agency: **(Type I) 2/4/2010; (Type II) 2/5/2010**

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Funding Opportunities

Tennessee Soybean Promotion Board

The Tennessee Soybean Promotion Board (TSPB) seeks new and innovative proposals for soybean research and demonstrations in 2010. The Board will consider renewing some currently funded proposals where recent progress has been clearly demonstrated and the study areas remain pertinent. Research scientists, and extension specialists, are encouraged to make concerted efforts to prepare and submit creative well-conceived proposals to be considered for 2010 funding.

Please submit your proposals to the UTIA Office of Sponsored Programs by not later than **December 15**. Proposals should be submitted via e-mail to aggrant@utk.edu. Proposals will no longer be accepted as a printed document. The cover page and budget sheet forms are attached. Research/study/demonstration objectives (Item 7 on the cover page) and related discussions may be carried to a second page. The entire proposal should not exceed two pages plus the budget page. All internal forms will be completed by the UTIA Office of Sponsored Program's staff.

The proposals should be presented in lay terms with few scientific references. The Board is composed of Tennessee farmers whose primary interests are usually somewhat vested – they tend to have more interest in those proposals which they feel are most likely to benefit Tennessee farmers and Tennessee agriculture. Having a short introductory paragraph designed to attract the reader's interest by stating the need, application potential, and possible short/medium-term benefit of the research to Tennessee agriculture is usually helpful. For certain proposals, TSPB may secure technical reviews by outside researchers. Many recent successful proposals have had budgets in the \$10,000 to \$90,000 range. A good proposal should have a realistic budget that accounts for all direct, operating, and incidental expenses. Budgets should also reflect the investment of AgResearch and/or Extension resources. Only in special cases will the Board approve purchase of non-expendable equipment. The board has recommended that proposals with similar objectives (like SCN) be integrated into one proposal with multiple co-PI's.

A list of currently funded state soybean check-off and United Soybean Board grants are available at <http://www.soybeancheckoffresearch.org/>. A review of current projects from Tennessee and surrounding states will help minimize duplicated efforts. Projects that focus on transfer of research findings pertinent to Tennessee producers is encouraged.

Proposals and progress reports will be given to each Board member prior to the annual meeting in Pigeon Forge, Tennessee. To allow time for preparing materials, all proposals and progress reports are needed **by December 15**. If you have questions, please contact Kathy Dalton or Cathy Creswell at 974-7364 or 974-7362.

Persons submitting proposals will probably be invited to briefly discuss their proposals before the Board during its meeting in January. The Board meeting is scheduled for **January 19 and 20** at the Music Road Hotel in Pigeon Forge. We will give you more information about the meeting agenda and the time scheduled for your presentation as it becomes available

Philip Morris USA: Applied tobacco research, extension, and educational programs 2010.

*If you are interested in new or continued gift support, please submit 2010 requests by **November 26, 2009**. They have asked that we repeat the procedure from last year and have all the proposals for each university sent from a single contact person. Therefore, please send your request for gift funding to wilkerj@utk.edu and not directly to Philip Morris.*

Also, if you are currently receiving gift funds from Philip Morris USA, they would like to receive updates for projects supported during 2009. If you would please e-mail a copy of your reports in pdf file format to wilkerj@utk.edu, I will forward them to Newton along with the new funding request as one group.

Please share this RFP with anyone that might have an interest in tobacco related projects. Please let us know if you have any questions or comments.

*John Wilkerson, Ph.D.
Professor and Interim Assistant Dean
The University of Tennessee
Institute of Agriculture -AgResearch*

End of Funding Opportunities Section