

Annual Report 2009-2010
Office of Research and Sponsored Programs



WAKE FOREST
UNIVERSITY



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MISSION

Wake Forest University's Office of Research and Sponsored Programs assists the Vice-Provost in building faculty research programs of nationally recognized excellence. Our mission is to assist faculty in their pursuit and management of sponsored activities; to encourage and to support ethical research achievement, especially involving human subjects, in compliance with all relevant laws and regulations; to protect the university's interests; and to acknowledge and publicize faculty distinction.

CREDITS

The Office of Research and Sponsored Programs gratefully acknowledges Ken Bennett's photographs.

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From the Vice-Provost

Dear Colleagues,

The 2009-2010 fiscal year was an unprecedented success for Wake Forest University research and creative work in a number of ways. For the first time, external dollars awarded to support research surpassed 10 million dollars, and the \$14.3 million total awarded is over 60 percent more than in any previous year. Our faculty received six separate awards from the National Endowment for the Humanities. We had never received more than one NEH award in a single year previously. The largest award in the history of the institution for a project led by a humanities faculty member was received from the Templeton Foundation. The Center for Bioethics, Health, and Society and the Translational Science Center were launched under our new strategic plan. On the pages that follow, you will find information about their work; comprehensive data about proposal activity reported by sponsor and department; and stories on a few featured projects and fellowships awarded to our faculty.

As many of you know, such a year could not have happened without the hard work of our staff in the Office of Research and Sponsored Programs. Lori Messer, Pam Moser, Stephen Williams, Julie Edelson, and Susan Edwards go above and beyond the call of duty to encourage and to help faculty submit proposals successfully. In a year that required quick response to calls for proposals under the American Recovery and Reinvestment Act (ARRA), the federal stimulus funding initiative, this was doubly true. This report provides quantitative information about the variety of activities ORSP staff conduct every year and how we invest our internal funds to help faculty research and creative work.



Thanks again for all of the hard work you do to obtain external support on behalf of Wake Forest University.

Sincerely,

Mark E. Welker
Vice-Provost

Outstanding Projects



Education Professor **Leah McCoy** and **Angela King**, Senior Lecturer in Chemistry, were awarded \$893,753 over 5 years from the National Science Foundation's Robert Noyce Teacher Scholarship Program. *WINS, Wake Innovative Noyce Scholars*, will aggressively recruit undergraduate Biology, Chemistry, Mathematics, and Physics majors and professionals in these fields, seeking a diverse cohort in terms of both disciplinary concentration and demographics. Recruitment sites will include HBCUs and women's colleges. Eight candidates each year will receive full tuition and a stipend to participate in a 13-month program leading to teacher licensure in a STEM field (grades 9-12) and a Master's in Education. The program will include extensive study of the teaching and learning process, based on best-practices research and focusing on

content, pedagogy, diversity, and leadership.

Graduates will be required to teach for two years in a high-need school, supported by electronic mentoring through email, discussion boards, and blogs; two annual on-campus seminars; and financial support to attend professional conferences.

The program will produce annual cadres of committed, innovative, effective STEM teachers, who will stimulate and guide future generations. WIN scholars will maximize the science and mathematics achievement of students in high-need schools and serve as models for other teachers. Project results, including analysis, conclusions, and reflections, will be disseminated in presentations and publications as a national model for improving teacher education and retention in STEM fields.

WINS builds on the 20-year success of the Wake Forest Master Teacher Fellows program, directed by Dr. McCoy. Her research has been supported by the Spencer Foundation, among other sources. Dr. King has earned successive extramural funding to promote teacher professional development and student learning in science and math.

"Studies show that the teacher is the most important factor in whether or not students achieve," Dr. McCoy said in a *Window on Wake Forest* interview. Dr. King added, "Any impact a person can have . . . in their professional field is amplified by teaching through a ripple effect. It's a chance to change the prevailing social attitude. Meet an adult who cannot read the newspaper, and we are shocked. Meet an adult who doesn't understand probability



Leah McCoy



Wayne Silver



Susan Fahrbach

or statistics, and most of us don't think a thing of it. Ignorance in math and science is considered acceptable in our culture—especially for women—even though these disciplines are equally important to being a productive member of society. Teachers have an opportunity to change this.”

In Biology, Professor **Wayne Silver** and Reynolds Professor of Neuroscience **Susan Fahrbach**, with co-PI Dr. Azeez Aileru at Winston-Salem State University, won 5 years' support for an *Undergraduate Neuroscience Training Cooperative between Wake Forest University and Winston-Salem State University* from the National Institutes of Health.

The goal is to encourage and to prepare underrepresented minorities to pursue careers in neuroscience by making the

undergraduate neuroscience minor at Wake Forest available to students at Winston-Salem State, a historically black institution. Although WSSU has several research neuroscientists, its curriculum has no neuroscience-related courses, and its students lack the training or experience to explore neuroscience when they consider postgraduate study or careers.

The new cooperative arrangement builds on a developing relationship in the life sciences between WFU and WSSU, reflected in the School of Medicine's participation in WSSU's Biomedical Research Center and Research Infrastructure in Minority Institutions programs. It is innovative in its focus on undergraduates. WSSU students will be able to take courses in WFU's undergraduate neuroscience minor and conduct research with

neuroscientists at WFU, WSSU, or WFU School of Medicine. They will be paired with mentors in the WFU Graduate Neuroscience Program and attend a Society for Neuroscience annual meeting to get a clear idea of the potential for satisfying careers in the field.

The project will also train a postdoctoral fellow for a career in teaching and research. The fellow, who will be supported by funds from Wake Forest University, will assist faculty in coordinating neuroscience courses and conduct research in a WSSU neuroscience laboratory, which will have the added benefit of advancing the WSSU researcher's career.

This opportunity will enable WSSU undergraduates already interested in neuroscience to take concrete steps to achieve their professional goals, but it will also attract students to neuroscience

Outstanding Projects



William Fleeson



Cynthia Gendrich



Christina Tsoules Soriano

who might otherwise be excluded. Diversifying the WFU neuroscience minor will have immediate and long-term benefits for all involved.

Psychology Professor **William Fleeson**, Associate Professor **R. Michael Furr**, and **Elizabeth Arnold**, Associate Professor of Psychiatry and Behavioral Medicine at the Wake Forest University School of Medicine were awarded five years' support from the National Institutes of Health for *Integrating Process and Structure in Borderline Personality Disorder*. Borderline Personality Disorder (BPD), often considered chronic and untreatable, is a serious mental illness, associated with severe personal distress, suicide, interpersonal instability, and significant costs to society. Two problems impede diagnosis and treatment. First, there is no direct,

empirical knowledge about symptom expression levels in either a normal or abnormal population, making it difficult for clinicians to determine whether symptoms qualify for diagnosis, are being effectively treated, or have been reduced to healthy levels. Second, the processes underlying BPD and associated problems are largely unknown. This project's innovative approach measures actual behavior, rather than relying on retrospective questionnaires, and explores behavioral variations to identify underlying mechanisms.

Theater Professor **Cynthia Gendrich** won support from the NEH Enduring Questions program to develop a First-Year Seminar that asks, "Why do people laugh?" The *why* aims to examine both the utility of laughter, psychologically, physically, and socially, and what

makes us laugh. Laughter has been studied for thousands of years as a telling gauge of social rules, preoccupations, and attitudes toward, and critiques of, nearly every aspect of culture. It has also been hailed as a marker of good psychological health and a factor in physical well-being. Core readings in comic theory as well as comic plays and novels will be supplemented by materials from psychology, physiology, religion, the visual arts, and music. By exploring this topic in a multi- and predisciplinary way, students will sharpen their critical faculties, look beyond disciplinary boundaries, begin to see the layers in a deceptively simple subject, and learn to understand and hopefully enjoy the detective work that all good scholars and thinkers require.

Christina Tsoules Soriano, Assistant Professor of Dance, will consult with Dr. Glenna Batson, Winston-Salem State University, on *Effect of Modern Dance on Balance and Mobility in a Group of Adults with Early-to-Middle Stage Parkinson's Disease*, funded by a grant from WSSU. This pilot study is designed to measure the outcome of a 2-week intensive modern dance trial on long-term mobility, balance, and balance confidence in a group of adults with early-to-middle stage Parkinson's disease. Dance content will include rhythmic accompaniment to movements based on functional everyday activities – sitting, standing, and walking. Clinical measures of balance and mobility will be taken immediately before and after the study. Dr. Soriano will lead the dance class.

At the **Translational Science Center** (<http://ctsfh.wfu.edu/>), researchers in biology, chemistry, health and exercise science, medicine, physics, physiology, and psychology integrate their expertise to elucidate why certain clinical and community-based interventions targeting physical

and cognitive health in the aging are effective and how they can be improved. In addition to supporting four pilot research projects, it is initiating a junior scholars program; working with the graduate program in Molecular Medicine and Translational Science at the School of Medicine; developing a translational science minor for undergraduate students and a

“Studies show that the teacher is the most important factor in whether or not students achieve.”

- Dr. Leah McCoy

summer program for undergraduate research fellows from Wake Forest and Winston-Salem State University; and hosting seminars by visiting scholars.

The Center for Bioethics, Health, and Society (<http://bioethics.wfu.edu/>) believes that Wake Forest has a responsibility to ensure that the ethical challenges inherent in providing healthcare, formulating health policy, conducting scientific research, and marketing its discoveries are widely understood and addressed. It brings together faculty, students, and staff in

philosophy, religion, the life sciences, social sciences, health economics, arts and humanities, and the professions—law, medicine, business, and divinity—with other regional and national stakeholders. It aims to encompass the social and cultural contexts of bioethics research and scholarship from theory to policy to practice.

At professional development seminars, faculty discuss current topics, readings, works in progress, and new directions. CBHS makes small grants to new, multi-disciplinary research and curricular efforts and offers advice and assistance in drafting proposals. It hosts a Visiting Scholar Program and draws from the Graduate Student Assistantship Program created by the Master in Bioethics program. It conducts public educational activities, including national and local conferences. It supports student projects and bioethics course development at the undergraduate and graduate levels. It is working to form a consortium across Alabama, Florida, Georgia, North and South Carolina, Tennessee, and Virginia to pool resources and confront common concerns.

Fellowship Awards



Samuel Gladding

COUNSELING

Samuel Gladding, Professor and Chair, was awarded a Fulbright Specialist grant to lecture in Turkey, sponsored by Hacettepe University, from May 14 through June 12.

ENGLISH

Claudia Kairoff, Professor and Chair, and Jennifer Keith, Associate Professor of English at UNC-G, were awarded one of three annual National Endowment for the Humanities (NEH) fellowships supporting long-term residence at the Folger Shakespeare Library in Washington, DC, as well as an NEH Scholarly Editions and Translations award. They will use these resources to complete the first critical edition of *The Works of Anne Finch*, to be published in two volumes by Cambridge University Press in 2013. Of the approximately 230



Claudia Kairoff

poems and two plays known to be hers, 112 poems and both plays appear in the folio manuscript, “Miscellany Poems with Two Plays by Ardelia,” housed at the Folger. In an era known for the public and political poetry of Dryden, Swift, and Pope, Anne Finch, Countess of Winchilsea (1661-1720), articulated a different literary and political authority. Her work is crucial to placing abiding questions about politics, personal desire, spiritual ideals, and women’s artistry and experience in historical context.

HISTORY

Robert Hellyer, Assistant Professor, received an award from the Northeast Asia Council of the Association for Asian Studies with the support of the Japan-US Friendship Commission. His project explores the economic and social ramifications of Japan’s



Theresa Ventura

development of green tea as an export commodity to the US in the late 19th and early 20th centuries. During the Meiji period (1868-1912), green tea was, after silk, Japan’s most important export, with 80 to 90 percent shipped to the US. Dr. Hellyer’s interdisciplinary history offers new ways to consider how the intertwined processes of foreign trade, industrialization, and internationalization shaped primarily Japanese but also US society. Funding allows him to conduct archival research at the Japanese Ministry of Foreign Affairs Diplomatic Record Office in Tokyo.

Theresa Ventura, Assistant Professor, was awarded a Mellon/ACLS Recent Doctoral Recipients Fellowship, the second stage of the sponsor’s Early Career Fellowship Program, which supports a year’s research following



Emily Wakild

completion of the doctorate. *Empire for Reform* shows how US attempts to reconstruct Philippine agriculture produced the development economics of the post-WW II era. Assuming the tropical environment was inherently rich, administrators expected modern cultivation methods and peasant education to increase productivity. When this project failed, local resistance, environmental degradation, and interimperial dialogue convinced administrators that all tropical nature was fragile, justifying increased intervention in agricultural practice and rural life. Capital-intensive, highly technical programs to improve seeds and soils gradually bolstered new states and farmers, a process culminating in the Green Revolution.

Emily Wakild, Assistant Professor, was awarded an NEH summer stipend for *Revolutionary*



Susan Borwick

Nature Conservation in 1930s Mexico. It examines why a nation on the heels of revolutionary upheaval and in the midst of extensive reforms embraced nature conservation. Significantly revising common misconceptions about Latin America, it argues that the radical reconfiguration of society articulated in the Constitution of 1917 and the policies of President Lázaro Cárdenas (1934-1940) depended on a rational comprehension of the natural world that today might be termed *sustainability*. Half a century before the United Nations defined *sustainable development*, the Mexican government and its vocal citizenry designed an integrated conservation model that promoted both nature protection and rural development as national patrimony.



Michaelle L. Browsers

MUSIC

Susan Borwick, Professor, was awarded one-week residency at Wildacres Retreat, her second in four years. She will work on a large composition.

POLITICAL SCIENCE

Michaelle L. Browsers, Associate Professor, was awarded an NEH fellowship to study and write on *Arab Shi'i Political Thought Since 1958: A Generation's Politicization*.

“Once you learn a language, you form a tie to the place where the language is spoken and the people who speak it.”

- Dr. Michaelle Browsers

Fellowship Awards



Kendall Tarte

The work focuses on a generation of Arab Shi'i intellectuals who studied in Najaf, Iraq, in the 1960s. They went on to found some of the most important Shi'i political and social organizations in various Arab countries, particularly Lebanon. Their discourse of resistance took hold, first, in communist and socialist guises and, later, by revitalizing Islamic notions of protest and revolution and reconceptualizing authority and political agency. Dr. Browers argues that this trend differs from the understanding of Shi'i Islamism that emerged in Iran since it developed in response to the political marginalization of the Shi'i compared to other religious and ethnic groups in Arab countries and was negotiated against competing nationalist, Arab nationalist, socialist, and traditionalist discourses.

ROMANCE LANGUAGES

Kendall Tarte, Associate Professor, was awarded an NEH summer stipend for *France on the Page: Portraying the Wars of Religion*. It analyzes the inventive strategies that writers and artists used to depict places in France in books and prints during the Wars of Religion (1562-1598). This study of literary and visual style offers a new interpretation of three works: a geography, Belleforest's *Cosmographie Universelle* (1575); a contemporary history, La Popelinière's *La vraye et entiere histoire de ces derniers troubles* (1571); and a print collection, Perrissin and Tortorel's *Quarante Tableaux* (1570). Descriptions of cities and towns in geographies, local histories that narrate regional itineraries, and engravings of cities under siege and at peace signal cultural transformations and innovations in writing and print production.

Roberta Morosini, Associate Professor, was awarded a fellowship to write two chapters of her book, *Whispers of the Dove*, at the Bogliasco Center, in Liguria, Italy. The book examines representations of the prophet Muhammad

in 14th and 15th-century Italy. It starts from canto XXVIII of *The Inferno*, where Dante features a peculiar punishment for Muhammad and a Western legend, first mentioned in Vincent of Beauvais's *Speculum historiale*, that describes a malicious religious figure who, to convince the masses that Muhammad has been elected the new Moses by the Holy Spirit, trains a dove to peck at his ear. Another legend, more popular in France than in Italy, involves a bull, trained to carry the book of the new religion between its horns. *Whispers of the Dove* examines these stories and images to explore the prejudice that Christian intellectuals in Byzantium transmitted to Western Europe.

Compliance

ORSP provides administrative support to the Institutional Review Board (IRB) under 45 CFR §46. Pam Moser, Associate Director for Faculty Research Compliance and Support, maintains IRB records; facilitates communication between the IRB and researchers; coordinates meetings; updates and maintains the University's IRB policies and website; monitors training for researchers and other key personnel; provides continuing education for IRB members; and keeps the University's Federalwide Assurance (FWA) and IRB Registration current.

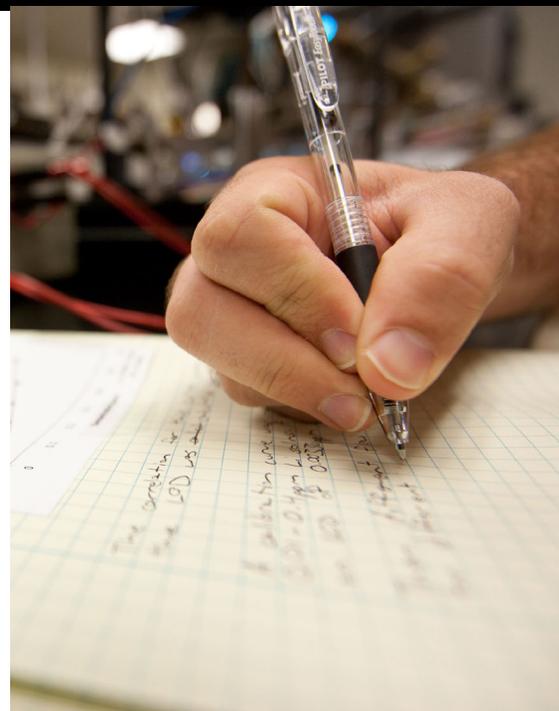
In 2009-2010, the IRB reviewed 115 new applications, a 25% decrease; specifically, in the full-board and exempt categories. A policy change allowing expedited review of minimal risk research involving children resulted in the sharp decline in full-board applications. Exempt applications declined primarily due to elimination of the research component in the Visiting International Fellows (VIF) Program and significantly fewer applications from Richter Scholars. One study was reviewed by the full board, 86 qualified

as expedited review, and 28 as exempt research. In addition, 67 amendments, 43 continuing reviews, and 5 safety events were processed. Only four "paper" protocols, submitted before electronic submissions became mandatory, were active by year's end.

Training and support for eIRB, the electronic application submission and review system, continued for individual users across campus. Group outreach efforts targeted the Psychology Graduate Program, Education Graduate Program, and Library faculty. Concerted efforts were made to improve communication and collaboration between the Reynolda and Health Sciences campuses to improve eIRB experiences for our users. Existing outreach programs continued; for example, the IRB column in ORSP's bi-annual *Research News*.

ORSP continued its oversight of potential financial conflicts of interest involving WFU research faculty. The University's Conflict of Interest Committee reviewed potential conflicts disclosed by our research faculty.

In addition, to comply with the



America COMPETES Act and the revised National Science Foundation (NSF) Proposal and Award Policies and Procedures Guide, ORSP and URECA developed and implemented a Responsible Conduct of Research training program. This important new requirement applies to undergraduate students who work in NSF-sponsored laboratories or field projects and who are paid by NSF grant funds; students working on formal NIH training grants are also affected.

Professional Development Initiatives



FACULTY DEVELOPMENT

In FY2010, the office spent over \$48K hosting and coordinating workshops and events, supporting research-related committees, and paying for faculty travel to sponsors and professional development seminars. Some of the supported events were:

- Creative Research Activities Development & Enrichment Program (CRADLE)
- The Winning Grants Seminar*
- Quality Circle Training
- New Faculty Luncheon
- National Science Foundation Wine and Cheese
- Nanotechnology Center Anniversary Symposium
- Recognition of Research Excellence
- Reception and Dinner to Honor Authors, Editors, and Fine & Performing Artists

The office edited 84 proposals and other documents and performed over 35 searches for funding opportunities. In addition, we continued one-on-one meetings with faculty in order to set up their profiles in the funding opportunities resource database.

**We gratefully acknowledge the North Carolina Biotechnology Center for its support of this workshop.*

Funding Highlights

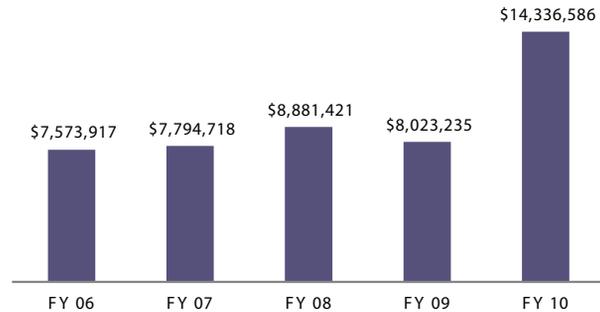
Last fiscal year was our best ever. Wake Forest investigators earned over \$14.3 million from external sponsors as well as fellowship support for scholarship in the social sciences and humanities. Overall, we submitted 163 proposals, requesting nearly \$67 million.

In another first, Wake Forest faculty earned a total of 6 awards from the National Endowment for the Humanities. This accomplishment followed shortly on a seminar by an NEH Research Programs Officer, hosted by ORSP, which featured a mock panel and individual consultations.

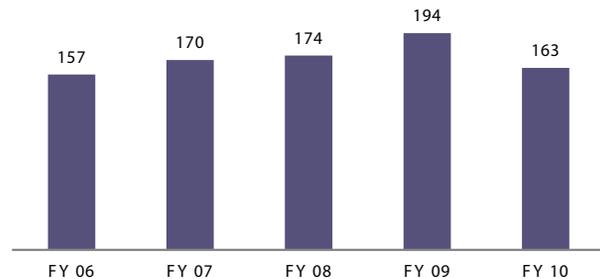
ORSP acknowledges the tremendous effort and imagination of all faculty who submitted proposals and congratulates those who received awards.

The statistics that follow summarize Reynolda campus sponsored research activity for Fiscal Year 2010. These graphs include funding processed through the Office of Research and Sponsored Programs and not gifts or the many fellowship awards made to individual faculty. Awards represent authorization to spend as opposed to research expenditures.

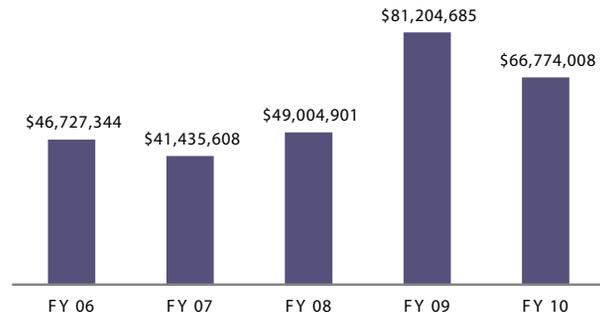
Awards Received Fiscal Years 2006-2010



Proposals Submitted Fiscal Years 2006-2010

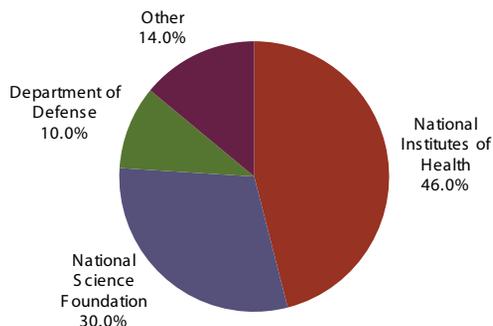


Amount Requested Fiscal Years 2006-2010



Funding Highlights

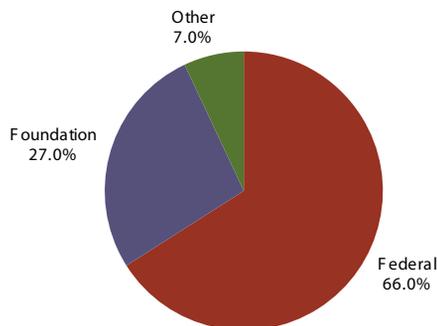
Federal Funding Breakdown



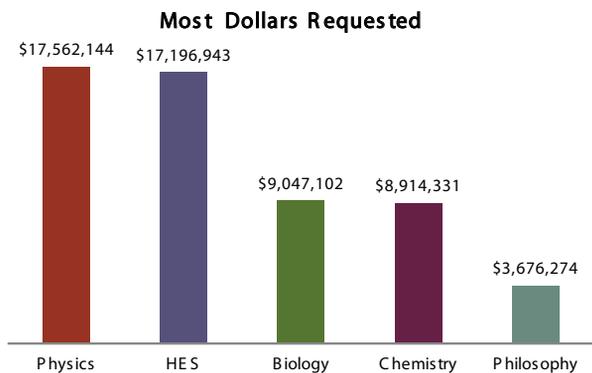
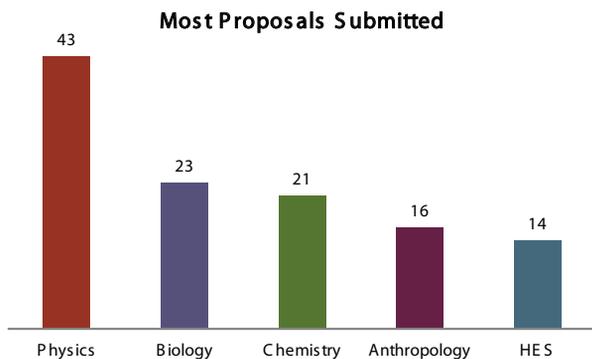
The Departments of Philosophy and Theatre and Dance received their first awards in Fiscal Year 2010. At \$3.67 million over 3 years, the Philosophy Department received the largest single award for humanities and social science research in university history.

Faculty in the Physics Department submitted the most proposals and received the most awards. The Departments of Biology, Chemistry, Education, and Health and Exercise Science each increased their amount awarded by \$500,000 or more over last year.

Awards by Source of Funding



Although the amount of awards received from private foundations was more than double that received in Fiscal Year 2009, the majority of our projects are supported by federal grants, in particular, direct awards from the National Institutes of Health or subawards from Wake Forest University Health Sciences.



Department	Awards	Amount
Philosophy	2.0	\$3,676,273.00
Physics	29.5	\$2,566,565.74
Biology	15.0	\$2,177,340.00
HES	18.0	\$2,047,687.00
Chemistry	14.0	\$1,673,240.00
Education	1.0	\$893,753.00
Psychology	4.0	\$387,312.00
Computer Science	6.0	\$333,407.74
Communication	4.0	\$231,184.50
Graduate School	1.0	\$81,000.00
Mathematics	2.5	\$69,906.00
Political Science	2.0	\$61,024.35
ZSR Library	2.0	\$40,841.00
Economics	1.0	\$29,536.00
Theatre & Dance	2.0	\$28,500.00
Anthropology	7.0	\$23,915.42
WFU Schools of Business	1.0	\$10,000.00
Secret Artists Series	1.0	\$3,000.00
Provost Office	1.0	\$2,100.00



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