Research News

Please circulate to:

OFFICE *of* RESEARCH *and* SPONSORED PROGRAMS April 2008

STRATEGIC PLAN SPARKS NEW FUNDING INITIATIVES

Message from Associate Provost for Research Mark Welker

In response to needs articulated by the strategic planning process, the Provost's Office is creating funding programs to support faculty research and creative endeavors.

New Travel Funds. Strategic plans often requested increased funding for conference and other research-related travel. Beginning in 2008/09, tenured or tenure-stream faculty who have exhausted their department or school allotment will be eligible for up to $1000 more when they present a paper or chair a session at an academic conference or require other research-related travel approved by the department chair.

Provost's Fund for Academic Excellence. This new 2:1 matching fund supports visits from researchers, authors, and artists who will address emerging questions across a wide range of fields. The strongest proposals will prompt intellectual exchange between faculty and students, especially across departments, programs, and schools; lead to wider recognition of our own academic excellence; and target themes that complement our faculty's scholarly interests and pedagogical innovations.

Proposals submitted in hard copy to the Associate Provost for Academic Initiatives, 204 Reynolda Hall, or electronically to hallsted@wfu.edu by 5 P.M. on 25 April will be reviewed by an interdisciplinary committee and awarded in May. Proposals submitted by 30 August will be awarded in September.

Research Center Planning Grants. To increase national recognition of our academic programs, one-year planning grants of up to $50,000 will be awarded to up to 4 new research centers in 2008/09. Successful centers will build on existing academic strengths and interests, intensify research and creative work under way, enhance the university's academic reputation, and attract new funding and new faculty as they mature. They will typically have cross-departmental affiliations and focus on problems requiring interdisciplinary approaches. Faculty committees receiving these awards will be expected to submit a 5-year operational plan for a new research center by May 2009.

Undergraduate Research Center. In response to the College Strategic Plan and building on the success of the fall 2007 Undergraduate Research Symposium, $50,000 will support scholarly and creative collaborations between students and faculty through an Undergraduate Research Center. Funds may be used for faculty stipends, administrative support, website development, a departmental honors booklet, and future symposia.

Postdoc Program. The Graduate School of Arts and Sciences has requested funds to jump-start a university-wide postdoctoral scholars program that will increase collaboration and research synergy between visiting and tenure-stream faculty and enhance our reputation as a premier trainer of teacher-scholars. To support programming and a part-time faculty director for postdoctoral affairs in the Graduate School, $25,000 has been allocated.

Increased Library Collection Development Funds. As faculty research and the curriculum become more global and diverse, the library's collection must grow. While the Z. Smith Reynolds Library's acquisition budget allows annual growth, a one-time infusion of funds in critical areas is necessary. An additional $50,000 will be allocated in 2008/09 to build our collection in Latin American, Chinese, African, and South Asian studies as well as African-American, Latino, and Gay and Lesbian studies. Faculty with research and teaching interests in these areas are asked to send their requests to acquisitions. Thanks to the History Department for highlighting this need.

INSIDE

WAKE FOREST UNIVERSITY

NO LONGER RUI ELIGIBLE

Wake Forest is no longer eligible to apply to the National Science Foundation's Research in Undergraduate Institutions (RUI) program. Eligible "predominantly undergraduate" institutions award no more than 10 PhD and/or DSc degrees a year in all NSF-supported disciplines, averaged over 2 to 5 years preceding proposal submission.

PROPOSED CHANGES TO NIH REVIEW PROCESS

from *Grantseeker Tips* 226 (8 January 2008)

The National Institutes of Health is conducting what Director Elias Zerhouni calls the broadest self-examination of the grant selection process in their history. The nation's largest funder of biomedical research, more than half the annual $29.2B budget goes to higher education institutions.

Proposed changes include:

- more grants to first-time applicants;
- require senior researchers to serve on review panels as a condition of receiving certain grants;
- outsource applications to disciplinary specialists for technical review;
- offer pre-review based on technical evaluations and a one-page rebuttal;
- more blunt feedback instead of falsely encouraging resubmissions;
- reduce length from 25 to 7 pages;
- earmark 1% of all research funding for transformative projects that promise radical change;
- replace the current study section rating scale by simply ranking proposals in order;
- evaluate peer reviewer performance.

NIH is expected to decide in March whether to begin testing some of these strategies.

NSF SEEKS SOLUTIONS TO LOWER FUNDING RATES

Federal Grants and Contracts Weekly 32, 3 (10 January 2008)

Like the National Institutes of Health, the National Science Foundation is analyzing how it makes grants. It assigned an Impact of Proposal and Award Management Mechanisms working group to explain the decline in research proposal funding rates from 30% to 21% from fiscal 2000 to 2006, which is not due to budget cuts.

IPAMM findings include:

- NSF funding rates declined due to a surge in proposals concomitant with an effort to increase average award size to absorb overall budget growth.
- The applicant pool increased due to decreased funding from other sources, more programs in new areas, and more proposals per applicant .
- Reduced funding rates and increased submissions increase work for all, especially reviewers, threatening scientific integrity and quality.
- No discipline has been disproportionately affected.
- The quality of proposals submitted and awarded has not declined.

IPAMM recommendations, currently under study by the National Science Board, which sets policy for the NSF, emphasize specific program environments and priorities.

- Each NSF directorate and research office should be required to develop a comprehensive strategy, with flexible management approaches.
- New funding opportunities must include long-term plans for the communities and infrastructure they build, such as large centers.
- Limiting the number of proposals a PI or institution may submit must weigh individual and community impact.
- Short-term practices to fund more highly rated proposals should be considered.
- NSF should publicize new proposal management practices and monitor concerns.
- NSF should ensure community access to accurate statistics on funding rates.
- NSF should update trend analyses for internal review and inclusion in the annual *Report on the NSF Merit Review Process* to the National Science Board.

www.nsf.gov/news/newsmedia/IPAMM_Report_Final.pdf

SCIENCE TRENDS

CGS Government Relations Weekly Update (18 January 2008)

Biennial *Science and Engineering Indicators* of the National Science Board track trends in research funding, science education, workforce, and international comparisons.

- Both total and first-time graduate science and engineering (S&E) enrollment hit new highs in 2005.
- The number of S&E graduate degrees awarded in 2005 also set a record, though doctoral growth was driven by international students.
- The proportion of women in S&E (including social sciences) graduate enrollment rose from 36% in 1985 to 49% in 2005 but remains less than 25% in computer science, engineering, and physics.
- The proportion of underrepresented minorities remained as low as 6-7% in engineering, math, and natural sciences, except for the biological sciences.
- Federal funding for academic research declined in real dollars from 2004 to 2007, the first decline in 25 years, and industry funding of basic research has declined steadily since the late 1990s.

Companion policy recommendations call for renewed federal funding of basic research and greater collaboration between academia and industry. The report and related material are available at: www.nsf.gov/statistics/seind08/

OUTSTANDING PROJECT PROFILE

MAJOR SUPPORT FOR ENTREPRENEURSHIP FROM THE NATIONAL SCIENCE FOUNDATION

Betsy Gatewood, Director of the Office of Entrepreneurship and Liberal Arts, and Deborah Best, Dean of the College of Arts and Sciences, have won a $596,679, 3-year Partners for Innovation award from the National Science Foundation. The PFI program aims to transform new knowledge and educational approaches into sustainable innovations that can create wealth, build strong local, regional, and national economies, and more fully meet national workforce needs. Only 10-15 grants are supported annually.

Creating Academic Community Partnerships: Fostering Innovation and Entrepreneurship in a Liberal Arts Institution will develop an environment that nurtures entrepreneurial thinking and action across the Wake Forest campus. Entrepreneurship is defined as individuals or teams using their knowledge and resources to pursue opportunities that spark change and produce, not only economic value, as typically envisioned, but artistic, intellectual, and social value. Building on existing courses, this program will catalyze a self-sustaining entrepreneurial learning community through six major extracurricular components: small courses and workshops for Wake Forest and other area college and university students; a mentoring program with local entrepreneurs and organizations; internships; a prototyping and planning initiative in market research; Fifth-Year Institute awards, which are one-year post-baccalaureate fellowships to allow students to achieve promising new enterprises; and an Entrepreneurship in Liberal Education conference. The overall objective is to develop an entrepreneurial model by which any liberal arts institution can enhance its students' career potential and contribute to regional and national growth.

The project is especially novel in transposing entrepreneurial concepts and training to new areas. While most entrepreneurship programs are based in business schools, the technologies that prompt ventures often stem from liberal arts departments. Moreover, the goals of a liberal arts education encourage the behavior required for entrepreneurial success: analytical and imaginative thinking, information synthesis, complex problem-solving, working within ambiguous environments, and valuing and supporting teamwork. The seeds of creative thinking and innovation can be sown and cultivated in students regardless of discipline, and their fruition as new venture creation may occur immediately or later in their careers. This project will foster a new working and learning environment that stresses theoretical knowledge, a practical, entrepreneurial skill set, and hands-on involvement with the local entrepreneurial community.

Wake Forest will link with two major regional initiatives. One focuses on the life-sciences, including biotechnology, medical devices, and related imaging and information sciences. The other promotes design innovations for entertainment, education, and product design and marketing.

The collaboration draws on the unique expertise and capabilities of the partners. Joining Wake are the Greater Winston-Salem Chamber of Commerce, the North Carolina Biotechnology Center (NCBC); and the North Carolina Small Business Technology Development Center. Another partner, the Center for Design Innovation, is itself a University of North Carolina inter-institutional collaboration among the North Carolina School of the Arts, Winston-Salem State University, and Forsyth Technical Community College. It aims to foster cross-disciplinary research and entrepreneurial activity related to design and innovation, to provide educational programming focused on design and innovation, and to accelerate design-based businesses. The Idealliance is another collaboration supporting development of the Piedmont Triad Research Park. The Inception Micro Angel Fund (IMAF) is a seed fund that contributes time and relationships to early stage, high-quality, and high-growth companies in the Piedmont and elsewhere. The Piedmont Angel Network (PAN) is a member-managed venture capital fund designed to capitalize on the growth in entrepreneurial activity and early stage financing, primarily in the Piedmont and secondarily in other regions of North Carolina. The Piedmont Triad Entrepreneurs Network (PTEN) was formed in 2004 to offer programs and resources to high-growth, high-impact ventures.

This extensive partnership between industry and academia will build an infrastructure that will sustain innovation over the long term and result in economic and social well being for the Triad community. It will catalyze creativity, innovation, and new venture creation at Wake Forest University and inform a model for entrepreneurial program development at other institutions.

LOOK AROUND AND LOOK BUSY! ADVICE TO THE NEW FROM THE HIP

At ORSP's annual new faculty orientation, **Associate Provost for Research Mark Welker** spoke to priorities.

1. Set the bar high. While juggling teaching and scholarship is challenging, high expectations yield high outcomes.
2. Realize that the highest impact teaching and personal satisfaction often come from mentoring independent studies, honors and graduate theses, and student research.
3. Write, create, perform—30 minutes, 4 days a week, and don't give up, regardless of obstacles. First grant submissions have a 19% success rate; revisions, 29%; and second revisions, 37%. You improve your chances by talking to program directors and visiting agencies, and ORSP may be able to provide travel funds. Critical input is vital: every proposal or manuscript that leaves the university should have been read by someone other than the author.
4. Collaborate whenever practicable. Sponsors increasingly emphasize interdisciplinary teams and strategies.
5. Volunteer to review for journals and agencies.
6. Show the flag: travel to present your work.
7. Use your leaves wisely for high-impact scholarship. Leverage your leave proposal to secure external support with ORSP help. At its website, connect to ResearchResearch for targeted search and email alerts. In conducting extramural research, you promote Wake Forest and develop contacts that become a campus resource.
8. Notify ORSP at least a week in advance of deadline that you're planning to submit. All proposals, including joint activities with the Medical School, must be routed for university approval; many agencies have common deadlines; and electronic submission can present problems.

Herman Eure, Associate Dean of the College, reminded newcomers to take it slow. Ask questions. Draw on colleagues who are also looking for opportunities on and off campus. Graduate school provides more training in research, yet 85% of the job is teaching. If you don't have your department's tenure requirements, get them today, but the basics are discipline and consistent production.

In securing project support, **ORSP Director Lori Messer** advised, we can help, and we can tell you who else can help. Our services correspond to the structure of our website. Phone or email for one-on-one counseling.

Assistant Director Stephen Williams handles proposal/budget development and submission for all departments except Biology and Health and Exercise Science. **Research Services Coordinator Gloria Stickney** oversees their pre-award activities along with internal awards, account set-up and reconciliation, and reporting. **Specialist Julie Edelson** purveys funding information, performs and teaches funding search, and edits proposals. **Pam Moser, Associate Director for Faculty Research Compliance and Support**, administers the Reynolda campus Institutional Review Board, which must approve research with human subjects, now through the e-IRB system. Pam also informs faculty about compliance-related university policies and federal and state laws, regulations, and guidelines.

Lori noted that **Debbie Hellman** in Financial and Accounting Services manages grants accounting. **Mary Margarett Evans** in Advancement secures private gifts. Committees for animal care and biosafety are at the Medical School, while Technology Asset Management is at the Piedmont Triad Research Park..

Two faculty who've just won tenure reflected on their success. **Rebecca Alexander**, Chemistry, has been at Wake for 7.5 years but still feels new. She advised looking around at colleagues who come in with you, rather than up at intimidating senior scholars. Make comparisons; "Have you applied for a grant yet?" You'll spur each other toward accomplishment.

In determining how to focus your effort, be driven by your passions; in her case, education, outreach, mentoring, women's professional development, and research. Don't overlook small opportunities. Volunteering to lecture for **Angela King**'s NSF-funded SCIMAX program for K-12 students and teachers turned into a 2-week summer workshop and ultimately a 5-year NSF CAREER award for research and teaching.

Go to small meetings, so you can meet in years 1-2 of your career people who will review you in year 6. Invite even famous scholars to give talks. Review grants and papers. Write, write, write, following a template: What do you want to do? Why *must* it be done? Why are *you* the one to do it? Rejection: take the nugget of truth from each review and resubmit.

Dean Franco, English, wasn't just kidding when he advised, "Look busy!" Keep your door open, and tell colleagues about your goals and projects, so you will be bound to them. Know your tenure requirements and, while not working solely toward them, adjust your research plan to fit.

Publication relies on research, drafting, and revising. Only drafting demands total focus; you can work on the others or begin new projects more intermittently. As faculty, you won't get the blocks of time you might have had as a graduate student. In the humanities, you must write 4 days a week. Resist competing pressures and stick to it. Don't hesitate to recruit student research assistants. The collaboration is great for both sides.

Dean also advised inviting speakers, especially midcareer scholars. They may provide your recommendations for tenure or fellowships. When you go to meetings or travel, take colleagues for coffee; you'll get the most up-to-date feedback. Say yes to book reviews, reviewing for journals and agencies.

Devon Dobrosielski, Health and Exercise Science, asked how to get past the first sentence. Dean said, Judge your productivity by the week, not the day. Rebecca said, outline, and jettison the things that don't fit. **Emily Wakild**, History, wondered when to say no. Both Rebecca and Dean counseled self-knowledge: don't review material outside your competence; don't assume tasks you will probably do badly. Rebecca asks, "What are my priorities? Wake students first." Mark includes his department and the university's priorities. Dean is pro-active: since you know you'll be asked to do *something*, initiate services you're interested in. You get their benefits, credit for thinking of them, and protection from makework. Herman advised, protect yourself, and hopefully, your chair will protect you.

Rebecca summed it up: Balance ambition with realism.

INSTITUTIONAL REVIEW BOARD AND COMPLIANCE NEWS

BOARD CHANGES

When IRB Chair Bob Evans, Education, was offered a faculty post at the University of Copenhagen, Denmark, last fall, veteran member Debbie Newsome, Counseling, stepped in to occupy the vacant Chair position. To help to preserve the institutional memory, past Chair Steve Folmar, Anthropology, agreed to serve as Vice-Chair for the remainder of this academic year. The critical nonscientist role is also in transition; second-term board member Nancy Crouch, Information Services, stepped down. The board welcomes Erik Mitchell of ZSR Library in this capacity at its March meeting.

ADMINISTRATIVE CHANGES

A piece of ORSP's Strategic Plan was realized when Pam Moser was hired as the new Associate Director for Faculty Research Compliance and Support. Pam returns to the Reynolda campus after 3 years as Assistant Research Subject Advocate for the General Clinical Research Center at WFUHS. As an RSA, she worked closely with the WFUHS IRB, reviewed eIRB applications for human subject safety concerns, and monitored GCRC studies. Previously, Pam worked as a research nutritionist and program coordinator in Heath and Exercise Science.

ORSP bid a fond farewell to former IRB Coordinator Henny Wakefield at a reception in her honor on 17 December. Many friends and colleagues from the research community dropped by to offer their congratulations and good wishes. These days, she is thoroughly enjoying her more relaxed lifestyle—reading, crafting, spending time with her grandchildren, and tackling home improvement projects that have been on the back burner. She is also excited about fulfilling her longtime goal of teaching English as a Second Language.

eIRB

Human subjects research entered a new era on 1 December when paper applications for new protocols became obsolete. Researchers here joined WFUHS colleagues in using eIRB, the online protocol submission and review system for the IRB. As is often the case with new technology, many first-time users found the learning curve rather steep, but the system offers many advantages, such as built-in regulatory documentation compliance and access to the entire research protocol file from anywhere in the world with internet access. Call Pam with questions at x5195.

NIH CONFLICT-OF-INTEREST REPORTING

Federal Grants and Contracts Weekly 32, 5 (24 January 2008)

A new report from the Department of Health and Human Services Inspector General admonishes the National Institutes of Health to better monitor grantee conflicts of interest. A study of 438 conflict-of-interest reports to the Office of Extramural Research and 24 institutes from 2004 and 2006 found that NIH:

- had no central system to accurately count financial conflict-of-interest reports;
- could not specify the types of conflicts of interest at grantee institutions; and
- relies on grantee institution assurances that regulations are followed.

For example, most reports did not indicate *who* had the conflicts of interest; 99 said principal investigators, and 51 said "others". NIH did not request details, and the IG found 5 cases "in which a grantee institution resubmitted reports because NIH felt that the information originally provided was too specific."

NIH plans to launch a new conflict-of-interest database soon. IG recommendations include:

- oversee grantee institutions to ensure compliance with federal financial conflict-of-interest regulations;
- require details about financial conflicts of interest and how they will be "managed, reduced, or eliminated";
- require institutes to forward all financial conflict-of-interest reports to the central OER database.

NIH Director Elias Zerhouni objected to requiring more detail and amending the rules. Data collection "would effectively, if not legally, transfer the locus of responsibility…from the grantee institution to the federal government." The Association of American Medical Colleges and the Council on Government Relations, which represents major research universities, agree. The recommendation "would require the agency to become involved in research institutions' own management of specific conflict of interest cases in a manner that is unfeasible and beyond the NIH's existing statutory authority."

Current requirements:

- Grantee institutions must have a written, enforced policy to identify financial conflicts of interest and ensure they will be "managed, reduced, or eliminated."
- Each investigator must be informed of that policy.
- An institutional official must solicit and review financial disclosure statements from each investigator planning to participate in NIH-funded research..
- By the time an application is submitted, each investigator must have submitted a list of "known significant financial interests" to designated officials.

COMPLIANCE HOTLINE – Call 1-877-888-7888 or email www.tnwinc.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.

TRANSFORMING THE SCHOLARLY PUBLISHING LANDSCAPE

Sarah Jeong
***Z. Smith Reynolds Library Newsletter* (Winter 2008)**

In late 2007, President Bush signed into law an omnibus appropriations bill, whereby the National Institutes of Health will require all investigators who receive NIH funding to make digital copies of their final, peer-reviewed manuscripts publicly available in the National Library of Medicine's digital repository, PubMed Central. This law betokens the emergence of Open Access (OA) publishing as a viable alternative for the dissemination of scholarly information.

Z. Smith Reynolds Library has established a fund of $5,000 to provide assistance to Reynolda Campus faculty in paying the publication fees charged by open access journals. Under a new cost-sharing arrangement, the Office of Research, the home department, and the library will each pay one third of the costs. In addition, the three WFU Libraries have launched a University-wide Scholarly Communications Committee. This committee of faculty and librarians will help raise campus awareness of various publishing methods and opportunities. More...

Open access literature has been defined as "digital, online, free of charge, and free of most copyright and licensing restrictions". Open Access advocates maintain that the results of research funded by taxpayers should be made available to the public. Like other scholarly journals, open access journals conduct the peer-review process. Open access can be delivered by two routes:
Gold OA: Authors pay a fee to publish their articles in an OA journal, and the publisher subsequently makes the article freely available to readers. (e.g., BioMed Central and Public Library of Science).
Green OA: Authors publish their articles in a non-OA journal, but they also self-archive them in an OA archive (e.g., PubMed Central, arXiv, institutional repositories).

If you have questions about the new fund, please use our online form. For more information, please visit: Scholarly Publishing and Academic Resources Coalition (SPARC) Resources for Authors, Directory of Open Access Journals

READ 'EM AND WEEP

The National Institute of Allergy and Infectious Diseases lists the most common reasons reviewers reject applications.

- not important to health-related research
- not likely to produce useful information
- lack of original or new ideas
- based on a shaky hypothesis or data
- no alternative hypotheses
- insufficient preliminary data to support feasibility
- no rationale for how experiments relate to hypotheses
- fishing expedition—no basic scientific question
- driven by technology—a method in search of a problem
- lack of alternative methods if the primary approach fails
- unrealistically large amount of work
- lack of experience with the proposed techniques
- no controls
- insufficient statistical consideration.

COMMON LANGUAGE

Federal Grants and Contracts Weekly 32, 6 (31 January 2008)

The Office of Science and Technology Policy has established new, government-wide terms and conditions to administer federal research grants across agencies. Universities have long argued that different agency practices cost them time and money. "Federal offices currently include different award requirements, use different language to state the same requirements, and organize award content differently"; OSTP concedes that most differences are unnecessary. Agencies piloting the standard terms, developed in collaboration with the Federal Demonstration Project, must use them "to the maximum practicable extent." *See* www.nsf.gov/bfa/dias/policy/rtc

INTELLECTUAL MERIT AND BROADER IMPACTS

from *Grantseeker Tips* 228 (5 February 2008)

In answering these questions, cite specific, observable behaviors that, taken together, represent your operational definition of intellectual merit. ***What will exist at project end that didn't exist at its beginning?***
1. What new knowledge will your project advance and what fields will benefit most?
2. What technological improvements will your project make?
3. What special credibility does your distinguished team of experts lend the project?
4. Will the project result in new collaborations, equipment, laboratories, or services?
5. Can you document project progress and outcomes?

Broader Impacts. To write a persuasive broader impacts section, plot your progress against a timeline.
1. Will your project change the way something is done?
2. Will it have significant implications for education and training programs?
3. Will your dissemination plan involve multiple strategies targeting various stakeholders at key project milestones?
4. Will your project reach out to underrepresented groups?

WFU FUNDING UPDATE

In the fall Science Research Fund competition, awards totaling $65,543 went to Biology's Carole Browne, Erik Johnson, Kathy Kron, and Wayne Silver; Ron Noftle in Chemistry; and Tony Marsh and Steve Messier in Health and Exercise Science. Lisa Kiang and Wayne Pratt in Psychology won Social, Behavioral, and Economic Research awards. Overall, faculty have earned $957,051 more in external funding than at the same time last year, although 5 fewer proposals were awarded.

WFU FUNDED RESEARCH
1 September 2007 to 29 February 2008

ANTHROPOLOGY
Kenneth Robinson

- *Archaeological Survey,* Health Adventure, $6996
- *Phase I Archaeological Survey, Shoreline of Development Lots, Davidson County, NC*, Trigon Engineering, $3,709
- *Additional 150 acres,* Uwharrie National Forest, $3,911
- *Cultural Resources Background Study, Piedmont Triad Research Park, Winston-Salem, NC,* HDR Engineering $39.016
- *Rear Yard Excavation, Historic William Smith House,* Averasbero Battlefield Commission, $15,920
- *Archaeology to Locate Unmarked Graves,* Joppa Cemetery, Inc., $5,354
- *2 Added Tasks,* Averasboro Battlefield Commission, $26,312

BIOLOGY
David Anderson, *Diversification without Obvious Geographical Barriers in Blue-footed and Peruvian Boobies*, National Geographic Society, $13,400

Michelle DaCosta, *Defensive Signaling Behaviors and the Influence of Predator Learning on Communication Modalities in the Chetheisa Species in the Galapagos Islands*, NSF, $10,000

Susan Fahrbach, *FIBR: BeeSpace – An Interactive Environment for Analyzing Nature and Nuture in Societal Roles*, NSF/University of Illinois, $114,183

Miles Silman

- *Collaborative Research: Understanding the Role of Landcover and Landform in the Spatial Organization of the Diurnal Cycle of Orographic Clouds and Rainfall*, NSF, $127,307
- *Conservation Implications of Climate Change and Fire in the Eastern Andes: Impacts on Plant Distribution and Montane Ecosystems*, Moore Foundation, $277,190

William K. Smith, *BINET: A Research Network for Sustaining Barrier Island Ecosystems*, NSF, $100,000

Cliff Zeyl, *Evolutionary Advantage, Recombination, and Adaptation in Experimental Yeast Populations*, NSF, $102,000

CHEMISTRY
Rebecca Alexander, *Dissecting Protein and Nucleic Acid Contributions to Efficient tRNA Aminoacylation*, National Foundation for Cancer Research, $100,000

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

COMMUNICATION
Ananda Mitra

- *SPARC Study to Prevent Alcohol-Related Consequences*, NIH/WFUHS, $16,289
- *Rapid Responses to Problem Drinking on College Campuses*, NIH/WFUHS, $15,824

COMPUTER SCIENCE
Jennifer Burg, *Linking Science, Art, and Practice in Digital Sound*, NSF, $396,204

Jacquelyn Fetrow (also **Physics**)

- *Integrin Function in Cartilage*, NIH/WFUHS, $7,636
- *Mechanisms of Listeria-Specific Immunity*, NIH, $5,000

Errin Fulp, *Integrated Parallel Firewall for IDS and High-Speed Networks*, Department of Energy/Greatwall Systems, $95,116

Robert Plemmons (also **Mathematics**), *Integrated Optical-Digital Imaging Camera System*, Defense Microelectronics Activity/Catholic University of America, $185,028

Todd Torgersen, with Robert Plemmons and Pau'l Pauca, *Innovative Methods for High-Resolution Imaging and Feature Extraction*, Army Research Office, $21,508

ENGLISH
Jefferson Holdridge, *Northern Irish Poetry Project*, NEA, $35,000

ENTREPRENEURSHIP AND LIBERAL ARTS
Betsy Gatewood, *Fostering Innovation and Entrepreneurship in a Liberal Arts Institution*, NSF, $596,679

HEALTH & EXERCISE SCIENCE
Michael Berry, *Reconditioning Exercise and Chronic Obstructive Pulmonary Disease III-P*, NIH/WFUHS*, $4,208.53*

Peter Brubaker, *Restoration of Chronotopic Competence in Heart Failure Patients*, Boston Scientific CRM, $76,000

Devon Dobrosielski, *Evaluating Variations in NO Pathway Genes in Relation to Ischemic Stroke*, NIH/WFUHS, $4,923

Stephen Messier, *Fatty Acids and Inflammation in the Elderly (FAME)*, NIH/WFUHS, $20,000

Patricia Nixon, *Antenatal Steroids and Blood Pressure in Childhood*, NIH/WFUHS, $60,226

W. Jack Rejeski

- *Self-Assessment among Older Adults*, NIH/WFUHS, $5,000
- With Jeffrey Katula, *SHARP-P*, NIH/WFUHS, $109,411

LAW
Ann Gibbs, *Chief Justice's Commission on Professionalism*, North Carolina State Bar, $4,000

MATHEMATICS
Gregory Warrington, *Postdoctoral Fellowship-Host Institutional Allowance*, NSF, $2,250

PHYSICS
David Carroll

- *Multi-university Research Initiative (MURI) on Self-Assembled Soft Optical NIMS*, Air Force Office of Scientific Research, Kent State University, $115,677
- *Hybrid Organic-Inorganic Composite Solar Cells for Efficient, Low-Cost, Photoelectric Energy Conversion*, DOE/ University of South Carolina, $86,669.47
- *Nanocomposites for Energy Utilization*, Thai Government, $13,243.67
- *Characterization of the Potential Toxicity of Metal Nanoparticles in Marine Ecosystems using Oysters,* Environmental Protection Agency/UNC-Charlotte, $66,336

Gregory Cook, *Quasi-equilibrium 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
- With Bruce King, Chemistry, *Nitric Oxide Donor Compounds for Treatment of Hemolytic Conditions*, NIH, $161,560
- *EPR Work,* Cardioxyl Pharmaceuticals, Inc., $3,564

PSYCHOLOGY
Janine Jennings, with Dale Dagenbach, *SHARP-P*, NIH/ WFUHS, $76,909

Eric Stone, *Strategies for Communicating Low-probability Disease Risk to Health Consumers*, NIH/Duke University, $9,055

SECREST ARTISTS SERIES
Lillian Shelton, *Time for Three*, Pennsylvania Performing Arts on Tour, $2,618

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Research *News*