

# RESEARCH *News*

OFFICE of RESEARCH and SPONSORED PROGRAMS

## A VERY GOOD YEAR

Thanks to their creativity, hard work, and dedication, 70 Wake Forest faculty have been awarded more than \$4 million during the 2002-2003 fiscal year. Not counted in this number are the many who secured fellowship support and gifts from foundations.

The Office of Research and Sponsored Programs would like to congratulate all those who submitted proposals. We look forward to working with you again this coming year and encourage you to visit our website ([www.wfu.edu/RSP/](http://www.wfu.edu/RSP/)) or to drop by the office (117E Reynolda Hall) to learn more about the many ways we can assist you in pursuing external funding.

## CHEMISTRY DEVELOPS WAKE'S RESEARCH CAPACITY

In the last year, the Chemistry department has been assiduous in securing external sponsorship for new instruments that will advance its research program and that of allied departments. Bradley T. Jones, Chair, and Abdessadek Lachgar won \$117,500 from the National Science Foundation for a new CCD-detector for an X-ray system originally purchased with NSF funding in 1996. Through negotiations with Bruker AXS, they were able to acquire a completely new CCD-diffractometer and detector and an upgrade for the existing system and so, in effect, acquired 2 new instruments. X-ray crystallography has become an essential analytical method for the success of Wake Forest chemistry research, which has increased from 33 publications in 1995 to 93 in 2001.

In addition, Rebecca Alexander and Bernard A. Brown II, along with chemistry colleagues Ulrich Bierbach and Richard Manderville and, from Biology, Brian Tague, Douglas Fantz, and James Curran, were awarded \$42,295 from NSF and \$71,805 from the North Carolina Biotechnology Center to establish an interdepartmental, multiuser, biomolecular imaging facility on the Reynolda campus. As the departments work toward an undergraduate biochemistry major, access to cutting-edge imaging equipment is vital to student training and future career opportunities. The new facility is expected to increase research productivity at the interface of chemistry, biology, and physics and to improve the quality of data submitted to funding agencies and journals.

A third new resource will also assist Wake Forest research. The medical school's Biochemistry Department, with a contribution from our Office of Research and Sponsored Programs, has purchased a new X-ray diffractometer system. While the Reynolda campus instrument is for small molecules, this one is for macromolecules, such as proteins and nucleic acids. Installed at the Center for Structural Biology, which has been relocated to the Bowman Gray Technical Center on Reynolds Boulevard, the facility will be available to Reynolda campus research and play a central role in graduate education.

**FELLOWSHIP AWARDS**

2

**KAUFMANN AWARD**

2

**ARCHEOLOGY**

3

**WAKE FOREST**  
UNIVERSITY

## BARNES WINS NEH SUMMER STIPEND

Bernadine Barnes, Associate Professor of Art, has been awarded an NEH Summer Stipend to complete research for a new book, *Michelangelo in Print: The Role of Early Reproductions in the Creation of a Canonical Figure*. She will travel to England, Rome, and Paris to study print collections.

Following on her *Michelangelo's Last Judgment: the Renaissance Response* (Berkeley: California UP, 1998), the new book will examine how Michelangelo's works were selected for publication, then edited, marketed, and received in printed media. It will be among the first comprehensive analyses of large collections that have barely been studied and raise a number of questions about public reaction, the Renaissance concept of privacy, and whose purposes the prints served. Michelangelo's works are the first to have been recorded as historical objects, rather than as sources of motifs for artists or publicity for new works. While no one today is surprised to think of Michelangelo's work as canonical, this study will show how social and historical forces work to construct a canon.

## MOROSINI EARNS I TATTI FELLOWSHIP

Roberta Morosini, Assistant Professor of Romance Languages, is among 15 candidates nationally to win an I Tatti Fellowship for Italian Renaissance studies from Harvard University. She will study in Florence as a Francesco De Dombrowski Fellow. Two people are chosen from each discipline, including literature, history, and art history.

In addition to a \$40K stipend and residence at the villa during the 2003/2004 academic year, Dr. Morosini will receive a \$1,500 grant from the Lila Wallace-Reader's Digest Fund to lecture on her work and to submit an article to *I Tatti Studies*.

The project is entitled, "What about the 'Franceschi romanzi'? The Rewriting of French Models in Boccaccio's Neapolitan vernacular works." Dr. Morosini will examine the French romances reworked by Boccaccio and the first French edition of his *Filocolo*, which Boccaccio originally adapted from the Old French *Floire et Blancheflor*.

## CIABATTARI GAINS UPJOHN AWARD

Teresa Ciabattari, Assistant Professor of Sociology, earned a \$5,000 minigrant from the W.E. Upjohn Institute for Employment Research for her project, "Family and Child-Care Supports for the Labor Force Participation of Unmarried New Mothers." It uses a newly released national dataset on unmar-

ried new mothers, the Fragile Families and Child Well-being Study. Dr. Ciabattari was also selected to attend the Fragile Families Data Workshop at Columbia University this summer.

Her project will examine how the family and child-care supports available to low-income, unmarried mothers affect their employment behaviors one year after delivering a child. Dr. Ciabattari will assess how employment is affected by their relationship with the child's father or other partner; the support of family members, such as grandparents; formal and informal child-care arrangements; and financial subsidies. The answers to these questions can strengthen welfare-to-work policies to better assist the most vulnerable sector of the workforce.

## KAUFFMAN FOUNDATION AWARD

Dean of the College Paul Escott and Jack Wilkerson, Jr., Dean of the Calloway School of Business and Accountancy, are project directors for a \$50,000 planning grant from the Ewing Marion Kauffman Foundation of Kansas City, MO. The new Campuses Initiative Program aims to make entrepreneurship education common and accessible at US universities. Wake Forest was one of 15 nationwide selected to develop a full proposal that the Kauffman Foundation will consider for a challenge grant of up to \$5 million. In December, 5 to 7 universities will receive these awards.

The program defines entrepreneurship broadly and seeks to encourage innovation and creativity in many disciplines across the campus. The Wake project, *Entrepreneurship and Liberal Arts: Building Campus Culture and Developing an Integrated Educational Model*, will work through a central office to develop a sustainable entrepreneurial curriculum for students in any field and any year.

## HIGHER FUNDING FOR PHASE II STTR AWARDS

— from *Federal Grants and Contracts Weekly* 27, no. 24 (23 June 2003)

The Small Business Administration clarified funding for small business/nonprofit partnerships under the Small Business Technology Transfer (STTR) federal set-aside program. While one-year Phase I feasibility studies are capped at \$100,000, beginning 1 October 2003, Phase II development awards may range up to \$750,000, with justification. Agencies maintain flexibility in making awards under the program, which supports innovative research and technology with commercial promise.

## STUDENT FIELD EXPERIENCE IN PUBLIC ARCHEOLOGY RESEARCH

Wake Forest's Public Archeology Program is an innovative feature of the Anthropology department, one of only 2 such programs in the state. Its surveys identify archeological resources, assess their significance, and make recommendations involving their avoidance or protection as required by environmental rules and regulations. Sites of prehistoric Native Americans, early colonists, antebellum farms and plantations, Civil War engagements, and later 19<sup>th</sup>- and early 20<sup>th</sup>-century developments have been identified and investigated.

The program provides resources and hands-on training to students, both anthropology majors and others, in the fields of archeology, cultural resources management, and historic preservation. In the past 4.5 years, Director Kenneth W. Robinson has garnered grants and contracts totaling more than \$2.2 million. In addition to student training, this funding supports formal field courses in Puerto Rico and at Historic Bethabara Park, independent study, and internships. Four to 6 student assistants are hired each semester, most of whom work part-time. Several students are hired full-time each summer. Most have previously completed archeology field schools (taught in the Anthropology department) and are engaged in special projects, such as artifact analyses, photography, faunal studies (animal bones), artifact conservation, and database entry. The program also supports field projects in which students can volunteer. It extends Wake Forest's public service into the local, regional, and even international community and allows students to experience the excitement and intellectual satisfaction of "digging the past", while gaining unique career skills.

### 2003-2004 IRB MEETING SCHEDULE

*Investigators submitting proposals should please note that the Institutional Review Board will meet on the following dates in the coming academic year:*

September 15	November 17	February 16
October 6	December 15	March 15
October 20	January 19	April 19

## GLOBAL GRANTING AT NIH

— from *Federal Grants and Contracts Weekly* 27, no. 4 (3 February 2003)

Global priorities are changing awards at the National Institute of Allergy and Infectious Diseases. Funding for AIDS research and biodefense projects will claim about two-thirds of NIAID's 2003, \$4 billion budget. Global range on infectious and other disease research is necessary on humanitarian and pragmatic

grounds, according to NIAID; it will lead to greater political stability and economic growth overseas, creating markets and friends for the United States. In addition, the Foundation for the National Institutes of Health will administer Bill Gates's newly pledged \$200 million for global research.

Meanwhile, National Institute for Child Health and Development advisers unanimously endorsed proposals with global implications. One initiative will probe the mechanisms of fetal growth restriction, a major cause of low birth weight and perinatal morbidity and mortality. NICHD will also fund research on how the structure and dynamics of community institutions influence HIV prevention. The RFA will sponsor theory-based social science that facilitates prevention and examines, for example, leadership structure, funding, norms, practices, and institutions not typically engaged in prevention efforts, such as businesses and churches. NICHD seeks to involve scientists with various interests, including religion, community organization, behavior change, and communication.

## GOVERNMENT E-GRANT SITE IN OCTOBER

— from *Grantseeker Tips* no. 110

Too good to be true? The federal government expects to have a single website posting information on all available grants by October 2003. The Department of Health and Human Services is coordinating the initiative, which involves 25 other federal agencies that distribute billions in grants annually.

In a related development, the Office of Management and Budget said it is streamlining grant application standards. Federal grantees have complained that each agency has different standards and procedures and that the confusion has only been compounded by varying electronic systems.

## THE STING IN THE TAIL

— from *Federal Grants and Contracts Weekly* 27, no. 4 (3 February 2003)

The General Services Administration, which runs the federal funding site FedBizOpps, plans to charge users for email notification of upcoming opportunities, a service now provided free. Browsers could still access the site, but GSA would charge "a modest fee" of \$30 to receive notification of all opportunities from selected organizations.

FedBizOpps primarily posts contract opportunities, but the service is the model for a fledgling grant-finder site, [www.fedgrants.gov](http://www.fedgrants.gov). If the grants website continues to develop along the lines of FedBizOpps, can a full-service charge be far behind?

## PLANS TO REDO ERIC RAISE CONCERNS

— From *Federal Grants and Contracts Weekly* 27, no. 17 (5 May 2003)

The Education Department issued an RFP for a contractor to overhaul its massive ERIC database on 27 June. In addition to facing a challenging task, the contractor will be dealing with a project that is drawing fire from researchers and some education groups. It would whittle the Educational Resources Information Center down from 16 clearinghouses to one central facility.

Created in 1966, ERIC is the world's largest education database, with more than 1 million journal articles, reports, and other materials. At that time, many documents were available only on paper and microfiche, but despite the widespread shift to electronic documents, a published document still takes 6-8 months to appear in the database. Each clearinghouse focuses on a broad topic area, from reading to vocational education, and, although they compete for contracts, many have been housed at the same universities for years. Current contracts expire in December, and ED will seize the time to update ERIC's structure.

Researchers and longtime ERIC contractors raise concerns that consolidation will impede access to valuable information and expertise. "We know that they hope to achieve greater efficiencies, but we question whether that is actually going to work," said Steve Stroup, co-director of the ERIC Clearinghouse on Reading, English, and Communication, based at Indiana University. "We're staffed by people who know a huge amount about the subject we're covering," he said. "Anybody can call us, and they get to talk to a content-area specialist." ED's plan could eliminate the personal touch.

ED also would make ERIC more selective about the type of material it includes. Traditionally, the database has functioned as a catch-all for education materials. Critics have faulted it for amassing poor-quality studies along with sound ones, but Stroup argued that it should be up to researchers to "sort out the good from the bad . . . My own opinion is that important things will be left out."

ED's new What Works Clearinghouse is meant to complement ERIC, Russ Whitehurst, director of the Institute for Education Sciences, said last month. It will offer information on programs proven effective through scientific research.

Contact: [www.eps.gov](http://www.eps.gov) (click on Find Business Opportunity; full text search for "ERIC 2003"). Direct questions or comments to Jeff Halsted, Contract Specialist, (202) 708-8283; [jeff.c.halsted@ed.gov](mailto:jeff.c.halsted@ed.gov)

## EPA STAR GRANT PROGRAM SHINES IN ACADEMY REVIEW

— From *Federal Grants and Contracts Weekly* 27, no. 21 (2 June 2003)

A National Research Council report gives the Environmental Protection Agency's STAR (Science to Achieve Results) competitive research grant program high marks. The 8-year-old program "has established and maintained a high degree of scientific excellence," says Harold Mooney, professor of environmental biology at Stanford. The committee examined its scientific quality, grant processes, and demonstrated and potential impact on EPA's mission and policies. Not only has the program become an important part of EPA's overall research operation, it "funds important research that is not conducted or funded by other agencies," reviewers found.

The glowing evaluation stands in contrast to EPA's earlier reputation. At best, the academic community was ambivalent about the agency's commitment to science. The STAR program was established in 1995 to engage universities and nonprofits and to ensure quality environmental science. The program grants about \$100 million a year to investigators and multidisciplinary teams and in fellowships to nurture future environmental scientists. Most other agencies that fund environmental research, including the National Science Foundation, the National Institute of Environmental Health Sciences, the National Oceanic and Atmospheric Administration, the Agriculture Department, and the Defense Department spend much more. The STAR program's strength is that it "provides EPA with access to independent research that is directly relevant to its mission," panelists wrote. The research portfolio ranges from the impact of fine particulate matter on humans and the environment to environmental exposures to harmful algal blooms.

Despite the positive review, the report failed to recommend a major budget increase. It emphasized that funding should not fall below the current 15-20 percent share of EPA's overall research budget and backed continued support for the STAR fellowship program.

Contact: For "The Measure of Star", see [www.nationalacademies.org/topnews/](http://www.nationalacademies.org/topnews/)

## TO THE POINT

Our old friend Dr. X recently volunteered to review abstracts for a national association's meeting, under the heading, "I'll scratch your back." He received 120. That means he has to read 10 a day and decide if they should be presented. If he falls behind due to his many other commitments - writing

his own grant, preparing for a meeting that he's chairing, on-going experiments, teaching, and departmental responsibilities - he has to read 15 or 20 a day.

*Tip:* Dr. X advises potential reviewers to choose from the *areas of expertise* menu carefully, avoiding broad keywords or combinations, where you may know one subject but not the other, as you may be deluged with abstracts far from your field.

The meeting in question receives 12,000 submissions and accepts 25 percent. Of those accepted, only the top 10-15 percent get 10-minute talks; the rest get posters. The online evaluation system provides a small box for comments, just enough to insert pithy phrases like "merely extends previous work" or "no clear hypothesis". You can also flag an outstanding abstract for special attention, especially one that will clearly help to explain, prevent, or solve the sponsor's priority problem.

When you write an abstract, think about Dr. X. He'd better know what you want to do and why it's vital that you do it within the first 2 sentences of your ~150 word pitch and starting with the title. "If it begins something like 'Effects of,'" he told me, "it's out!" Likewise, stating that you're following up on what you've already published can lead to the conclusion that you are just "stamp collecting" and not innovative.

Eighty percent of proposals submitted to the NIH, for example, *must be* rejected. Make sure your reviewers can tell at once that your work is new, feasible, and necessary.

## FEAR OF FLYING

— Adapted from *Grantseeker Tips* no. 87  
(10 June 2002)

Failing to ask for enough—not too much—money is a common reason for rejection. Both reviewers and sponsors have a pretty good idea how much it costs to perform the work, and your first priority is to demonstrate that you can accomplish what they require.

Look at your resources, personnel, and time, and be sure you can fulfill the promises you're making. Get help from R&SP in interpreting the grant guidelines and preparing the budget. The line-item budget sets the actual and reasonable direct and indirect costs, and the narrative budget explains how you plan to spend the money and why.

Fear of asking for large sums of money is generally self-imposed. If you base your estimates on facts, reasonable projections, and common sense, then you should step forward

with a strong, clearly explained budget. The sponsor may ask you to scale back, but that's better than outright rejection because your request was unrealistic. Asking for too little is not being nice—it's naïve.

## DEBUNKING SOME GRANTWRITING MYTHS

— From *Chronicle of Higher Education* (26 June 2003)

(I eviscerated this article by Dean Kenneth Henson, School of Education, The Citadel, author of a book on grantwriting in higher education, due to space constraints.)

Grants free us to do the research, teaching, and service that we enjoy most. So why is this essential skill so difficult for so many academics? I'd like to tackle a few myths and then offer some tips.

Myth 1: No money is available. Wrong! Hundreds of millions are waiting to be taken, and sponsors are just as eager to give it away as we are to receive it.

Myth 2: The money goes to big institutions not to individuals or small institutions. Half true - enormous sums *are* given to the same institutions but not simply because agencies are impressed by prestigious names. Individuals at those institutions have proved good stewards of the money. Small institutions and unknown people who have established reputations for delivering quality service and managing their budgets wisely are also getting hundreds of millions.

Myth 3: Success requires connections. Connections help, but what's required is a proposal that convinces sponsors that you will give the best in return for their money. You can do this by keeping one eye on the request for proposals (RFP) and addressing each of its goals. A second way is to ask the agency for a copy of its review form. Be sure to cover all the points on which your proposal will be evaluated, and do an especially convincing job on the parts that count most. If you still believe that success requires connections, why not develop some? Volunteer as a reviewer. You will gain valuable insight into the process. Or just phone the agency. Be prepared to talk about your strengths and listen carefully to pick up expectations that may not be included in the RFP.

Myth 4: Meeting the deadline is the primary goal. The two most important goals are to produce a top-quality proposal and target it to the right agency. Resist firing off 11th-hour proposals. Slow down, write a good proposal, and submit it next year or to a similar agency now.

Myth 5: Collaborating saves time. Collaborating actually requires more time. If you decide to pursue a grant with col-

leagues, clarify everyone's role and choose partners who have similar work habits.

Perhaps you can also benefit from the following tips:

**Tip 1:** Make sure your proposal contains all the essential parts: a title page, abstract, table of contents, list of objectives, timetable, budget, and evaluation plan. Your title should respond to the purposes stated in the RFP. The abstract is an opportunity to sell your idea. The objectives section offers a second opportunity to present your strengths. Although many RFPs do not ask for a timetable, all agencies want to know when you promise to deliver. A good flow chart helps. Also, be sure to say how you can sustain your program once the grant expires. The budget must be adequate to the job but not excessive. The most important parts of the project should be allocated the most money.

**Tip 2: Clarity.** Avoid jargon, long paragraphs, long sentences, and unfamiliar words. Many grantwriters try to impress readers with high-toned language and complex writing—all wrong.

**Tip 3:** Mention unique qualities. Reviewers often have to choose among excellent proposals, giving a distinct advantage to one that is memorable.

One final piece of advice: most institutions have fallen on hard times. Instead of worrying about *your* needs, search for a sponsor that supports needs similar to yours and then craft a proposal that assures evaluators that you will out-perform the competition.

# WFU FUNDED RESEARCH

March through June 2003

## ANTHROPOLOGY

Kenneth Robinson

- *Archeological Survey, 135-acre Blackburn Landfill, Catawba County, NC, \$4,032, McGill Associates*
- *Two African-American Tenant Houses, Mauzer Tract, 135-Acre Blackburn Landfill, Catawba County, NC, \$4587, McGill Associates*
- *Water Project, Yadkin River, Caldwell County, NC, \$10,853, HDR Engineering*
- *Water Pipeline, Cleveland County, NC, \$5,118, HDR Engineering*
- *Cultural Resources Survey, Proposed Cell Tower, Bat Cave, NC, \$1,608, ECS Roundale, VA*

## BIOLOGY

William E. Conner, *Predator-Prey Interaction: A Multilevel Analysis of the Bat-Moth Arms Race*, \$6,000, NSF

Ronald Dimock, *Immunology of the Parasitic Association between Glochidia Larvae of Freshwater Mussels and their Host Fish*, \$9,230, WFU Science Research Fund

Douglas Fantz, with Constantinos Koumenis, WFUSM Radiation Oncology, *Genetic Screen for Regulations of Hypoxia Tolerance*, \$14,797, WFU Cross-Campus Research Support Fund

Raymond Kuhn, *Feminization of Male Mice with Cysticercosis*, \$4,050, WFU Science Research Fund

Gloria Muday, *Analysis of Phenotypic Plasticity in Arabidopsis Roots in an Ecological Context*, \$9,997, WFU Science Research Fund

Miles Ross Silman, *Vegetation and Paleocology of an Amazon-Andean Elevation*, \$207,874, NSF

Wayne L. Silver, *Multiple Mechanisms of Nasal Chemoreception*, \$24,384, NIH

William Kirby Smith, *Alpine Tree Stability: Mechanisms of Conifer Tree Seeding Establishment*, \$88,324, plus \$6,000 supplement, NSF

Clifford Zeyl, REU Supplement to *The Genetic Architecture of Adaptation in Laboratory Yeast Populations*, \$5,875, NSF

## CHEMISTRY

Rebecca Alexander, with James Curran, Biology, *Chemistry/Biology Biomolecular Imaging Center*, \$71,805, NC Biotechnology Center

Ulrich Bierbach, *Novel DNA-Metalating Hybrid Anticancer Agents*, \$223,716, NIH

Bernard Brown, with David Horita, WFUSM Biochemistry, *Time-resolved NMR and CD Analysis of the Interaction between the Za Domain of ADARI with Nucleic Acids*, \$14,918, WFU Cross-Campus Research Support Fund

S. Bruce King, with Leslie Poole, WFUSM Biochemistry, *Development of Sensitive Chemical Probes To Detect Biologically Significant Changes in the Cysteine Redox State of Target Proteins*, \$15,000, WFU Cross-Campus Research Support Fund

## COMPUTER SCIENCE

Victor Pauca, *Computational Methods for High-Resolution Imaging and Data Mining*, \$50,000, AFOSR

Yue-Ling Wong, *The Art and Science of Digital Media: A Curriculum Development Project*, \$37,276, NSF

## DIVINITY SCHOOL

Jill Yvette Crainshaw, *The Welcome Table Project*, \$6,350, Calvin Institute for Worship

## EAST ASIAN LANGUAGES AND LITERATURES

David Phillips, with Angus Lockyer, History, *Infusing Chinese Studies into the Undergraduate Curriculum*, summer support at the University of Hawaii's East-West Center, Asian Studies Development Program

## EDUCATION

Joseph O. Milner, *Triad Writing Project*, \$38,000, National Writing Project

## HEALTH AND EXERCISE SCIENCE

Peter Brubaker, *ACTION - a CHF Trial Investigating Outcomes of Exercise Training*, \$3,307, NIH

Anthony P. Marsh, *Power Training in Older Adults: Mechanisms Underlying Change in Muscle Function*, \$30,000, plus \$5,657 and \$5,771 supplements, NIH

## LEGAL CLINIC

Kate Mewhinney, *The Client Needs Funds*, \$3,850, North Carolina Bar Foundation, Inc.

## MATHEMATICS

Marielba Rojas, *Nonlinear I11-Posed Problems: Theory and Methods*, \$4,000, WFU Science Research Fund

## PHYSICS

Daniel B. Kim-Shapiro, *Effects of Nitric Oxide in Sickle Cell Blood*, \$315,672, NIH

## POLITICAL SCIENCE

Peter Furia, *Never the same? American National Identity Before and After 9/11*, \$10,000, WFU Social and Behavioral Science Research Fund

## PSYCHOLOGY

Janine Margaret Jennings, *Memory Training to Enhance Performance in Older Adults with Mild Cognitive Impairment*, \$24,940, WFU School of Medicine

## SOCIOLOGY

Angela Jean Hattery, *Intimate Partner Violence: Exploring the Experiences of Mexican Men and Women in North Carolina*, \$14,996, WFU Baptist Medical Center

## STUDENT HEALTH CENTER

Natascha Romeo, *Campus Grant*, \$12,962, North Carolina Governor's Institute

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