

# Research News

Please circulate to:

\_\_\_\_\_  
\_\_\_\_\_

OFFICE of RESEARCH and SPONSORED PROGRAMS

October 2011

## TEAMWORK

This year, the Office of Research and Sponsored Programs has had many reasons to think about the benefits of teamwork. For the fiscal year ending June 30, we submitted 146 proposals, and Wake Forest faculty earned over \$9.7 million in grants, contracts, and fellowships to support scholarship, service, conferences, performances, instrument acquisition, educational outreach, and research.

ORSP staff all participated in the Gatekeepers seminars to improve our team skills and, in August, moved to the 3<sup>rd</sup> floor of Reynolda Hall, joining the Professional Development Center, Teaching and Learning Center, Humanities Institute, Institute for Public Engagement, and the Office of Diversity and Inclusion to serve faculty needs as the Centers of Excellence.



From left, Lori Messer, Pam Moser, Andrea Ellis, Victor, John Champlin, Beth Ann Williams, Stephen Williams, Tomma Guastafarro, Diane Samuel, Julie Edelson and her family also participated.

On Saturday, October 1, as *RSVP: Reynolda Hall Supports Victor Pauca*, Centers of Excellence staff were delighted to participate in a 5K walk/run to draw attention to, and raise money for, Pitt Hopkins Syndrome. As you may know, Associate Professor of Computer Science Paúl Pauca's son Victor, Computer Science and Mathematics Professor Bob Plemmons's grandson, is one of only a few hundred people

in the world diagnosed with this condition. Victor's family teamed with others to create a Google support group that has grown into an international resource that informs parents about inaccuracies in the medical literature, which is based on a few severe cases and does not account for individual variation. Now, the combined

knowledge of families and recent research results show that PTHS children can be creative, vibrant, and continue to learn in spite of their varying disabilities.

The Pitt Hopkins Syndrome Fund, created a year and a half ago by Paúl and his wife Theresa under the Winston-Salem Foundation, is preparing its first call for proposals and has raised ~\$30K, with the hope of leveraging matching funds. Paúl is investigating sponsors who will support his innovations in assistive technology. ORSP and

the entire Wake Forest community have his back.

Finally, the Reynolda team *Hit the Bricks* in the campus-wide initiative for the Brian Piccolo Cancer Fund Drive. We came in 3<sup>rd</sup> place for staff/faculty!

We look forward to teaming with you in the near future.

INSIDE

OUTSTANDING PROJECT PROFILE 3

IRB NEWS 5

FACULTY FUNDED PROPOSALS 6-7



WAKE FOREST  
UNIVERSITY

## COS INTRODUCES PIVOT

Community of Science (COS) has integrated its two most popular features, Funding Opportunities and the profile databases Scholar Universe and COS Expertise, in a new utility called Pivot, available at <http://pivot.cos.com> or from the ORSP website, <http://www.wfu.edu/rsp/funding>. Pivot provides access to over \$33 billion in funding opportunities and identifies researcher expertise from within or outside Wake Forest. Your current COS log in and password should still work, and if you are not yet registered, go to the upper right corner and click on *login*. At the orange screen requesting *login* and *password*, click on *log in help*; then click on *create your account*.

Recorded webinars on using Pivot can be found here: <https://refworks.webex.com/refworks/onstage/g.php?p=4&t=m>.

The search function remains essentially the same. Click on *search for funding opportunities* and when you see a bar that asks for a search term by text or sponsor, put in a specific keyword. At the next screen, click on *refine your query* and on the next screen, *more search attributes*. You can retain or even remove whatever word you just keyed under *all fields* but make sure the radio button for *match all fields* is filled.

Go to the *keywords* and browse to see what Pivot calls your field or how broadly you have to conceive the project to find the terms that encompass it. If you know where you will conduct the project, note *activity location*; if you're a *US citizen or permanent resident*, note that as well, so you won't have to slog through, say, UK programs for which you are ineligible.

You may click on several *funding types*. At *requirements*, specify PhD/MD/Other Professional and Academic Institution.

You are also welcome to contact Julie Edelson, [edelsonjb@wfu.edu](mailto:edelsonjb@wfu.edu), to run your search.

## NSF DEADLINE CHANGES: BIOLOGICAL SCIENCES

Proposals to the NSF Directorate of Biological Sciences (BIO) have increased 43% over the last decade, while awards decreased 11% from 28% to 17%. To cope with the increased volume, BIO has changed its submission procedures for most, but not all, of its core programs.

The Division of Molecular and Cellular Biosciences (MCB), Division of Environmental Biology (DEB), and Division of Integrative Organismal Systems (IOS) will accept preliminary proposals in January.

Following external review, each applicant will be notified of a binding decision to Invite or Not Invite submission of a full proposal. Investigators may only submit 2 preliminary proposals a year, whether as PI, co-PI, or lead senior investigator on a subaward. For full details, see [http://www.nsf.gov/publications/pubsumm.jsp?ods\\_key=nsf11079](http://www.nsf.gov/publications/pubsumm.jsp?ods_key=nsf11079).

## ROUTING FORMS FOR EXTERNAL FELLOWSHIP APPLICATIONS

Faculty applying to external sources for fellowships must complete and submit an External Fellowship Routing Form to the department chair or program director. The department chair, or program director, will sign and forward the routing form along with a completed Leave Replacement Form to the Associate Dean for Faculty Development. See [http://college.wfu.edu/engagement/faculty\\_funding.html](http://college.wfu.edu/engagement/faculty_funding.html).

## GETTING PERSONAL

from *Grantseeker Tips*, 311 (10 May 2011).

In January 2010, the National Institutes of Health (NIH) revised biosketch guidelines to include a mandatory personal statement. The advice is terse: "Briefly describe why your experience and qualifications make you particularly well-suited for your role (e.g., PD/PI, mentor, participating faculty) in the project that is the subject of the application."

As a result, many statements either rehash material from the narrative, boast, or apologize.

A better approach might be a 3-paragraph statement, at least one-half page long, with subheadings as follows.

- **Proposal Goal.** A sentence or two overview of the project's ultimate goal and your place in it.
- **Relevant Experiences.** Note your experience in all relevant areas: administrative, collaborative, field-work, international, mentoring, teaching, as well as research. If you have worked with your collaborators before, describe the process and outcomes.
- **Leadership Qualifications.** Describe why your experiences qualify you for your project role. If you are the Principal Investigator (PI), note how you have developed the administrative skills necessary to manage large-scale projects and collaborations, to make decisions, set priorities, and carry out plans. Your communication skills motivate others to achieve.

NIH biosketch guidelines in the updated (March 25, 2011) SF424 R&R instructions are available at [http://grants.nih.gov/grants/funding/424/SF424\\_RR\\_Guide\\_General\\_Adobe\\_VerB.doc](http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_General_Adobe_VerB.doc).

# OUTSTANDING PROJECT PROFILE



Stephen Messier, Professor of Health and Exercise Science and Director of the J.B. Snow Biomechanics Laboratory, has been at Wake Forest for 30 years and has 22 years' experience in clinical trials related to knee osteoarthritis (OA). All of them are large team efforts supported by funding from the National Institutes of Health and other

sources. This year, he completed a 5-year randomized clinical trial and was awarded two new NIH grants.

The *Intensive Diet and Exercise for Arthritis (IDEA)* trial was designed to test whether intensive weight loss, either with or without exercise, would reduce pain and improve function compared to an exercise-only control group in older, overweight and obese adults with symptomatic knee OA. The 454 participants were randomized to one of three 18-month interventions: intensive dietary restriction-only (D); intensive dietary restriction-plus-exercise (D+E); or exercise-only control (E). The weight loss goal for the two diet groups was  $\geq 10\%$  of baseline body weight, and the exercise intervention consisted of low-to-moderate intensity walking and resistance training 3 days a week for 1 hour a day. The trial showed that intensive weight loss with excellent long-term retention is possible in this population and, when combined with low-to-moderate intensity exercise, results in  $\sim 50\%$  reduction in pain and significantly improved function and mobility. These data indicate that the best recommendation for long-term symptom reduction in overweight and obese persons with knee OA is intensive weight loss combined with low-to-moderate intensity exercise. The Wake Forest University Pepper Center, with a grant from NIH, is funding a follow-up study of the first 150 participants to see how they are doing 2-3 years later.

Second, the *Strength Training and ARthritis Trial (START)*, with **Shannon Mihalko, Associate Professor of Health and Exercise Science**, and an international team that includes a strong link to the Medical School, examines the efficacy of high-intensity strength training in improving symptoms, slowing progression, and affecting the underlying mechanisms of thigh muscle weakness in 372 older adults with knee OA. This strategy has not been examined due to the unsubstantiated belief that it might exacerbate symptoms, but preliminary data showed excellent tolerance for the training as well as reduced pain and increased function. The study is innovative in three ways: it tests the

efficacy of an 18-month, high-intensity strength training protocol suitable for an older population with knee OA; it measures both clinical (pain, function) and mechanistic (knee joint loads, inflammation) outcomes; and it aims to identify a nonpharmacologic therapy that can improve clinical symptoms and slow disease progression with minimal adverse effects. Results will provide critically needed guidance for clinicians in a variety of health professions who prescribe and oversee treatment and prevention of OA-related complications.

Dr. Messier is also principal investigator of The Runners and Injury Longitudinal Study (TRAILS), first funded by the United States Army Research Office (ARO) in 2010. This prospective observational study aims to determine the biomechanical, behavioral, and physiologic risk factors for runners who sustain the most common overuse injury. It monitors the training and injury status of 200 noninjured runners over 12 months. All were free of discomfort from a previous injury for at least 6 months. The goal is to design interventions to reduce these injuries and to rehabilitate injured runners.

## OUTSTANDING ORSP ACHIEVEMENTS

**Director Lori Messer** was recently elected to serve for 3 years on the Board of Directors of the Research Administrators Certification Council. The council was formed in 1993 as an independent nonprofit organization, composed of active certified research administrators, to assure that an individual, through experience and testing, has the fundamental knowledge necessary to be a professional research or sponsored programs administrator.

**Diane Samuel, Associate Director**, has met the requirements of the Research Administrators Certification Council and demonstrated her mastery of the body of knowledge necessary to be a Certified Research Administrator (CRA). It includes four broad areas: Project Development and Administration; Legal Requirements and Sponsor Interface; Financial Management; and General Management.

Both reflect ORSP's commitment to professional service and going above and beyond for Wake Forest research.

## CHECK IT OUT

Visit the Winston-Salem Chamber of Commerce Technology Council's blog, [winstontechsalem.blogspot.com](http://winstontechsalem.blogspot.com), to find out what's happening and let others know what's happening in the arts, business, and science of regional technology.

# FACULTY BOOKS

## March through August

### COMMUNICATION

Mitra, Ananda. *Needs Assessment: A Systematic Approach to Data Collection*. Sagamore Publishing, 2011.

Rogan, Randall, et al. *Framing Matters: Perspectives on Negotiation Research and Practice in Communication*. Peter Lang, 2011.

### COUNSELING

Gladding, Samuel.

- *The Creative Arts in Counseling*, 4<sup>th</sup> ed. American Counseling Association, 2010.
- *Groups: A Counseling Specialty*, 6<sup>th</sup> ed. Prentice Hall, 2011.

### DIVINITY

Leonard, Bill J., and William Latane Lumpkin, eds. *Baptist Confessions of Faith*, 2<sup>nd</sup> rev. ed. Judson Press, 2011.

### EDUCATION

Cunningham, Patricia.

- *What Really Matters in Spelling: Research-Based Strategies and Activities*. Pearson Education, 2011.
- Dorothy Hall, and James Cunningham. *Comprehension during Guided, Shared and Independent Reading*. Carson-Dellosa, 2011.

Milner, Joseph, et al. *Bridging English*, 5<sup>th</sup> ed. Allyn & Bacon/Pearson, 2011.

### ENGLISH

Galow, Timothy. *Writing Celebrity: Stein, Fitzgerald, and the Modern(ist) Art of Self-fashioning*. Palgrave Macmillan, 2011.

Rapaport, Herman. *Literary Theory Toolkit: A Compendium of Concepts and Methods*. Wiley-Blackwell, 2011.

Richard, Jessica. *The Romance of Gambling in the Eighteenth-Century British Novel*. Palgrave Macmillan, 2011.

Wilson, Eric. *My Business Is to Create: Blake's Infinite Writing*. University of Iowa Press, 2011.

### HISTORY

Michele Gillespie, et al., eds. *Southern Society and its Transformations, 1790-1860*. University of Missouri Press, 2011.

### LAW

Epstein, David, and Steve Nickles. *Bankruptcy Code and Related Source Materials, 2011-2012*. West, 2011.

Green, Michael, et al. *Tort Law and Alternatives, Cases and Materials*, 9<sup>th</sup> ed. Foundation Press, 2011.

Hall, Mark A., et al. *Health Care Law and Ethics in a Nutshell*, 3<sup>rd</sup> ed. West Group, 2011.

Miller, Marc, and Ronald Wright.

- *Criminal Procedures: Cases, Statutes, and Executive Materials*, 4<sup>th</sup> ed. Aspen Publishers/Wolters Kluwer, 2011.
- *Criminal Procedures: Prosecution & Adjudication*, 4<sup>th</sup> ed. Aspen Law/Wolters Kluwer, 2011.
- *Criminal Procedures: The Police: Cases, Statutes and Executive Materials*, 4<sup>th</sup> ed. Aspen Law/Wolters Kluwer, 2011.

Palmiter, Alan. *Securities Regulation*, 5<sup>th</sup> ed. Aspen Publishers, 2011.

### MUSIC

Locklair, Dan. *WINTER (from the forgottens[sic])*. Subito Music, 2011.

### POLITICAL SCIENCE

Coates, David. *Making the Progressive Case: Towards a Stronger U.S. Economy*. Continuum, 2011.

Fisher, Louis, and Katy Harriger. *American Constitutional Law*, 9<sup>th</sup> ed. Carolina Academic, 2011

### RELIGION

Moore, Megan Bishop, and Brad Kelle. *Biblical History and Israel's Past*. Eerdmans, 2011.

Whitaker, Jarrod. *Strong Arms and Drinking Strength: Masculinity, Violence, and the Body in Ancient India*. Oxford University Press, 2011.

### SCHOOLS OF BUSINESS

Fogel, Daniel, et al. *The Law and Politics of Sustainability*, vol. 3, *Berkshire Encyclopedia of Sustainability*. Berkshire, 2010.

Duchac Jonathan, et al.

- *Accounting Using Excel for Success*, 2<sup>nd</sup> ed. South-Western, 2011.
- *Corporate Financial Accounting*, 11<sup>th</sup> ed. South-Western, 2011.
- *Financial Accounting*, 12<sup>th</sup> ed. South-Western, 2011.
- *Financial and Managerial Accounting*, 11<sup>th</sup> ed. South-Western, 2011.
- *Financial and Managerial Accounting Using Excel for Success*. South-Western, 2011.
- *Managerial Accounting*, 11<sup>th</sup> ed. South-Western, 2011.

Eun, Cheol, and Bruce Resnick. *International Financial Management*, 6<sup>th</sup> ed. McGraw-Hill, 2011.

### SOCIOLOGY

Brown, Hana, et al. *Writing Guide for Sociology*, 2<sup>nd</sup> ed. [Electronic book]. UC Berkeley, 2011.

Roberts, Keith, and **David Yamane**. *Religion in Sociological Perspective*, 5<sup>th</sup> ed. Pine Forge Press/SAGE, 2011.

Soares, Joseph, ed. *SAT Wars: The Case for Test-Optional Admissions*. Teachers College Press. 2011.

# INSTITUTIONAL REVIEW BOARD (IRB)

The Institutional Review Board is tackling several projects to improve human subject protection processes.

## OFFICE HOURS FOR NEW STUDENT INVESTIGATORS

First, building on the well-established outreach sessions conducted annually with Psychology and Education graduate students, the IRB will hold “office hours” during which new student investigators can come for individualized assistance with their eIRB applications. The goal is to decrease the number of concerns that require study team responses and back-and-forth actions with reviewers and reduce the turnaround time from application submission to approval.

## REVISED eIRB FORMS FOR REYNOLDA RESEARCH

Second, WFU investigators can look forward to the most significant change to the IRB process since eIRB was launched in 2007. We are working with eIRB programmers at the School of Medicine to extensively revise the application’s Smart Forms to more closely align with Reynolda campus research activities yet remain compliant with applicable regulations, laws, and policies. Changes will address areas where common errors occur and incorporate suggestions collected over the past five years from users, reviewers, and administrators. Providing clear guidance and examples pertinent to the predominantly social, behavioral, and educational research submitted by Reynolda investigators is a priority. Careful siting of help features within the application will make the process more user-friendly. Eliminating redundancy will provide fewer opportunities to enter inconsistent information and save investigators’ and reviewers’ time. Testing the new and improved application is scheduled for December, with implementation to begin in January 2012.

## CHECKLIST FOR EXPEDITED REVIEW

As part of ongoing Continuing Education efforts, the IRB recently began using a checklist for evaluating expedited applications. The tool was adapted from a

checklist imbedded in the eIRB full board review process. Expedited applications by definition entail “no greater than minimal risk” for subjects and although the regulations allow these reviews to be carried out by a single board member, all the requirements of full board review found in the Common Rule must be fulfilled. We anticipate that use of the checklist will improve the efficiency and consistency of reviews by targeting the specific criteria for approval found in the regulations. Next steps include development of a similar tool for IRB administrator reviews and investigator guidance based on the checklists.

## RESPONSIBLE CONDUCT OF RESEARCH REMINDER

Principal Investigators of National Science Foundation (NSF) grants are reminded that all staff and students paid by NSF grant funds must complete training in the responsible conduct of research.

Training requirements vary by role. For example, graduate students must complete the on-line CITI course in research conduct and enroll in GRAD707. Undergraduate students must also complete the CITI course and attend a one-hour workshop offered in the spring or summer semesters.

Although there is no deadline for completing the training, it should be done as soon as possible after the student/staff begin working on the project.

NSF requires institutions to certify that they will provide RCR education beginning with proposals submitted on or after January 4, 2010. The Responsible Conduct of Research Education Plan for the Reynolda Campus can be found at <http://www.wfu.edu/rsp/RCR.html>. For more information, please contact ORSP.

## COMPLIANCE HOTLINE

Call 1-877-880-7888 or email [www.tnwinc.com/Reportline/International/](http://www.tnwinc.com/Reportline/International/) to report suspected violations of laws, regulations, rules, policies, procedures, ethics, or other information anonymously. The operator, who is not a university employee, will report your concerns to the University Compliance Office.

# FUNDED FACULTY RESEARCH

March through September 2011

## BIOLOGY

David Anderson

- *Dissertation Research: Genetic Basis for Maltreatment of Young in a Bird*, National Science Foundation (NSF), \$14,974
- *Population Size of Blue-Footed Boobies in Galapagos*, Galapagos Conservancy, \$140,343

William E. Conner, *Acoustic Aposematism, Mimicry, and Sonar Jamming in the Bat-Moth Arms Race*, NSF, \$100,000

Allen Daniel Johnson, *BioBook*, Educause, \$249,348

Gloria Muday, *Arabidopsis 2010 Project Collaborative Research: Modeling Biological Networks in Arabidopsis through Integration of Genomic, Proteomic, and Metabolomic Data*, NSF, \$296,259

Wayne Silver, with Susan Fahrback, *Undergraduate Neuroscience Training Cooperative between WFU and WSSU*, National Institutes of Health (NIH), \$202,484

William K. Smith, *Collaborative RUI: Effects of Contrasting Cloud Regimes on Plant Carbon/Water Relations at Treeline*, NSF \$48,455

## CENTER FOR NANOTECHNOLOGY & MOLECULAR MATERIALS

David Carroll, **PHYSICS**, *PF-DT WOLED Development*, CeeLite Technologies, LLC, \$112,000

## CHEMISTRY

Rebecca Alexander, *Dissecting Catalytic Features of Diverse Methionyl-tRNA Synthetase Enzymes*, NSF, \$173,670

Ulrich Bierbach, *Novel DNA-Metalating Hybrid Anticancer Agents*, NIH, \$223,135

Patricia Dos Santos, *CAREER: Target Specificity of Cysteine Desulfurase in Bacillus subtilis*, NSF, \$164,459

Angela King, *Project SEARCH*, Wake Forest Baptist Health (WFBH), \$3,954

S. Bruce King, *Targeted Nanoparticles for Kidney Cancer Therapy*, Army Research Office (ARO)/WFBH, \$25,000

Abdou Lachgar

- *Design and Synthesis of Metal-Organic Materials for Selective Tobacco Smoke Filtration and Waste Water Purification*, RJ Reynolds Tobacco Company, \$153,060
- *Efficient Biodiesel Production from Inexpensive Feedstock*, North Carolina Biofuels Center, \$141,665

## COMMUNICATION

Allan Loudon, with Alessandra Beasley von Burg, *Benjamin Franklin Transatlantic Fellows Summer Institute*, US Department of State (DOS), \$250,000

## COMPUTER SCIENCE

Jacquelyn Fetrow, **PHYSICS**, *Integrin Function in Cartilage*, NIH/WFBH, \$1,459

Errin Fulp, *Leap Ahead*, Pacific Northwest National Laboratory, \$54,000

Victor Paúl Pauca, with Robert Plemmons, **MATHEMATICS**, *Challenging Ocular Image Recognition*, Intelligence Advanced Research Projects Activity (IARPA)/Carnegie Mellon University, \$118,630

Robert Plemmons, **MATHEMATICS**, Supplement to *Novel Imaging Tools for Improved Space Objective Identification*, Air Force Office of Scientific Research (AFOSR)/University of New Mexico, \$20,000

## DIVINITY

Jill Crainshaw

- with Amy Russell, *Worship Renewal: One Body, Many Gifts*, Calvin Institute of Christian Worship, \$11,000
- with Mark Jensen, *Christian Hospitality and Pastoral Practices in a Multifaith Society*, Association of Theological Schools, \$4,850

## ECONOMICS

Michael Lawlor, *HELP PD II*, NIH/WFBH, \$2,976

## EDUCATION

Adam Friedman, *What Does This Source Mean?*, Library of Congress/Waynesburg University, \$20,000

## ENGLISH

Claudia Kairoff, *Anne Finch: A Critical Edition and Digital Archive*, National Endowment for the Humanities (NEH)/UNC-Greensboro, \$37,551

## GRADUATE SCHOOL

Lorna Moore, *Graduate Research Fellowship Program*, NSF \$47,550

## HEALTH & EXERCISE SCIENCE

Michael J. Berry, *Standardized Rehabilitation for ICU patients with Acute Respiratory Failure*, NIH, \$99,563

Peter H. Brubaker, *Neural Cardiac Therapy for Heart Failure*, Guidant Europe NV, \$76,250

Anthony Marsh

- *Demo II: Loss of Adipose Tissue and Physical Function Responses to Exercises*, NIH/WFBH, \$93,637
- *Gene Therapy in Canine X-linked Myotubular Myopathy*, AFM, \$3,859; MDA/WFBH, \$3,859
- *Co-Core Leader for Clinical Research in Pepper Center*, NIH/WFBH, \$12,419

Stephen Messier

- *Intensive Diet and Exercise in Arthritis (IDEA) Follow-up Study*, NIH/WFBH, \$25,000
- with Shannon Mihalko, *Strength Training and Arthritis Trial (START)*, NIH, \$618,997

# FUNDED FACULTY RESEARCH

March through September 2011, continued

Jack Rejeski

- with Gary D. Miller, *Look Ahead*, NIH/WFBH, \$23,585
- *Intervening on Spontaneous Physical Activity to Prevent Weight Regain in Women*, NIH/WFBH, \$33,130
- *Co-Core Leader for Clinical Research in Pepper Center*, NIH/WFBH, \$21,455

## HUMANITIES

David Phillips, *Wake Forest University Humanities Institute*, NEH, \$75,000

## INNOVATION, CREATIVITY, & ENTREPRENEURSHIP PROGRAM

William E. Conner, **BIOLOGY**, *Wake Forest Innovation Fellows Program*, National Collegiate Inventors & Innovators Alliance, \$29,000

## MATHEMATICS

Ellen Kirkman, *Invariant Theory of Artin-Schelter Regular Algebras*, Simmons Foundation, \$7,000

Frank Moore, *Intensive Workshop for Macaulay2 Package Development*, National Security Agency (NSA), \$12,050

Robert Plemmons, **COMPUTER SCIENCE**, Supplement to *Novel Imaging Tools for Improved Space Objective Identification*, AFOSR/University of New Mexico, \$20,000

## PHILOSOPHY

Christian Miller, with William Fleeson and R. Michael Furr, **PSYCHOLOGY**, *The Character Project: Additional Funds for Psychology RFP*, Templeton Foundation, \$508,403

## PHYSICS

Keith Bonin, *Cell Mechanics and Protein Mobility during Neoplastic Transformation*, NSF, \$400,000

David Carroll, *Nanotubes in Tumor Imaging and Therapy*, NIH/WFBH, \$20,250

Jacquelyn Fetrow, **COMPUTER SCIENCE**, *Integrin Function in Cartilage*, NIH/WFBH, \$1,459

Natalie A. Holzwarth, *First Principles Simulations of Battery Materials*, NSF, \$200,000

Oana Jurchescu

- *Patterning Organic Thin-Film Transistors by Differential Microstructure*, NSF, \$330,000
- *Nondestructive Deposition of Electrical Contacts on Organic Semi-conductors*, National Institute of Standards and Technology (NIST), \$126,741
- *High-conductivity in Binary Organic Single Crystals for Electronic Applications*, NSF/UNC, \$54,696

Daniel B. Kim-Shapiro

- *Activity of Myoglobin as a Nitrate Reductase that Regulates Hypoxic NO*, NIH/University of Pittsburgh, \$26,674

- with S. Bruce King, **CHEMISTRY**, *Effects of Nitric Oxide in Sickle Cell Blood*, NIH, \$345,112
- *Storage Lesions in Banked Blood due to Disruption in NO Homeostasis*, NIH/University of Pittsburgh, \$133,378
- *Role of Nitrite Reduction to NO by Hemoglobin in Control of Fetal Vascular Tone*, NIH/Loma Linda University Adventist Health and Science Center, \$32,880

Freddie Salsbury

- *Targeting the MSH2-dependent Apoptotic Pathway*, NIH, \$14,631
- *Targeted Approach to Treatment Resistance in Advanced Prostate Cancer*, Department of Defense, \$27,422
- *Computational Biosciences from the Cancer Center Support Grant*, NIH/WFBH, \$10,273

Timo Thonhauser, *Novel Theoretical and Experimental Approaches for Understanding and Optimizing Hydrogen-sorbent Interactions in Metal Organic Framework Materials*, Department of Energy (DOE)/University of Texas-Dallas, \$104,852

Richard T. Williams

- *Quantifying Recombination Dynamics in Sr<sub>2</sub>:Eu<sup>2+</sup> with Material Variations*, National Nuclear Security Administration/Fisk University, \$150,000
- *fs Laser Studies of Scintillation Processes and Materials*, DOE/Regents of the University of California, \$38,343

## POLITICAL SCIENCE

Luis Roniger, *Exile, Transnational Migration, and the Transformation of Public Culture: Argentina, Chile, Uruguay, and Paraguay*, Bi-national Science Foundation, \$7,360

## PSYCHOLOGY

William Fleeson, with R. Michael Furr, *Integrating Process and Structure in Borderline Personality Disorder*, NIH, \$28,344

R. Michael Furr, *Binge Drinking: Individual Differences in the Capacity to Alter Drinking Patterns*, NIH/University of Texas Health Science Center at San Antonio, \$13,843

Lisa Kiang, with Terry Blumenthal, *Physiological Reactivity to Discrimination among African, Asian, and Latin American Youth*, American Psychological Foundation, \$17,117

Eric Stone, *Aggregative Contingent Estimation System (ACES)*, IARPA/Applied Research Associates, \$49,929

## ROMANCE LANGUAGES

Jerid Francom, *ACIV-ES: A Novel Spanish-language Corpus for Linguistic and Cultural Comparisons*, NEH, \$25,000

## WFDD

Denise Franklin

- Public Telecommunications Facilities Program, \$33,893
- *NCME American Graduate Community Engagement Grant*, Corporation for Public Broadcasting, National Center for Media Engagement, \$10,000

---

**LORI MESSER**  
Director  
336/758-4910  
messerlj@wfu.edu

**PAM MOSER**  
Associate Director for Faculty Research Compliance  
and Support  
336/758-5195  
[moserpc@wfu.edu](mailto:moserpc@wfu.edu)

**DIANE SAMUEL**  
Associate Director  
336/758-4228  
[samueld@wfu.edu](mailto:samueld@wfu.edu)

**STEPHEN WILLIAMS**  
Assistant Director  
336/758-4909  
[williasl@wfu.edu](mailto:williasl@wfu.edu)

**JULIE EDELSON**  
Researcher, Editor  
336/727-0464  
[edelsojb@wfu.edu](mailto:edelsojb@wfu.edu)

**SUSAN EDWARDS**  
Coordinator, Research Services  
336/758-4189  
[edwardss@wfu.edu](mailto:edwardss@wfu.edu)

**MARIKO WEAVER**  
Student Assistant

**DEBORAH LUESSEN**  
Student Assistant

**Research  
News**



**WAKE FOREST**  
UNIVERSITY

Office of Research and Sponsored Programs