

Research News

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OFFICE of RESEARCH and SPONSORED PROGRAMS

March 2009

THE AMERICAN RECOVERY AND REINVESTMENT ACT'S IMPACT ON RESEARCH

A Message from Associate Provost for Faculty Affairs Mark Welker

On February 17, 2009, President Obama signed the \$787 billion American Recovery and Reinvestment Act (ARRA) into law. It includes \$100B to the Education Department; \$10.4B to the National Institutes of Health (NIH); \$3B to the National Science Foundation (NSF); \$1.6B to the Department of Energy; and \$50 million to the National Endowment for the Arts. These stimulus funds must be spent out in two years and require unprecedented reporting. Priorities include job creation and infrastructure.

Office of Research and Sponsored Programs staff have been working hard to send you news about how these agencies will spend the new funds. Their home page (www.wfu.edu/rsp/) has links to the Huron Consulting Group's portal on higher education; agency sites from Grants.gov; and the NIH Challenge Grant solicitation and revised review criteria. If you need additional details, please ask, and we will try to get them for you.

General information is available via www.recovery.gov. Several agencies have dedicated websites detailing ARRA funding initiatives:

National Institutes of Health: www.nih.gov/recovery/index.htm—~200 new challenge grants **due April 27** (see <http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-09-003.html>)

Department of Defense: www.defenselink.mil/recovery/—\$300M to develop energy-efficient technologies

National Science Foundation: www.nsf.gov/recovery/—will not issue any new calls for proposals but finance more proposals already under review and some rejected last year for lack of funds

Department of Energy: www.energy.gov/recovery/—Investments in building and renovating laboratories and research facilities to create jobs immediately and enable the research that will sustain American industry and provide new energy and climate solutions (see www.er.doe.gov/index.htm)

Department of Education: www.ed.gov/policy/gen/leg/recovery/index.html—“The first round of funding will help avert hundreds of thousands of estimated teacher layoffs in schools and school districts while driving crucial education improvements, reforms, and results for students” (see www.ed.gov/news/pressreleases/2009/03/03072009.html).

National Endowment for the Arts: www.nea.gov/recovery/index.html—40% to state and regional arts agencies; 60% to organizations to support jobs in the arts industry (see www.arts.gov/news/news09/nea-announces-recovery-programs.html)

Now is the time to submit your freshest, boldest ideas, including instrument and personnel requests. ORSP is ready to help you!

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WAKE FOREST
UNIVERSITY

WINNING HUMANITIES FUNDING

Dr. Russ Wyland, Assistant Director of the Division of Research Programs at the National Endowment for the Humanities, oversees fellowship awards. Hosted by the Office of Research and Sponsored Programs, he offered regional faculty critical insights into winning NEH grants in a workshop and one-on-one meetings.

Statistics from 1979 to the present show that Wake Forest submitted only 170 applications and received 21 awards, a 12% success rate, while UNC-G, for example, submitted 255 applications and received 66 awards, a 25% success rate. How can we improve? First, we have to apply. Russ noted that at Wellesley, where sabbatical leave is contingent on applying to the NEH and American Council of Learned Societies, faculty have been very successful.

NEH is the primary source of humanities programming (www.neh.gov/news/recentawards.html), with a budget totaling \$106 million. Grants usually support 80% of a project. Challenge grants cover big ideas and infrastructure. They require a \$3-to-\$1 match over 4 years, so discussions at the highest level of administration and with the NEH should begin at least a year in advance of application. Awards range from \$30K to \$1M, but \$650K is typical.

The Division of Education seeks to translate scholarship into the classroom. You can apply to participate in or to direct its Seminars and Institutes. The new Enduring Questions initiative supports undergraduate course development at disciplinary boundaries, and the popular Focus Group program, which drew diverse faculty together to discuss common interests, will be revived but not for the fall deadline.

The Preservation and Access Division focuses on humanities collections and resources. It works stepwise from small grants to hire a consultant to large equipment grants. The new Office of Digital Humanities is rolling out programs for international partnerships and large-scale projects across divisions. Public Programs supports radio, podcasting, museum, and library events in addition to television series.

The Research Division receives 70% of applications. Fellowships and stipends don't require a budget and go straight to the individual, who can submit it via grants.gov; other types of awards go to the university, require institutional signatures and a detailed budget, and must be submitted by ORSP.

Dr. Shelley Crisp, Executive Director of the North Carolina Humanities Council, also spoke. As the "local face of NEH", NCHC prioritizes our large adult population who remain outside educational systems, rather than children. Sponsored activities must center on North Carolina; be free and open to the public; and provide in-kind match. At

Wake, NCHC has sponsored poetry readings and Museum of Anthropology activities, and program officers are happy to talk applicants through the proposal process. See www.nchumanities.org/.

How to apply to these agencies for funding? First, talk to ORSP. We can help you with guidelines, proposal writing, budget, and submission procedures. Second, read the guidelines at the NEH website (www.neh.gov). Third, become familiar with www.grants.gov; don't learn at the last minute that you have to register or don't have the right software. Fourth, phone the Program Officer with questions and ask to see sample applications of funded projects. POs will read full drafts of institutional proposals and parts of fellowship applications; e.g., the work plan or significance. Fifth, make sure *someone* critiques your draft application. Sixth, submit and wait—you won't hear for 5-6 months, so factor that lag time into your project plan.

If rejected, contact the PO to request the verbatim comments from your review panel; later, you can phone to discuss anything puzzling about them. When you redraft, draw on their insights, but since panels change every year, don't indicate that the proposal is a resubmission. POs organize panels to reflect gender and geographic balance, period and genre expertise, diverse outlook and educational training. Junior faculty are welcome. To become a panelist, register online or email Russ, telling him what kind of proposals you'd feel comfortable reviewing. If you have an application pending, you can't review.

Merit criteria differ by program, but fellowship panels emphasize: (1) intellectual significance to scholars and general audiences; (2) promise of the investigator; (3) quality of conception, definition, organization, and expression; (4) feasibility; and (5) likelihood of completion.

To assure that reviewers easily find these points, use headings. Significance is pre-eminent. Successful applications tend to provide good examples that help panelists outside the field understand better why the project is important. Think about how the application works as a whole: tweak your CV to support your claims. If your publications don't clearly relate to the project, if you've had a break in your career or moved to a new field, ask your references to explain to enhance the impact and save space in the proposal. Good letters from people who engage the proposal's ideas are better than dull letters from stars. If the project is interdisciplinary, ask two references in different areas.

The work plan should be well defined, particularly your access to the materials you need. Early-stage projects may be funded but only if sufficiently detailed to convince reviewers you can do them. Since 40% of applicants are junior, many projects are based on dissertations, but the panel must see that they will differ substantially from the available publication. Review is not blind. Panelists can see if the applicant is publishing at an institution with a heavy teaching load and factor that into their judgment on feasibility.

OUTSTANDING PROJECT PROFILES



Associate Professor of Spanish **Ola Furmanek** has been awarded \$155,346 by the Piedmont Triad Partnership to advance *The Piedmont Triad Healthcare Spanish Interpreting Initiative*.

Across the United States, healthcare providers, hospitals, clinics, and emergency rooms must, by law, provide services to the increasing number of patients with limited English proficiency (LEP). In the Piedmont Triad, the Spanish-speaking population has grown more than 500 percent in the last decade. The North Carolina Department of Health and Human Services has declared that healthcare interpreters are critical to assisting this vulnerable population in gaining access to proper healthcare.

While this valuable career path is expected to grow, professionalization lags, due, in part, to lack of specialized training and nationally standardized certification. In response to these challenges, a coalition of Wake Forest University's Romance Languages Department; the School of Medicine's Maya Angelou Center for Health Equity; North Carolina Baptist Hospital; Forsyth Technical Community College, and Davidson County Community College aims, first, to develop and implement a comprehensive curriculum to train community college faculty to teach medical interpreting to undergraduate students. Second, the partners will develop and implement a comprehensive curriculum, leading to an associate degree for Spanish-language medical interpreters. Using the community college pipeline, this strategy can be replicated nationally, removing an urgent healthcare disparity and creating satisfying new jobs.

The Piedmont Triad Partnership is the primary economic development arm for the twelve central North Carolina counties surrounding Greensboro, Winston-Salem, and High Point. This region includes more than 1.5 million residents and a labor force of approximately 820,000.

In another collaboration with the School of Medicine, Associate Professor of Counseling **Laura Veach** won funding from the Robert Wood Johnson Foundation for *Policy Implementation Regarding Brief Interventions in the Trauma Center*.



The National Highway Traffic Safety Administration estimated in 2007 that up to half of all trauma patients test positive for alcohol problems. One American is injured every 2 minutes in alcohol-related car crashes, and alcohol impairs wound healing and increases their susceptibility to infection and the severity of traumatic brain injury.

New research indicates that talking with trauma survivors about their drinking helps to change their behavior, reducing trauma recidivism by 50 percent. In 2006, the American College of Surgeons Committee on Trauma required protocols for alcohol screening and brief counseling interventions in all Level-I Trauma Centers.

The Department of Counseling and the Level-I Trauma Center at Wake Forest University Baptist Medical Center will design and conduct a 3-year study to guide policy development on effective alcohol screening. It will compare the effectiveness of two new, shorter tools that screen for risky drinking with the longer tool in current use and assess the outcomes of two different brief counseling interventions with trauma patients shown by the screening to have risky drinking behaviors. Graduate students in Counseling will play a major role in administering the screenings and interventions.

Assistant Professor of Physics **Jed Macosko** won 2 awards. The first, *NanoSelection of Customizable Biotechnology Reagents*, from NanoMedica, Inc., aims to accelerate discovery of commercially useful aptamers, single-stranded nucleic acid molecules with properties comparable to monoclonal antibodies. Biotechnology demands such cost-effective, customizable reagents for detection, screening, purification, and labeling applications.



Second, in *Visualizing Biotechnology in Three Dimensions: Hands-on Learning in High School*, supported by the North Carolina Biotechnology Center, Wake Forest's biophysics faculty will partner with the Center for Biomolecular Imaging and Atkins High School to offer a new course. In each of 3 years, professional animators and animation students from the UNC School of the Arts and Winston-Salem State University will mentor 20-30 Atkins seniors in animation techniques. They will learn and visualize how biotechnology harnesses cellular machinery to cure diseases, detect biohazards, and manufacture new materials. Their final animation projects will depict biotechnology in 3D space and through time for dissemination to high schools all over the state.

INSTITUTIONAL REVIEW BOARD

It's been a year and a half since the Reynolda campus launched the electronic Institutional Review Board, eIRB. To continue to improve that process, let's address some of the more common questions posed to ORSP.

I have never used eIRB. How do I register?

Obtaining an active eIRB user account is a two-step process. First, you must complete human subjects protection training (CITI). Information about how and where to register for this online educational program is located on the IRB website at www.wfu.edu/rsp/irb/. Next, request an account by contacting Pam Moser (moserpc@wfu.edu) with your full name, department, WFU identification card number, and WFU user ID. Those on the MBA domain (with @mba.wfu.edu email addresses) must be added to the DEACNET domain before the eIRB account can be processed.

What can the study team do to speed up the approval process?

1. Start by preparing a comprehensive, thoughtful, and accurate protocol document following the template guidelines. If the questions raised in the template are answered, the remainder of the eIRB application should be easy to complete and consistent with protocol. The template can be found on under Forms & Instructions on the IRB webpage as well as on the Forms and Templates Page link within the eIRB application.
2. Prepare the informed consent document, if required, using the consent template. Please ensure that there are no typographical errors in the consent or any other participant correspondence (cover letters, advertisements, emails, questionnaires, debriefing documents, etc.).
3. Respond to reviewer concerns, if any, carefully. Make sure that they have all been addressed by either clarifying or revising the application. After each revision, make sure the page is saved—if you navigate to a new page without saving, your changes will be lost. If your revisions involve changes to the uploaded documents, be sure to upload a *redline* version (changes to the original using *track changes*) and a *clean copy* version (*all changes accepted*) in the appropriate fields.
4. If you have questions about the process, please ask! Much of the information you need can be found on the IRB website, but if you have additional questions, concerns, or suggestions, please contact Pam Moser.

Once my electronic application is submitted, when can I expect approval?

The electronic system can drastically reduce review time; however, many other factors determine how long an application is in process. Investigators are encouraged to allow two to four weeks. In general, faculty advisors/principal investigators whose student co-investigators are submitting their first application should allow the full four weeks. For applications that require full board review, timing of submission is key.

The Board meets only once per month, and applications must be received at least one week before a meeting. The meeting schedule is posted on the IRB website.

It is worth noting that approval is not a guaranteed outcome of the WFU eIRB or any other IRB review process. However, the vast majority of applications are approvable once revised to meet regulatory and policy guidelines.

Why are the application questions about biomedical research?

Most of the wording in the eIRB application is taken directly from the federal regulations that govern *all* human subjects research—social, behavioral, educational, and biomedical. While both campuses share the same eIRB program, some of the pages in their respective applications have been tailored to the predominant types of research. For many questions, multiple examples or scenarios are listed, but only one may apply to the SBER (social-behavioral-educational research) typically conducted here. If you have specific examples of problematic questions, please contact Pam Moser.

Institutional Data & Safety Monitoring Board

The WFUHS Institutional Data & Safety Monitoring Board (I-DSMB) is a Dean-appointed, multidisciplinary standing committee that can provide independent oversight for human research studies conducted by WFUHS or WFUHS-affiliated faculty investigators. Shannon Mihalko, Associate Professor of Health and Exercise Science with a joint appointment in the Department of Social Sciences and Health Policy in the Division of Public Health Sciences at the School of Medicine, represents the Reynolda Campus on the I-DSMB.

At no cost, the I-DSMB can oversee appropriate WFUHS investigator-initiated, locally conducted (single- or multisite) clinical trials receiving NIH, departmental, or other nonindustry support. It may also serve as the primary independent monitoring body for some trials sponsored by industry, although a fee would be involved (see link below for further information). Clinical studies originating at institutional affiliates of WFUHS (Reynolda campus, TSI affiliates) can use I-DSMB for their qualifying research studies.

An independent DSMB may be needed for high-risk human research studies; studies in which the investigator and/or institution may have a conflict of interest; studies involving vulnerable populations; or multisite studies. DSMB members review study information pertaining especially to human subject safety and study integrity on a regular basis.

For more information, please go to <http://www1.wfubmc.edu/OR/IDSMB/>. This link is also available on the ORSP/IRB website.

COMPLIANCE NEWS

EXPORT CONTROL

In September 2008, a University of Tennessee (UT) Professor Emeritus was convicted of conspiring with Atmospheric Glow Technology, Inc. (AGT), to violate the Arms Export Control Act (AECA) and to defraud UT. He was an original shareholder in the company, which was formed solely to commercialize UT plasma technology, and could serve time in prison, while the company could face up to \$10 million in fines. Although UT was not implicated, the case raises serious questions for universities about the extent to which they should restrict external faculty activities, especially if they involve students and university resources.

Background. The US Air Force awarded AGT sensitive R&D contracts in 2004. Although the professor was hired as a private subcontractor, the work statement mentioned the use of UT resources and graduate students. He repeatedly allowed two foreign-national graduate students access to project information, despite telling both UT and the military that only US citizens would be involved. He also traveled to China in his capacity as a university employee, carrying documents that contained export-controlled technical data. The case came under federal investigation when he complained to UT officials that AGT would not let him include an Iranian student, and they told him he was violating the law.

Lessons for Universities. At a recent House committee hearing, the Impacts of US Export Control Policies on Science and Technology Activities and Competitiveness, MIT's Vice-President for Research and Associate Provost noted that US science and engineering rely on international students and foreign-born workers, and export controls can block collaboration and innovation (science.house.gov/publications/hearings_markups_details.aspx?newsid=2360).

One of the most difficult questions is not specific to export control: whether and to what extent universities should monitor the outside business activities of faculty. In this case, UT was not a party to the contracts or subcontract, but its links to the professor, its license to AGT, and the use of its lab and graduate students were close enough that ensuring the work's compliance with US laws was in its best interest. Could it exercise such control? Does a university's attempt to assert control over faculty's outside business activities expose it to liabilities that would not otherwise exist?

Further recommendations:

- University personnel must understand the export control regulations' "Fundamental Research Exemption". Although "basic and applied research" is generally exempt if results are intended for publication, sponsored research to develop advanced technologies for specific applications is subject to export controls.

- Universities should have detailed export compliance policies and procedures that encompass any use of their facilities or students in a faculty member's private consulting activities. UT's policies requiring faculty to comply with export control laws may have saved it from greater scrutiny .
- Universities should establish explicit guidelines that faculty must follow before using university facilities, students, and other resources for research to which the university is not a party; for example, securing written approval after a full disclosure of the circumstances has been reviewed by the academic department and the compliance office. Some universities may prefer to require that the faculty member and the entity for which the work is performed are solely responsible for compliance with laws and regulations.
- Faculty should seek export compliance training and talk to the compliance office when making an international shipment; traveling outside the US; planning to have foreign nationals participate; collaborating with foreign researchers or institutions; giving or receiving nuclear, military, or space-related information, equipment, or software; conducting research related to nuclear, chemical, biological, weaponry, missiles, unmanned vehicles, or encryption technologies; or if the project has contractual restrictions on publication or contains proprietary information.

See Propst, SF, Burgett, DW, Peters, B. (2008). "University of Tennessee Professor and Technology Company Face Criminal Charges for Violations of Export Control Laws." *Export Controls & Government Contracts Update*. Hogan & Hartson, LLP. www.hhlaw.com/pressroom/newspubs/pubdetail.aspx?publication=3857

Export control definitions: www.bis.doc.gov/licensing/exportingbasics.htm; the State Department munitions list includes: www.pmdtc.state.gov/ (click on *Getting Started*).

ORSP resources: www.wfu.edu/rsp/export.html

COMPLIANCE HOTLINE – Call 1-877-880-7888 or email www.tnvinc.com/Reportline/International/ to anonymously report suspected violations of laws, regulations, rules, policies, procedures, ethics, or other information you feel uncomfortable reporting to a supervisor or faculty administrator. The operator, who is not a university employee, will report your concerns to the University Compliance Office.

NEXT GENERATION OF ResearchResearch

Our funding search utility, ResearchResearch, has developed a new website format. The switchover happens on April 17, with all existing accounts automatically moved. Note that the account set-up is now even easier and more detailed for more precisely targeted email alerts. It's a perfect time to sign up, and if you'd like training in its use, as an individual or a department, contact Julie Edelson, 727-0464, or edelsojb@wfu.edu, to make an appointment.

RUI ELIGIBLE AGAIN

Wake Forest departments that do not grant the PhD are again eligible for the National Science Foundation's Research in Undergraduate Institutions (RUI) program. It supports individual and collaborative research projects; purchase of shared-use research instrumentation; and Research Opportunity Awards to work with NSF-supported investigators at other institutions, usually funded as supplements to the host's grant and submitted by the host institution.

Eligible institutions include US 2-year, 4-year, masters-level, and small doctoral colleges and universities where undergraduate enrollment exceeds graduate enrollment and that grant baccalaureate degrees in NSF-supported fields but award, on average, no more than 10 PhD or DSc degrees a year in all NSF-supported disciplines.

Eligible departments (principal investigators) (1) must offer courses that qualify for bachelor's degree credit in NSF-supported fields and (2) may offer master's degrees but (3) may not award a doctorate or offer doctoral courses and supervise doctoral research. Co-principal investigators may be from doctoral departments or other institutions.

Full proposals are accepted at any time. Because RUI proposals are handled by the disciplinary program officers in conjunction with all other proposals in the same research area, duplicate submission of the same proposal through and apart from RUI is not permitted. However, an investigator may submit a different proposal for support of another project while an RUI proposal is pending.

See www.nsf.gov/funding/pgm_summ.jsp?pims_id=5518&org=NSF&sel_org=NSF&from=fund

NIH EARLY STAGE INVESTIGATORS

Federal Grants and Contracts Weekly 32, 44 (6 November 2008)

To reverse the steady decline in new investigators awarded research project grants (R01s) since 2003, the National Institutes of Health has created a new category—Early Stage Investigator (ESI)—for applicants who received their PhD within 10 years. Their proposals will now be gathered for separate discussion during initial review, so they compete

with peers rather than established investigators. All those eligible for ESI or New Investigator status should be sure to create or update their eRA Commons profiles to ensure confirmation by email. See <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-013.html>

NEW PEER-REVIEW CRITERIA AT NIH

Federal Grants and Contracts Weekly 33, 1 (11 December 2008)

The National Institutes of Health is scrapping its current complex scoring system, although some proposals submitted under RFAs for 2009 funds will still be evaluated using the old criteria. Under the new system, reviewers provide an overall impact score reflecting the project's potential to "exert a sustained, powerful influence on the research fields involved." They will use a 9-point scale (1 = exceptional; 9 = poor) to rate each of the following 5 review criteria, but an application does not have to be strong in all to be deemed highly influential.

Significance. Does the project address a critical problem or a barrier to progress in the field? How will achieving the aims improve scientific knowledge, technical capability, and/or clinical practice and change concepts, methods, technologies, treatments, services, or interventions?

Investigators. Are the researchers well suited to the project? If Early Stage or New Investigators, do they have appropriate experience and training? If established, do they have an ongoing record of accomplishments that have advanced their fields? If the project is collaborative, do the investigators have complementary and integrated expertise; is their leadership approach, governance, and organizational structure appropriate?

Innovation. Does the project challenge current research or clinical practice paradigms? Does it propose refinements, improvements, or new applications of theories, methods, instruments, or interventions? Are they novel to one field or novel in a broad sense?

Approach. Are the overall strategy, methodology, and analyses well reasoned and appropriate to accomplish the specific aims? Are potential problems, alternative strategies, and benchmarks for success elaborated? If the project is in the early stages, will the strategy establish feasibility and risky aspects be managed? If it involves clinical research, are the plans to protect human subjects and to include minorities, both sexes/genders, and children justified by the scientific goals and research strategy?

Environment. Will the scientific environment improve the probability of success? Are the institutional support, equipment, and other physical resources adequate? Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

See <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-023.html>

SUPPORT YOUR LOCAL BIOTECHNOLOGY

In October, North Carolina Biotechnology Center (NCBC) representatives visited Wake Forest to help faculty increase their winning streak. Regional Director Gwyn Riddick noted that, thanks to WFU, the Piedmont Triad does the most bioscience outside of the Research Triangle Park. The state's bioscience community is the third largest in the country; more than 450 companies employ over 56,000.

Biotechnology Research Grants (BRG) offer up to \$75K in seed funding for novel projects, especially those related to current priorities: nano, marine, and natural products biotechnology and biotechnology applications related to nutrition, food safety, agriculture, and drug discovery. BRG grants require matching. Duke, NC State, and UNC-CH, called the *research extensive group*, cannot apply; WFU, as part of the *research intensive group*, is eligible. The funding rate is 57.8%.

Institutional Development Grants provide up to \$200K for equipment or core facilities that serve at least 3 investigators (6 at the research extensive universities). Potentially groundbreaking projects that support an institutional initiative, involve collaboration between academic and industrial scientists, and strengthen regional and statewide capabilities will be more competitive. The funding rate is 41%.

Oliver Smithies Faculty Recruitment Grants of up to \$250K help research intensive universities to recruit exceptional scientists for tenure-track positions. Proposals may be submitted once the position has been advertised but not yet accepted. Of 2 submitted, 2 were funded.

Collaborative Grants (42.8% funded) allow a university postdoc or technician to perform a project of commercial interest. Partnerships with for-profit companies are favored, and Gwyn can help you identify them.

Multidisciplinary Research Grants of up to \$250K (30% funded) promote new collaborations among North Carolina scientists from at least 3 distinct fields. The project must promise practical benefits. The deadline is July 15.

Of the educational programs open to us, **Education Enhancement Grants** offer \$100K to assist with activities, programs, resources, and personnel necessary to enhance biotechnology education and workforce training. The deadline is August 13. Research intensive universities may apply for up to 3 **Undergraduate Biotechnology Research Fellowships** of up to \$5K. Students may carry out projects in academic or industrial labs and must work on them at least 400 hours, give a seminar for their peers at their home institution on both scientific and business aspects, present a paper or poster at an appropriate professional conference,

and attend a regional or state meeting on the business aspects of biotechnology.

The new, invitational **Centers of Innovation** program aims to focus state biotechnology efforts in industrial sectors important to economic development and job creation. Four are in the phase I planning stage, and by 2012, NCBC expects to sponsor nine.

NCBC also offers meeting space and administrative assistance to Intellectual Exchange Groups, which are networking opportunities on specific topics. New groups are welcomed with funding up to \$3K; submit your request 30 days prior to the event. Proposals for national and international meetings should be submitted at least 3 months in advance.

Grantwriting Tips. Investigators are strongly encouraged to develop proposals with NCBC staff. You may resubmit the same proposal only once, but second-time funding rates are excellent, especially when you seize the opportunity to talk to NCBC about previous flaws. The agency brings money, public trust, and mission but needs your purpose, ideas, people/resources, planning, commitment, and results to fulfill its mission. It wants you to be successful. The competitive process finds the projects most likely to solve problems and encourages innovation.

The proposal should build on quantifiable objectives and a detailed time frame. The budget must reflect the project. Evaluation may encompass data analysis. Agencies ascribe lack of commitment to sloppy proposals.

Staff and experts selected by NCBC from out of state review proposals; the latter receive no compensation. Preproposals are screened by a panel of 10 experts from local industry and out-of-state academics, who judge and choose all the invitees.

As of March 12, NCBC announced that staff have been asked to take one day of unpaid leave per month. E. Norris Tolson, president and CEO, said, "The idea of a one-day-a-month furlough came from discussions with the staff, and the leadership agreed. Without eliminating a single job, we can conserve state resources and continue to conduct our programs that promote economic development during a time of shrinking budgets."

Governor Perdue's State of the State address cited biotechnology as a primary engine for our economic recovery. "The Biotechnology Center, as the driving force behind the development of the sector, must do even more to create jobs and opportunities in these challenging times," said Tolson.

See www.ncbiotech.org/ for more information, contacts, program guidelines, and applications.

NEW BOOKS BY FACULTY
October 2008—February 2009

ANTHROPOLOGY

Folmar, Steven, et al., eds. *Public Policy and Local Development*. International Geographical Union, 2008.

Hewamanne, Sandya. *Stitching Identities in a Free Trade Zone*. Pennsylvania UP, 2008.

ART/COMPUTER SCIENCE

Wong, Yue-Ling. *Digital Art*. Prentice Hall, 2009.

BABCOCK SCHOOL OF MANAGEMENT

Miller, CC, et al. *Organizational Behavior*. 2nd ed. Wiley, 2008.

Meredith, JR, Shafer, SM, et al. *Project Management in Practice*. 3rd ed. Wiley, 2008.

Resnick, Bruce, et al., eds. *International Financial Management*. 5th ed. McGraw-Hill, 2008.

———, et al. *International Financial Management: Canadian Perspectives*. 2nd ed. McGraw-Hill Ryerson, 2008.

BIOLOGY

Anderson, David, et al. Black-footed albatross (*Phoebastria nigripes*). In *Birds of North America*, No. 65. A. Poole and F. Gill, eds. Academy of Natural Sciences, 2008.

Conner, William, ed. *Tiger Moths and Woolly Bears*. Oxford UP, 2008.

CALLOWAY SCHOOL

Bliss, Robert, ed. *Financial Institutions and Markets*. Palgrave Macmillan, 2008.

Duchac, Jonathan, et al., eds. *Corporate Financial Accounting*. 10th ed. South-Western, 2008.

———, *Managerial Accounting*. 10th ed. South-Western, 2008.

———, *Financial & Managerial Accounting*. 10th ed. South-Western, 2008.

COMMUNICATION

Dalton, Mary, and Laura Linder. *Teacher TV: Sixty Years of Teachers on Television*. Peter Lang Publishing, 2008.

Hyde, Michael. *Perfection, Postmodern Culture, and the Bio-technology Debate*. Allyn & Bacon, 2008.

COUNSELING

Gladding, Samuel. *Becoming a Counselor*. American Counseling Association, 2008.

———, and Merrill Education. *A Guide to Ethical Conduct for the Helping Professions*. Pearson, 2009.

DIVINITY

Rogers, Melissa, et al. *Religious Freedom and the Supreme Court*. Baylor UP, 2009.

EAST ASIAN LANGUAGES AND CULTURES

Shi, Yaohua. *Integrated Chinese Level 1, Parts I and II*. Cheng & Tsui, 2008.

ECONOMICS

Whaples, Robert, ed. *EH.NET Encyclopedia of Economic and Business History*. <http://eh.net/encyclopedia/>

Wood, John. *A History of Macroeconomic Policy in the United States*. Routledge, 2009.

ENGLISH

Holdridge, Jefferson. *The Poetry of Paul Muldoon*. Liffey, 2008.

McNally, John. *Ghosts of Chicago*. Jefferson, 2008.

Richard, Jessica, ed. *History of Rasselas, Prince of Abissinia*. Broadview, 2008.

GERMAN AND RUSSIAN

Thomas, Rebecca. *Madness and Crime in Modern Austria*. Cambridge Scholars Publishing, 2008.

HISTORY

Escott, Paul. "What Shall We Do with the Negro?" *Lincoln, White Racism, and Civil War America*. Virginia UP, 2009.

HUMANITIES

Leonard, Candyce, and John Gabriele, eds. *Teatro Español del Siglo XXI: Actos de Memoria*. Editorial Teatro, 2009.

LAW

Coughlin, Christine, et al. *A Lawyer Writes*. Carolina Academic, 2008.

Davis, Timothy, and Kenneth Shropshire. *The Business of Sports Agents*. 2nd ed. Pennsylvania UP, 2008.

Hall, Mark, et al. *Bioethics and Public Health Law*. 2nd ed. Aspen, 2008.

———, et al. *The Law of Health Care Finance and Regulation*. 2nd ed. Aspen, 2008.

———, et al. *Medical Liability and Treatment Relationships*. 2nd ed. Aspen, 2008.

Newman, Joel. *Federal Income Taxation*. 4th ed. West, 2008.

Nickles, Steve, and Mary Beth Matthews. *Payment Law and Commercial Paper*. West, 2009.

Palmiter, Alan. *Securities Regulation*. 4th ed. Aspen, 2008.

Roberts, Thomas, et al. *Cases and Materials on Land Use*. 5th ed. West, 2008.

Shapiro, Sidney, et al. *Administrative Law and Process*. 5th ed. Foundation, 2008.

POLITICAL SCIENCE

Coates, David. *The Thighs of Rose Tudor-Crump*. Infinity, 2008.

RELIGION

Foskett, Mary, and O. Wesley Allen, Jr. *Between Experience and Interpretation: Engaging the Writings of The New Testament*. Abingdon, 2008.

ROMANCE LANGUAGES

Ewalt, Margaret. *Peripheral Wonders*. Bucknell UP, 2009.

Pellet, Stephanie, et al. *Pause Cafe: French in Review*. McGraw-Hill, 2008.

SOCIOLOGY

Hattery, Angela. *Intimate Partner Violence*. Rowman & Littlefield,

FUNDED FACULTY RESEARCH

October 2008—February 2009

ANTHROPOLOGY

Kenneth Robinson

- *Ground Penetrating Radar, Round Hill Cemetery, Marion, NC*, McDowell Trails Association, \$1,168.97
- *Historical Research, Testing Phase, PTRP, Winston-Salem*, HDR of the Carolinas, Inc., \$10,000
- *Public Archeology at Greensboro Bicentennial, David Caldwell Historic Site*, Greensboro Beautiful, \$24,800

Stephen Whittington

- *Development of the Korean-American Audience for the Museum of Anthropology*, North Carolina Arts Council, \$6,000
- *Korea and America: Intersections of Culture Film Series*, North Carolina Humanities Council, \$1,200

BABCOCK GRADUATE SCHOOL OF MANAGEMENT

Thomas Clarkson, *Babcock Demon Incubator (BCI) Biotechnology/Bioscience Expansion Project*, NC Biotechnology Center, \$70,587

BIOLOGY

David J. Anderson, *LTREB: Evolutionary Ecology of Seabird Reproductive Life Histories*, National Science Foundation (NSF), \$180,000

Miles Silman

- *Carbon Storage and Dynamics in Andean Landscapes: Assessing Potential*, Blue Moon Foundation, \$249,500
- *Conservation Implications of Climate Change and Fire in the Eastern Andes*, Gordon and Betty Moore Foundation, \$269,055

William K Smith, *BINET: A Research Network for Sustaining Barrier Island Ecosystems in a Changing Global Environment*, NSF, \$100,000

Clifford Zeyl, *Evolutionary Advantage, Recombination, and Adaptation in Experimental Yeast Populations*, NSF, \$100,000

CHEMISTRY

Bruce King

- *Proteomic Profiling of Cancer-Related Redox Signaling Pathways*, National Institutes of Health (NIH), \$10,000
- with Daniel B. Kim-Shapiro, **PHYSICS**, *Nitric Oxide Donor Compounds for the Treatment of Hemolytic Conditions*, NIH, \$162,657

Mark Welker, *Sequential Reactions of Main Group Element Substituted Dienes*, NSF, \$126,000

COMMUNICATION

Steven Giles, *Prevention Buffet: An Internet Prevention Resource for Middle School Teachers*, NIH/Tanglewood, \$67,415

Ananda Mitra, *SPARC Study to Prevent Alcohol Related Consequences*, NIH, \$16,799

COMPUTER SCIENCE

Jacquelyn Fetrow (and **PHYSICS**)

- *Integrin Function in Cartilage*, NIH/WFU Health Sciences (WFUHS), \$11,984
- *A Systems Biology Approach for Discovery of Novel Pathways in Osteoarthritis*, Arthritis Foundation/WFUHS, \$13,417

Errin Fulp, *Securing the Next Generation of Information Infrastructures*, US Department of Energy/Battelle Memorial Institute, \$41,000

Robert Plemmons (and **MATHEMATICS**). *Combining Imaging and Nonimaging Observations for Improved Space Object Identification*, Air Force Office of Scientific Research (AFOSR)/University of New Mexico, \$29,992.74

COUNSELING

Laura Veach, *Policy Implementation Regarding Brief Interventions in the Trauma Center*, Robert Wood Johnson Foundation, \$14,031

GRADUATE SCHOOL OF ARTS AND SCIENCES

Graduate Research Fellowship Program, NSF, \$40,500

HEALTH & EXERCISE SCIENCE

Stephen Messier, *Fatty Acids, Arthritis, and Inflammation in the Elderly (FAME)*, Gene Smart Ingredients, LLC, \$20,000

MATHEMATICS

Kenneth Berenhaut, *Discrete Dynamical Systems*, NSF/Brigham Young University/CURM, \$19,850

PHYSICS

Joel Berry, *Development of Collagen-Based Engineered Blood Vessels*, NIH/WFUHS, \$103,897

David Carroll

- *FiberCell*, FiberCell, Inc., \$200,000
- *Hybrid Organic-Inorganic Composite Solar Cells for Efficient, Low-Cost, Photoelectric Energy Conversion*, US Department of Energy (DOE)/University of South Carolina, \$99,999
- *MURI: Self-Assembled Soft Optical NIMS*, AFOSR/Kent State University, \$57,164
- *Nanocomposites for Energy Utilization*, Thai Government, \$11,400
- *PureLux*, PureLux, Inc., \$200,000

Gregory Cook, *Quasiequilibrium BH-BH and NS-BH Binary Initial Data*, NSF, \$35,000

Natalie Holzwarth, *First Principles Simulations of Battery Materials*, NSF, \$75,000

Daniel Kim-Shapiro, *Nitrite and Nitric Oxide in Sickle Cell Blood*, NIH, \$103,680

Jed Macosko

- *NanoSelection of Customizable Biotechnology Reagents*, NanoMedica, Inc., \$20,000
- *Visualizing Biotechnology in Three Dimensions: Hands-On Learning in High School*, North Carolina Biotechnology Center, \$50,000

ROMANCE LANGUAGES

Olgierda Furmanek, *The Piedmont Triad Healthcare Spanish Interpreting Initiative*, Piedmont Triad Partnership, \$155,346

SOCIOLOGY

David Yamane, *Faith, Reason, and Beer Pong*, The Teagle Foundation, \$3,500

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