

Research News

Please circulate to:

OFFICE of RESEARCH and SPONSORED PROGRAMS

September 2006

CONGRATULATIONS TO FACULTY FROM THE ASSOCIATE PROVOST FOR RESEARCH

ANOTHER STRONG YEAR IN EXTERNAL RESEARCH SUPPORT

As you will see throughout this newsletter, FY06 was another strong year for sponsored projects on the Reynolda campus. Faculty submitted a record number of proposals, and several departments posted large gains in proposals funded and dollars awarded. Faculty submitted 150 protocols to our Institutional Review Board, up almost 25 percent over 2004-2005, which indicates the level of human subjects research on campus. While all are to be congratulated, I will single out a few departments and faculty for special note. Both pre- and postaward staff in ORSP, the departments, and Financial and Accounting Services (FAS) have worked hard to make this happen, and I express my appreciation for their efforts.

Many of you will remember that for FY01, 02, and 03, the Reynolda campus posted about \$4 million a year in sponsored project revenues. Total sponsored project revenues for FY06 were over \$7.5 million. Faculty in the Department of Health and Exercise Science were awarded grants totaling over \$2 million, and Department of Chemistry faculty again received close to \$2 million in new awards, as they did in FY05. Awards in Biology are more than double their level in FY05, and new awards in Psychology were 9 times higher than they were last year. This year was also strong in terms of the intellectual property resulting from some types of research. Reynolda campus investigators generated 12 invention disclosures and 9 patent applications, representing about 20 percent of the total intellectual property output of the university.

In my mind, several faculty should also be recognized individually. History's Monique O'Connell won a Harvard

University Center for Italian Renaissance Studies Villa I Tatti Fellowship on top of the NEH Summer Stipend she was awarded last year. Jason Powell of English won an NEH Summer Stipend this year. David Lubin (Art) was awarded a residential fellowship at Harvard's Charles Warren Center for Studies in American History, and Jeff Lerner (History) earned a Margo Tytus Visiting Fellowship at the University of Cincinnati.

Jack Rejeski (Health and Exercise Science) was awarded an individual grant of over \$500K. Faculty awarded individual grants of over \$250K include Michael Berry (Health and Exercise Science), Jacquelyn Fetrow (Computer Science and Physics), Dany Kim-Shapiro (Physics), Bruce King (Chemistry), and Page West (Calloway School of Business and Accountancy). Miles Silman was honored with a 3-year award of over \$300K a year from the Moore Foundation for "Conservation Implications of Climate Change and Fire in the Eastern Andes."

Faculty receiving their first external awards in FY06 include Conor O'Callaghan (English), John Dinan (Political Science), Jefferson Holdridge (English), and Pat Nixon (Health and Exercise Science).

Again, I extend my congratulations and thanks to all who contributed to an outstanding FY06.

Sincerely,
Mark E. Welker

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WAKE FOREST
UNIVERSITY

NIH REGIONAL MEETING INSIGHTS

ORSP was happy to pay for 3 faculty to attend the National Institutes of Health Regional Seminar at Harvard in March 2006, especially since they all subsequently submitted proposals. We want to share their experience and encourage others to pursue grantsmanship learning opportunities. Meeting handouts are linked to the ORSP webpage under Proposal Development/NIH Resources or *see* www.hms.harvard.edu/dms/NIHconference/Agenda.htm.

Every session stressed contacting the Program Officer early to help with idea and proposal development. Use CRISP (Computer Retrieval of Information on Scientific Projects; <http://crisp.cit.nih.gov/>) or individual institute webpages to find their names and fields. They can help you target the right institute, RFA or PA, award mechanism, and study section. You must contact NIH if you're asking for more than \$500K a year or the solicitation asks for a letter of intent, but contacting staff is always advised.

What are RFAs? Requests for application, encompassing cooperative agreements, construction, and one-time awards in specific areas. They have special study sections and set-aside funds. PAs are program announcements for any type of project except construction. They pursue major directions, provide 3 years' support, and are often renewed.

What are *award mechanisms*? NIH has codes for types of grants; e.g., an RO1 is a standard research grant; RO3, a small grant; R21, R33, R34, exploratory/development grants (*see* <http://grants1.nih.gov/grants/funding/ac.pdf>).

Fitting your research to the institute's priorities is vital to success. Read the program announcements carefully for direction; talk to the PO, and consult with experienced colleagues. Collaborators are another way to adjust your work to an institute's mission, particularly joining basic science with clinical applications.

Your cover letter should make clear why your application should go to a particular study section, detail any expertise that may be needed to complement the study section, and note anyone you do not want to review your proposal (*see* <http://cms.csr.nih.gov/PeerReviewMeetings/> for rosters).

NIH CHANGES FORMS AND PROCESSES

NIH is transitioning to Standard Form (SF) 424, designed for all federal applications submitted through Grants.gov. It is the cover sheet, and ORSP normally fills it out but may request information from the PI to finish it. The new forms are available on the ORSP website (www.wfu.edu/rsp/NIH.html).

SF424 Research & Related (R&R) will replace Public Health Service (PHS) 398, but until 1 February 2007, most proposals still use PHS 398 paper forms (for FAQs, *see* http://era.nih.gov/ElectronicReceipt/faq_sf424.htm).

Other changes include:

The PI's **signature** on applications, progress reports, and prior approval requests is replaced by an institutional compliance requirement. ORSP retains the PI's signed assurance to provide upon request (*see* www.wfu.edu/rsp/proposal.html/Routing Form). ORSP must maintain an assurance for all PIs named (*see* /Co-Investigator Addendum).

NIH will **no longer** require eRA Commons **verification** of applications submitted through Grants.gov.

SF424 (R&R) can accommodate **multiple PIs**. The PHS398 Research Plan will be modified to accommodate a separate PDF for Multiple PIs (*anticipated August 2006*); interim instructions ask applicants to use the Consortium/Contractual Arrangements PDF for Multiple PI Leadership Plans and only in response to funding announcements that allow multiple PIs.

For **publications in appendices**, the new process is:

- In press: Include a list with a link to the online journal article or NIH PubMed Central (PMC) submission identification number. *Do not include the entire article.*
- Manuscript accepted but not yet published or no online journal link: The entire article may be submitted as a PDF in the appendix.

Research Plan requirements have a new section on **select agent research**. Instructions for item 9, Facilities & Other Resources, under Other Project Information now request information on biocontainment resources, when applicable. The Select Agent Research section in Part III Policy/Assurance/Definitions now includes informational websites. *See* <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-057.html>.

In PHS398 and PHS2590 noncompeting progress report forms and instructions, NIH incorporated the above changes and changed the **method to measure effort** to project/person months, as in SF424. The change to person months, as at NSF, affects the budget page, modular budget page, other support, and the key personnel report. For PHS398, *see* <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-056.html>; for PHS2590, *see* <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-058.html>.

While the entire **biographical sketch** still has a 4-page limit (including the table on the first page), the 2-page limit for subsections A and B has been eliminated.

OUTSTANDING PROJECT PROFILE

CHEMISTRY'S LACHGAR WINS FUNDS FOR US-AFRICA NANOSCIENCE WORKSHOP: *PRO HUMANITATE* THROUGH SCHOLARSHIP

Thanks to persistent planning and strong collaborations, Chemistry Professor Abdou Lachgar co-organized the third international meeting of the African Materials Research Society in Marrakech, Morocco, and earned support for a USA-Africa Workshop on Nanoscience and Nanotechnology.

In 1994, Dr. Lachgar wrote to Moroccan colleagues after reading one of their papers in the *Journal of Solid State Chemistry*. The next year, they designed their future collaboration. At the same time, the WFU chemistry department won National Science Foundation funding to acquire a single-crystal diffractometer, needed to investigate the molecular structure of solids ranging from organic and inorganic-based drugs to high-performance hydrogen storage materials and nanostructured architectures. Morocco did not have the instrument, so Dr. Lachgar's partners sent their samples to WFU. The colleagues visited back and forth, and, whenever there, Dr. Lachgar presented short courses on materials chemistry.

Materials science plays an increasing role in improving energy efficiency, protecting the environment, lowering health-care costs, providing modern and reliable transportation and civil infrastructure, and strengthening security. Immediate, interdependent priorities make international partnerships crucial. To meet the need for networking, the NSF co-sponsored a series of international workshops, including an August 2000 gathering of US and African scientists in Pretoria, which led to the creation of the African Materials Research Society.

Dr. Lachgar was invited by his University of Casablanca colleagues to help organize its third international meeting in Marrakech, 6-10 December 2005. He proposed a workshop on nanoscience and technology and to help US scientists attend on a supplement to his active NSF grant. He also contacted the NSF-funded International Center for Materials Research at the University of California, Santa Barbara, directed by Professor Tony Cheetham. Funds from NSF and ICMR covered 75% of travel costs for 16 faculty and 7 graduate students from all over the United States.

Dr. Lachgar was slightly apprehensive about the students' response, but they were enthusiastic. Jarrod Eubank of the University of South Florida wrote: "It was great to meet stu-

dents and professors from such varied backgrounds and discuss current research successes and future ideas . . . The most influential portion . . . was . . . the Nanoscience workshop. . . It opened my eyes to the fact that there is much more going on in the scientific community outside the United States. . . I hope to keep in contact . . . and to attempt collaborations . . . I was truly fortunate . . ."

Lesley Holmes at Stony Brook said: "I found the conference . . . tremendously educational. . . perhaps most in its goal to inform the scientific community about the direction of science in Africa, particularly in nanotechnology . . . Africa MRS is an excellent start to bringing needs and resources together. . . . I definitely enjoyed meeting the other students . . . I'd like to give thanks to Dr. Lachgar for his excellent organization and infinite patience . . ."

Michael Hull of Notre Dame said: "I came back with new ideas and . . . refreshed fervor for my work. . . . I was impressed by the way African groups focus on projects that have a national or local flare. Much of the research was more practical and less abstract than what is pursued in US institutions. I was saddened by the severe budget limitations that . . . African researchers face and impressed by the creative ways they address these challenges."

Gregory McManus, University of South Florida: "The quality of research presented was fantastic . . . I was impressed to learn of the networks they have established . . . to link research groups across the continent. Morocco was an experience I will carry with me for the rest of my life."

Matthew O'Malley, Ohio State: "The research was an excellent mix of chemistry and materials science, with most topics having clear application to technologies of interest in Africa. Dr. Maaza from iThemba Labs and the NA-NOAFNET indicated interest in my research . . . with potential for future collaborations . . . The conference allowed . . . US students . . . to experience the culture and meet the people of Morocco . . . we all had nothing but positive experiences . . ."

CROSS-CAMPUS COLLABORATORS PUBLISH IN *SCIENCE*

As a direct result of a grant from the WFU Cross-Campus Collaborative Research Support Fund, Assistant Professor of Physics Martin Guthold and Associate Professor of Biochemistry/Associate in Molecular Medicine Roy Hantgan, along with Susan Lord, Professor of Pathology and Laboratory Medicine at UNC-CH, and a graduate and undergraduate student in Dr. Guthold's laboratory, published a ground-breaking article in the 4 August issue of *Science*.

It reports their surprising findings about the extensibility and elasticity of the fibers that make up blood clots. While ~1000 times finer than a human hair, fibrin fibers can stretch more than any other naturally occurring protein fiber. They can be stretched to 2.8 times their length without incurring any permanent deformations, and some over 6 times their own length before breaking (for very cool movies, see www.wfu.edu/~gutholdm/research.html). The multidisciplinary team developed a novel atomic force/fluorescence microscopy technique that can both see and stretch single fibrin fibers, previously too small for mechanistic study. "Knowing that fibrin strands . . . are more stretchable than a spider's web helps us to understand how clots can seal wounds tightly and withstand the pressure in our blood vessels . . . also . . . how tough it is to remove a clot that is preventing blood flow to a person's heart or brain, causing a heart attack or stroke," Dr. Hantgan wrote.

The "thread" that drew the team together was Dr. Lord, with whom both partners had worked independently. Dr. Hantgan, who makes it a practice to attend physics department seminars, was excited by Dr. Guthold's talk on atomic force measurements of fibrin's mechanical properties when Dr. Guthold interviewed for a faculty position in 2001. The collaboration has also published results in the *Biophysical Journal*, and Dr. Guthold is submitting proposals to the National Science Foundation and the National Institutes of Health to support further studies. He has also been approached by a company interested in precisely quantitating the force required to break up clots with an ultrasound device.

WFU COMPLIANCE HOTLINE OFFERS ANONYMOUS REPORTING

Faculty and staff can anonymously report suspected compliance violations by contacting the Compliance Hotline toll free at 877-880-7888 or submitting an online report at www.tnwinc.com/reportline/international/. Both methods are available in many languages, all the time, from any location. To ensure confidentiality and anonymity, The Network, an independent company, administers this service (www.tnwinc.com). Telephone interviewers do not have caller ID capability. All online reports are secure; no identi-

fying information, such as IP address, is maintained. Anyone providing information about possibly illegal or unethical activities in the workplace is protected from retaliation or retribution.

Should you have any questions regarding the Compliance Hotline, please contact Mary Truell in the University Compliance Office at 716-5262 or mtruell@wfubmc.edu.

DON'T SLOW DOWN FASTLANE

Applicants for funding from the National Science Foundation are required to write a one-page Project Summary suitable for publication and lucid to a "scientifically and technically literate lay reader." It states the objectives and methods of the proposed activity in the third person and:

It must clearly address in separate statements: (1) the intellectual merit; and (2) the broader impacts resulting from the proposed activity. **Proposals that do not separately address both merit review criteria within the one-page Project Summary will be returned without review.**

Is this an idle threat? ORSP has seen several proposals returned for revision because their intellectual merit and broader impacts could not be clearly and readily identified, and only by the grace of the Program Officer were they not outright rejected. Don't fool with FastLane – create **BOLD** headings for **INTELLECTUAL MERIT** (importance to the field; novelty) and **BROADER IMPACTS** (dissemination and students, students, students) in your Project Summary **AND** your Project Description. Reviewers will thank you, too.

Applicants are also reminded that FastLane does **NOT** automatically paginate a proposal. Each section that is uploaded as a file must be individually paginated before upload to FastLane. You don't want pages to be out of order or to go missing without reviewers being able to tell. A little care in preparation can save a lot of frustration and regret.

ORSP SPECIAL EVENTS, 2006-2007

October 6	*Sponsored Research Reception, 4-5:30 P.M., Z. Smith Reynolds Library; by invitation
October 19	*Humanities Journal Publishing Workshop, 11 A.M.-12 P.M., Benson University Center *WFU and WSSU Research Reception, WSSU campus, TBA
October 20	*Scholarly Publishing Workshop with Bob Lucas, 8:30 A.M.-12:30 P.M., Benson
November 18	*Authors/Editors/Artists Reception/Dinner, 5:30-7:30 P.M., Z. Smith Reynolds Library; by invitation

INSTITUTIONAL REVIEW BOARD NOTES

2006-2007 IRB Roster

Anthropology: *Steven Folmar*, chair (folmarsj@wfu.edu); (Alt.) *Paul Thacker* (thackep@wfu.edu)

Communication: *Steven Giles* (gileesm@wfu.edu); (Alt.) *Donald Helme* (helmed@wfu.edu)

Counseling: *Deborah Newsome* (newsomdw@wfu.edu); (Alt.) *Laura Veach* (veachlj@wfu.edu)

Education: *Robert Evans* (evansr@wfu.edu)

Health & Exercise Science: *Peter Brubaker* (brubaker@wfu.edu); (Alt.) *Patricia Nixon* (nixonpa@wfu.edu)

Psychology: *Batja de Mesquita* (mesquita@wfu.edu); (Alt.) *Janine Jennings* (jenninji@wfu.edu)

Sociology: *Joseph Soares* (soaresja@wfu.edu)

Information Systems: *Nancy Crouch* (crouch@wfu.edu)

Nonaffiliated Community Representatives: *Robert Sanchez-Langston* (socialworksvc@aol.com); (Alt.) *Andy Hagler* (andy@triadmental-health.org).

Submission Deadlines

IRB Meeting	Submit by 5 P.M.
9/18/06	9/4/06
10/16/06	10/2/06
11/20/06	11/7/06
12/11/06	11/28/06
1/22/07	1/8/07
2/19/07	2/5/07
3/19/07	3/5/07
4/16/07	4/2/07

Complete applications may be:

- sent or hand-carried to ORSP, 117E Reynolda Hall
- emailed to irb@wfu.edu
- faxed to the IRB coordinator at (336) 758-1959

*Faculty advisors of students whose summer research projects require travel, please note the last IRB meeting deadline and start the process as soon as possible.

eIRB Selected as Online Submission System

For several months, ORSP, IS Consultant Allison Reaves, and a team of faculty—Tony Marsh (Health & Exercise Science), Leah McCoy and Raymond Jones (Education), Steve Giles (Communication), and Janine Jennings (Psychology)—have been investigating an online submission and review system that will facilitate IRB application. The system used at the Medical School, eIRB, has been selected. After using a password to sign in, researchers will be able to apply online, to attach documents, and to check on the status of their study as it moves through the process. ORSP will pilot it with the psychology department in March 2007, and it should be fully implemented for all other departments in FY07. Training sessions will be offered. Stay tuned!

ORSP Surveys IRB Researchers

This summer, ORSP surveyed IRB researchers who submitted applications within the past 3 years. It asked which resources (e.g., IRB website, *Research News*, departmental IRB reference binder) they used and which IRB functions were most important to them (e.g., reviews protocols in a timely fashion; provides a rationale for any required changes; treats investigators with respect). Please complete and return the surveys, which will help the IRB and staff to assess how it uses its resources as it moves toward an electronic submission and review system.

What's New for 2006-2007?

- Additional examples of *key personnel* include those who design or supervise studies; administer informed consent; administer questionnaires or surveys or collect data directly from participants using other methods, code data or otherwise collect or analyze data on human participants.
- The PI is responsible for keeping all IRB research records, including IRB letters of approval and signed consent documents (English and foreign language versions) in a secure location for as long as the data are scientifically useful and destroying them thereafter.
- The informed consent form for research producing identifiable data should include a statement that confidential data will be kept until they are no longer scientifically valid and then destroyed.
- Investigators conducting exempt research and their advisors are not required to complete CITI, a course in the protection of human subjects (*see* www.wfu.edu/rsp/irb/education.html). However, only the IRB can determine exempt status.
- Storing data on a ThinkPad is not necessarily secure, and shared files may also be risky. The IS department is studying software that can easily secure data on individual machines. Contact Nancy Crouch (crouch@wfu.edu) or Lee Norris (norrisl@wfu.edu) for help.
- *See* www.wfu.edu/rsp/irb for information on:
 - Cross-Cultural Research and Informed Consent for Non-English-Speaking Participants;
 - Studies Involving Sensitive Information;
 - Assent Guidelines for Minors;
 - English and Spanish versions of Authorization to Participate in a Research Study Template;
 - Revised instructions for preparing the application narrative (www.wfu.edu/rsp/irb/forms.html); and
 - Revised Standard Measures from the psychology department.

IRB policies and the *Investigator's Guide* are readily accessible by clicking on table of contents links for each document.

Statistics for 2005-2006

- 150 new submissions
- 94 resubmissions
- 28 requests for amendment
- 14 continuing review requests
- 95 research studies closed

WFU Funded Research, 1 March - 31 July 2006

ART

David Lubin, *The Look of War: Visualizing American Warfare from Gettysburg to Baghdad*, academic year fellowship at Harvard University's Charles Warren Center for Studies in American History

ANTHROPOLOGY

Kenneth Robinson

- *Boggs Property on High Rock Lake, Davidson County, NC*, Boggs Realty, \$3,480.28
- *Archaeological Investigations at Fort Dobbs State Historic Site*, State of North Carolina, \$15,352
- *Archaeological Investigation of Fort Dobbs State Historic Site*, Fort Dobbs Alliance, Inc., \$12,357
- *Fountainhead Spring, Fayetteville, Cumberland County, NC*, Fayetteville Public Works Commission, \$9,980.40
- *Archaeology at the First Presbyterian Church Cemetery, Guilford County, NC*, First Presbyterian Church, \$1,688
- *Mapping, First Presbyterian Church Cemetery, Guilford County, NC*, First Presbyterian Church, \$13,914.22
- *Survey of Development Tract Shoreline, Montgomery Co., NC*, Trigon Engineering, \$5,866.62
- *Field School for Teachers and Arsenal Investigation, Fayetteville, NC*, Cape Fear Museum, \$14,174
- *Ground-Penetrating Radar of Yards, William Smith House, Averasboro Battlefield Commission*, \$6,229.61

Jeanne Simonelli, *Childhood Immunizations: Understanding Local and Global Practice and Perceptions*, WFU Social, Behavioral, and Economic Science Research Fund (SBERF), \$8,400

Stephen Whittington

- *Reanalysis of Ceramics and Obsidian from Teozacoalco, Mexico*, WFU SBERF, \$2,120
- *Web Access for the Museum of Anthropology's Collection Catalogue*, Institute of Museum and Library Services (IMLS), \$149,000

BIOLOGY

William Conner, *Sound Strategies: Acoustic Mimicry and Jamming in the Bat-Moth Arms Race*, National Science Foundation (NSF), \$185,223

James Curran, *AREA: Does the Ribosomal E-site Help Hold the Reading Frame?* National Institutes of Health (NIH), \$209,205

Susan Fahrback

- *Functional Genomics of Chronobiological Plasticity in the Honey Bee*, Binational Science Foundation, \$8,452
- *Muscarinic Regulation of Plasticity in the Brain*, NIH, \$30,847

Gloria Muday

- *Control of Lateral Root Development by Membrane Trafficking Machinery*, WFU Science Research Fund (SRF), \$9,859.80
- with Gary Miller, Health and Exercise Science, *Metabolic Hormone Levels and Obesity, Weight-loss Ability, and Osteoarthritis*, WFU SRF, \$10,000

Miles Silman

- *Conservation Implications of Climate Change and Fire in the Eastern Andes*, Gordon & Betty Moore Foundation, \$332,970
- *REU Supplement Request DEB-0237684 (Ecology), Vegetation and Paleocology of an Amazon-Andean Elevational Transect*, NSF, \$7443

Wayne Silver, *Multiple Mechanisms of Nasal Chemoreception*, NIH, \$16,691

William Kirby Smith

- *Conserving the Relic Spruce-fir Forests of the Southern Appalachian Mountains*, Bipartisan Policy Center, \$25,000
- *Sustaining Barrier Island Ecosystems in a Changing Global Environment*, NSF, \$14,338

Clifford W. Zeyl, *REU Supplement: Population Dynamics and Effect of Sex on Natural Yeast Populations*, NSF, \$6,000

CALLOWAY SCHOOL OF BUSINESS AND ACCOUNTANCY

George Page West, *Kauffman Campuses Initiative – Entrepreneurship and Liberal Arts: Building Campus Culture and Developing an Integrated Educational Model*, Kauffman Foundation, \$460,000

CHEMISTRY

Rebecca Alexander

- *Research Infrastructure in Minority Institutions (RIMI)*, NIH, \$7,511
- *CAREER: Dissecting Domain/Domain Communication in Methionyl-tRNA Synthetase*, NSF, \$119,334

Ulrich Bierbach, *Novel DNA-metalating Hybrid Anticancer Agents*, NIH, \$222,078

Bernard Brown, *Structural and Functional Analysis of Archaeal sRNPs*, NIH, \$225,136

S. Bruce King

- with Charles Morrow, Biochemistry, *Structural Requirements of Nitrated Fatty Acids: Natural Cellular Signaling Agents and Nitric Oxide Donors*, WFU Cross-Campus Collaborative Research Support Fund (CCCRSF), \$20,000
- with Jacquelyn Fetrow, Computer Science and Physics, *Profiling of Redox-Sensitive Signaling Proteins*, NIH, \$32,340

Suzanne Tobey, *Synthetic Nicotinic Receptors for Deciphering the Physical Parameters of Nicotine Binding*, WFU SRF, \$9,312

COMMUNICATION

Steven Giles, *Promoting Fidelity Using Remote and On-Site Support*, NIH, \$19,971

Allan Louden

- *Benjamin Franklin Transatlantic Fellows Initiative: Summer Institute for Youth*, US Department of State (DOS), \$171,750
- *Benjamin Franklin Transatlantic Initiative – Western and Central European Participants*, DOS, \$31,500

COMPUTER SCIENCE

Jacquelyn Fetrow

- *Algebraic and Statistical Models of Redox Signaling*, NIH, \$262,342
- *Integrated Processes for Functional Site Feature Analysis*, NSF, \$170,966.96
- with Elizabeth Hiltbold, Microbiology and Immunology, *Modeling Networks of Dendritic Cell Maturation Induced by Bacteria*, WFU CCCRSF, \$20,000
- with S. Bruce King, Chemistry, *Profiling of Redox-Sensitive Signaling Proteins*, NIH, \$18,478.36

Robert Plemmons, *Postdetection Processing and Inverse Problems in Ground-Based Imaging*, Air Force Office of Scientific Research (AFOSR), University of New Mexico subcontract, \$65,000

William H. Turkett, Jr., with Susan Sergeant, Biochemistry, *Integration of Neutrophil Function and Signaling Networks with Computational Modeling*, WFU CCCRSF, \$20,000

ENGLISH

Jason Powell, *The Complete Works of Sir Thomas Wyatt the Elder*, National Endowment for the Humanities (NEH) Summer Stipend, \$5,000

HEALTH & EXERCISE SCIENCE

Anthony Marsh, *APFO: Powered-Ankle Foot Orthoses for Gait*, NIH, \$41,564

Gary Miller, with Gloria Muday, Biology, *Metabolic Hormone Levels and Obesity, Weight-loss Ability, and Osteoarthritis*, WFU SRF, \$10,000

W. Jack Rejeski

- *Cooperative Lifestyle Intervention Program*, NIH, \$616,414
- with Edward H. Ip, Public Health Sciences, *Adaptive and Standardized Assessment for Functional Ability in Older Adults*, WFU CCCRSF, \$20,000

LIBRARY

Susan Smith, *Digital Forsyth*, State Library of North Carolina/IMLS, \$75,000

MATHEMATICS

Robert Plemmons, *Postdetection Processing and Inverse Problems in Ground-Based Imaging*, AFOSR, University of New Mexico subcontract, \$65,000

PHYSICS

David Carroll

- MURI on *Self-Assembled Soft Optical NIMS*, AFOSR, \$56,482
- *Assessment of Status and Opportunities in Nanophase Transition Metal Oxide Coatings for Air Pollution Control and Mitigation*, Environmental Protection Agency, \$15,000

Jacquelyn Fetrow

- *Algebraic and Statistical Models of Redox Signaling*, NIH, \$262,342
- *Integrated Processes for Functional Site Feature Analysis*, NSF, \$170,966.96
- with Elizabeth Hiltbold, Microbiology and Immunology, *Modeling Networks of Dendritic Cell Maturation Induced by Bacteria*, WFU CCCRSF, \$20,000
- with S. Bruce King, Chemistry, *Profiling of Redox-Sensitive Signaling Proteins*, NIH, \$18,478.36

George Holzwarth, *Kinesin Force-Velocity in Curves when 1, 2, or 3 Motors Transport a Single Load*, NIH, \$123,094

Daniel Kim-Shapiro, *Effects of Nitric Oxide in Sickle-Cell Blood*, NIH, \$306,206

Richard Williams, *Scientific Exchange Program Between Latvia and USA: Support of Research Visits Between University of Latvia and Wake Forest University*, US Embassy in Copenhagen

PSYCHOLOGY

Terry Blumenthal, *A Simple Measure for Studying Gating Deficits*, NIH, \$14,000

William Fleeson, *Integrating Processes and Structure in Personality*, NIH, \$190,159

Michael Furr

- *Behavioral Models of Impulsivity: Alcohol and 5-HT Effects*, NIH, \$15,081
- *Impulsivity Models: Behavioral Mechanisms*, NIH, \$15,081

POLITICAL SCIENCE

John Dinan, *The Meaning and Development of State Constitutional Education Clauses*, \$15,117

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