

COLLEGE OF LIBERAL ARTS & SCIENCES

RESEARCH REPORT

2008-2009

UF



Century Tower is one of the most identifiable features of the University of Florida campus. Construction started in 1953 to commemorate students killed in both World Wars as well as 100th anniversary of the founding of the University of Florida. Today, the tower overlooks Turlington Hall, the heart of the College of Liberal Arts and Sciences.



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ON RESEARCH

Creativity is at the heart of great scholarship, and I marvel at the astonishing range of creativity evident in the College of Liberal Arts and Sciences research this past year. Our faculty and students are asking original questions, developing innovative research techniques, and offering fresh and innovative solutions to scientific, social, and human problems.

Our natural scientists are devising ingenious ways of studying long-standing problems, and asking new questions that will yield provocative findings. Astronomy has not just helped develop the new Gran Telescopio Canarias, the largest optical telescope in the world, but also has developed several new, one-of-a-kind instruments for this and other telescopes that, by detecting and sorting out the signals from distant parts of the universe, help us to see billions of years back into time.

Our social scientists are helping us to understand our rapidly changing world, and are developing solutions to social problems almost as quickly as the problems emerge. Even as the H1N1 flu threatened to disrupt classes on our campus, UF geographers, working in conjunction with the Emerging Pathogens Institute, were developing new and better methods to track the spread of contagious disease around the world,

earning UF's first grant from the Bill and Melinda Gates Foundation.

Our humanities scholars help us understand the world around us and provide a wide range of provocative lenses through which we examine the human condition. Historian Jack Davis' monumental biography of Marjorie Stoneman

Douglas has provided the definitive study of Douglas' life and chronicled the history of the Everglades in the 20th century. Creative writing professor Padgett Powell's new novel *The Intergogative Mood* has not just earned wide praise from reviewers, but also prompted them to rethink the form itself.

The College of Liberal Arts and Sciences continues to be an incredibly fertile source of innovation. It is hard to predict what one will find when exploring the frontiers of knowledge, but I am confident that we will continue to have exciting news to report.

Paul D'Anieri, Dean



The College of Liberal Arts and Sciences Dean's office promotes research and scholarly work across the range of disciplines represented in the College—the humanities, the social and behavioral sciences, and the natural and mathematical sciences. This report highlights some of the many successes and firsts we've had this year. Despite the recession, the past year was a good one for research funding: federal stimulus funds produced new opportunities for our faculty, and they've responded with a flurry of proposal submissions and new awards. Of course, funding is only one measure of research productivity, and our goal is to ensure that our faculty produce significant research and scholarly work.

Research is increasingly interdisciplinary, with investigators working in teams to tackle some of our most challenging societal and scientific problems. Interdisciplinary research is alive and well in the College, as we continue our successful partnerships with the many research centers on campus—the Emerging Pathogens Institute, the McKnight Brain Institute, the Nanoscale Research Facility, and the new Clinical and Translational Science Institute, to name but a few. But these partnerships don't stop at the borders of our campus. CLAS faculty serve as leaders in international collaborations, such as the Large Hadron Collider (searching for the elusive Higgs boson) and the Gran Telescopio

Canarias (the world's largest optical telescope). They work on problems of global concern, such as the spread of HIV in Central and East Africa, as well as political issues around food and water. CLAS faculty research provides opportunities for graduate and undergraduate training while local grants, like the Humanities Enhancement Award, continue to provide funding for that research. UF faculty research funding support spans the globe and includes support from the U.S. State Department Fulbright Program and the Ford Foundation.

Our office supports all of this work through carefully managed funding of faculty start up costs, cost sharing on proposals, faculty and student travel, and conferences and workshops. We also work with faculty to identify new research opportunities and to develop the resources needed to implement new initiatives. It's exciting to work with creative and ambitious colleagues, and we look forward to another successful year. Finally, we thank Assistant Dean Margaret Fields and the CLAS Communications and Outreach Office for producing this informative report.

Alan Dorsey, Associate Dean for Natural Sciences and Mathematics

Debra Walker King, Associate Dean for Humanities

Milagros Peña, Associate Dean for Behavioral and Social Sciences

INAUGURATING THE WORLD'S

Telescopes are tools for observation, but in the summer of 2009, one was the star.

More than 500 astronomers, government officials, and journalists from three continents—including the King and Queen of Spain—gathered on a tiny island to inaugurate the Gran Telescopio Canarias, the world's largest telescope.

Seven astronomers and officials from the University of Florida, as well as several UF alumni and supporters, were among the guests. UF invested \$5 million in the \$180 million in the telescope project, which was launched in 2000. The university, which owns a five percent share, is the only U.S. institution with part ownership of the telescope known to astronomers as the "GTC."

"This partnership offers unparalleled research and educational opportunities for our faculty and students in an international setting that complements the international mission of our university," UF Provost Joe Glover told the audience in an outdoor ceremony held adjacent to the telescope's mammoth silver dome.

The ceremony was the focal point of a day that began at 7:40 a.m., when guests departed hotels near the island's main city, Santa Cruz de La Palma, in chartered buses flanked by police escorts for a 90-minute-plus journey up the Roque de los Muchachos.

There are no fewer than 17 telescopes atop La Palma, one of the Instituto de Astrofísica de Canarias' two observatories known collectively as the European Northern Observatory. Together with Chile and Hawaii, the Canary Islands are considered the best on the planet for astronomical observations. At about 8,000 feet above sea level, the La Palma site is not as high as those in Chile and Hawaii. It has very little atmospheric disturbance, while its remoteness and low cloud cover minimize light pollution.

The GTC's enormous silver dome makes an impression even on this unique landscape of metal and glass behemoths. Guests disembarked and were ushered inside, where they got a first-hand view of the

telescope's gargantuan red-and-silver superstructure, 10.4-meter primary mirror and smaller secondary mirror. With the floor beneath the telescope slowly and silently rotating the GTC seemed an uncanny combination of brute mechanical giant and Swiss-watch precision.

Spanish King Juan Carlos I and officials with Mexico and the Canary Islands government spoke at the inauguration ceremony. Glover emphasized that UF views the GTC as an opportunity for international collaboration in research and education—especially with respect to building the complex astronomical instruments that interpret the light the giant mirror collects.

"The design and construction of astronomical instrumentation is one of Florida's hallmarks, and we pledge our expertise in collaboration with our colleagues from Spain and Mexico to ensure that the scientific life of the GTC is long and fruitful," he said.

A UF-built instrument, CanariCam, is at the GTC awaiting installation in 2010. UF astronomy professor Charles Telesco's initial award to build the heat-sensing imager for the telescope was the spark that led to UF's participation in the GTC, said former astronomy department chairman Stan Dermott.

Dermott said the timing was auspicious: UF was seeking to gain a leading role in astronomy through developing expertise in astronomical instrumentation—just as Spain sought to enter the top echelons of astronomy through construction of the record-breaking GTC.

In astronomy, access to the best images from the best telescopes and instruments makes all the difference—it's impossible to do cutting-edge research without such access, Dermott said. Yet time on the world's largest telescopes is extremely expensive. UF astronomers get 20 nights per year as a result of the university's five percent ownership of the GTC—CanariCam will add

LARGEST TELESCOPE



Dignitaries at inaugural ceremony: Provost Joe Glover is far left, King Juan Carlos I is in the middle in brown suit.

an additional 35 nights.
 Tom Walsh, UF's senior director of sponsored research, negotiated the finer points of the GTC contract with Spain. He was in La Palma for the inauguration and subsequent scientific meetings—along with Dermott, Telesco, and astronomy professor Rafael Guzman, who succeeded Dermott

as department chairman in the fall of 2009.
 All were thrilled to be present for the completion of a decade-long project, but also were looking forward to the work ahead.
 “You can never say that we have a telescope. The telescope is only as good as the instruments behind it,” Dermott said. “We have to

work continually to make sure the whole setup—the telescope plus the instruments—remains cutting edge. So we have been given a challenge, but it is the sort of challenge that stretches our faculty and engineers to achieve more than what we did before.”

—Aaron Hoover, *UF News Bureau*



INTERNATIONAL EXCHANGE

Fulbright awards have been granted to three University of Florida recipients. One of these is Mark Thurner, an associate professor of anthropology, who has been awarded a grant to study and conduct research overseas this year. Currently in Peru researching the country's museums, he will also lead a graduate seminar on history and memory at Lima's San Marcos University

Thurner is one of three University of Florida recipients of among 800 U.S. faculty and professionals that the Fulbright Program sends to universities around the world. The program also provides the opportunity for about 800 international faculty and professionals to study at American universities and contribute to U.S. research projects.

"The Fulbright scholars program has never been more relevant to the University of Florida," UF Provost Joseph Glover said. "Participants in the program provide us with a remarkably enhanced global perspective that strengthens our ability to do research and teach on this campus."

In addition to sending three scholars abroad, UF is hosting six Fulbright scholars from other countries, five of whom are serving within the College of Liberal Arts and Sciences:

- Viktor Cerny of the Czech Republic is a courtesy associate professor in UF's anthropology department. He is studying DNA to trace early human migration between Africa and the Arabian peninsula.
- Petr Rumpel, also of the Czech Republic, is the head of the department of social geography and regional development at Ostrava University in the Czech Republic. Rumpel is conducting research with geography professor Grant Thrall at UF.
- Nasr Hassan, of Egypt, is a lecturer at Assiut University. Hassan's research is in botany.
- Anastasia Kalyuta is a senior researcher at the Russian Museum of Ethnography in Saint Petersburg, Russia. She is conducting research in UF's anthropology department.
- Maria Castro is a senior teaching assistant at the University of Buenos Aires in Argentina. She is researching in UF's chemistry department.

—Lindsey Robinson



Documenting Nyangbo language through cultural events: According to the tradition of the Emlis, the chief of Tafi inaugurates a newly installed chief of Eml. In this instance a durbar is held for Togbui Afari IV, the paramount chief of Tafi, to welcome Togbui Dadra V, the newly installed chief of Eml. Pictured here: Dadra V, the chief of Eml, arrives with the queen mother of Eml to greet Togbui Afari IV.

SAVING LANGUAGES

The number of languages spoken around the world has been decreasing at an alarming rate, prompting concern from both academics and the United Nations. Not only does the disappearance of a language reduce the diversity of our social fabric, but we lose the knowledge, history, and literature of entire cultures.

Chimiini

Linguistics assistant professor Brent Henderson has received a grant from a National Science Foundation/ National Endowment for the Humanities joint program on Documenting Endangered Languages. He will document the Chimiini language by publishing a reference grammar, a volume of stories and other texts (written in English and Chimiini), and by archiving digital recordings of the language in an endangered language digital archive. Henderson's team is also working on a practical dictionary and plans to build a multi-media website for the language.

Chimiini is the language of the Wamiini, an offshoot of Swahili sea-faring cultures that developed in relative isolation over seven centuries. In the 1970s, the language and relocation policies of the Said Barre regime in Somalia weakened its use; it became highly endangered in the early 1990s when full-blown civil war exploded in Somalia. Today, the Wamiini community is spread across the globe, in refugee camps in Kenya and in immigrant communities in the United States and the United Kingdom. The fragmentation of the community is leading to rapid erosion of the language.

Despite some pioneering academic work on Chimiini in the 1970s and an academic lexicon published a few years ago, little documentation of the language exists. There is no in-depth grammatical description and the traditional stories, poems, songs, and other texts have not been recorded. The Wamiini community, however, is very sensitive to the loss of their language and is actively participating in the chance to preserve it for future generations.

Tutrugbu

Professor James Essegbey from the Department of Languages, Literatures, and Cultures is working to save another of these endangered languages. Essegbey is documenting the language and culture of the Nyangbo, a small community in the Volta region of Ghana. The people of Nyangbo refer to themselves as the Batrugbu and their language Tutrugbu. Tutrugbu is one of 14 languages being replaced by two main regional languages, Ewe and Akan.

Funded by the National Science Foundation, Essegbey is collecting video and audio recordings of different communicative events, especially those that document Nyangbo culture. This includes basic daily events, such as greetings, elaborate funeral practices, and various economic activities of the community. These recordings are in turn transcribed, annotated and translated, and stored at the DOBES archive for endangered languages at the Max-Planck Institute for Psycholinguistics in Nijmegen in the Netherlands, from where they can be accessed by researchers from all over the world.

Essegbey is also working on a Nyangbo-Ewe-English dictionary and a descriptive grammar of Nyangbo. In addition, he is collaborating with Dutch researchers to investigate the influence of languages spoken in the southern part of Ghana, Togo, and Benin on the creation of creoles.

For more information on the project, go to <http://www.clas.ufl.edu/users/essegbey/nyangbo.html>.

REDISCOVERING A TRADITIONAL

Coffee and tea drinkers, take note—a University of Florida study says a beverage made from a native holly tree might be just the thing to give you a caffeinated kick-start, plus a dose of antioxidants.

Yaupon (YO-ponn) holly is the only U.S. plant that produces substantial amounts of caffeine, said Jack Putz, a botany professor affiliated with UF's Institute of Food and Agricultural Sciences. A popular ornamental species, yaupon grows wild throughout the Southeast and can be grown in most coastal states.

Centuries ago, American Indians and Spanish settlers steeped yaupon leaves and twigs in hot water to make a stimulating beverage, but that use of the plant is virtually unknown today.

The resulting brew is dark brown and tastes much like green tea. If it makes a comeback, yaupon may spawn a cottage beverage industry, Putz said. And the antioxidants might be useful in nutritional supplements.

"A few years ago we were contacted by a pharmaceutical company in Texas," he said. "At first, we thought their interest was in caffeine but they said that with all the

decaffeinated beverages around, caffeine is cheap. What they were interested in was the antioxidants."

Nitrogen fertilizer can boost yaupon production and caffeine content, according to a paper Putz co-wrote, published in the journal *Economic Botany*. Nitrogen had little effect on antioxidant content.

The researchers focused on a popular ornamental yaupon variety called Nana, said Matt Palumbo, a botany master's graduate and co-author of the paper. After receiving nitrogen fertilizer, Nana plants yielded 35 percent more leaves; caffeine concentration in the leaves shot up 265 percent.

Nana had about half the antioxidant content of green tea, he said.

"I have found genotypes with antioxidant concentrations at least as high as green tea," Palumbo said.

Similarly, Nana's caffeine content was low compared with concentrations reported in previous studies, he said.

Dry, unprocessed yaupon leaves contain between .65 percent and .85 percent caffeine by weight. Coffee beans are about 1.1 percent caffeine by weight and tea leaves about 3.5 percent caffeine.

More research is needed to learn which yaupon varieties have the greatest caffeine and antioxidant content, Palumbo said. Afterward, new cultivars can be developed.

One point seems clear—if U.S. residents begin drinking yaupon tea it could reduce demand for coffee, which may ease ecological pressure on coffee-farming regions of South America, Africa, and Southeast Asia, he said.

It's uncertain whether large-scale yaupon farming would be economically feasible in the U.S., but the antioxidants appear to have commercial potential, he said. And home gardeners might enjoy growing and using yaupon.

One caveat—before making yaupon tea it's critical to obtain the correct plant, Putz says. There are numerous U.S. holly species, and many of them are not safe for consumption.

The taste of yaupon tea will be the make-or-break factor for potential users, says Dan Austin, an ethnobotanist based at the Arizona-Sonora Desert Museum in Tucson.

If they don't like the flavor—something Austin says is quite possible—then they're unlikely to drink the beverage regardless of the health benefits.

Still, he says, "if the proper spin is put on it, the potential is there."

— Tom Nordlie

BEVERAGE



Matt Palumbo, a master's graduate, cooks yaupon (YO-ponn) holly branches prior to steeping them in hot water to make a beverage, in a garden on the UF campus in Gainesville.



Pictured left to right: So Hirata, Jonathan Tan, Julie Silva, and Nicolas Polfer

NSF CAREER AWARDS

The following CLAS professors have active National Science Foundation (NSF) Faculty Early Career Development (CAREER) Awards. The award is NSF's most prestigious award for junior faculty and supports the early career-development activities of those teacher-scholars who most effectively integrate research and education within the context of the mission of their organization.

Y. CHARLES CAO, Associate Professor of Chemistry, *Position-Controlled Doping of Semiconductor Nanocrystals*

HO-BUN CHAN, Associate Professor of Physics, *Activated Escape in Nonequilibrium Micromechanical Oscillators: Research and Education Program*

GAIL FANUCCI, Assistant Professor of Chemistry, *Site-Directed Spin Labeling EPR Applications in Intrinsically Unstructured Proteins*

SO HIRATA, Associate Professor of Chemistry, *Quantum Chemistry of Macromolecules*

STEVEN PHELPS, Associate Professor of Biology, *Integrative Neurobiology of Species Recognition*

NICOLAS POLFER, Assistant Professor of Chemistry, *Towards An Understanding of the Underlying Chemistry in Collision-Induced Dissociation of Peptides in Mass*

EDWARD "TED" SCHUUR, Associate Professor of Biology, *Permafrost Thawing and the Loss of Old Carbon in the Alaskan Tundra: An Experimental Ecosystem Warming Approach*

JULIE SILVA, Assistant Professor of Geography, *The Effects of Nature Tourism as a Development Strategy on Poverty and Inequality: The Cases of Namibia and Mozambique*

JONATHAN TAN, Assistant Professor of Astronomy, *Massive Star and Star Cluster Formation: The Key to Our Origins*

UFRF PROFESSORS

The University of Florida Research Foundation (UFRF) recognized its annual class of UF Research Foundation Professors. The three-year professorships were created to recognize faculty who have established a distinguished record of research and scholarship that is expected to lead to continuing distinction in their field. Six CLAS professors received the award this year:



RODNEY BARTLETT, Department of Chemistry, pioneered an entire class of the most sophisticated mathematical methods designed to compute the properties and transformation of atoms, molecules, and solids. These methods, known as the many-body perturbation theory and coupled-cluster theory, are the basis of the computational quantum chemistry models that can be used to interpret otherwise undecipherable experimental data. He has published over 450 papers and 30 book chapters.



MARTIN COHN, Department of Biology, is internationally recognized for his research in evolutionary developmental biology. He has obtained highly competitive grants including those from the National Science Foundation, National Institute of Health, and Howard Hughes Medical Institute. He has made substantial contributions to the research program at UF.



STEPHEN EIKENBERRY, Department of Astronomy, is currently the principal investigator on a \$4.8M grant to build a multi-object, near-infrared spectrograph for Gemini, the flagship observatory of the National Science Foundation. His other instrument designs have won two highly competitive awards to build \$30M and \$50M instruments for future large telescopes. He has authored or co-authored 25 refereed papers in the past five years which have been published in leading journals.



ANNA PETERSON, Department of Religion, has authored four single-authored books. Her research spans two major areas; Latin American Studies and Environmental Ethics. She has been the principal investigator or co-principal investigator of two major grants in the past from the Rockefeller Foundation (\$250K) and the Pew Charitable Trust (\$299K). She is actively involved in the graduate program and was recently awarded a CLAS Preliminary Study grant to revise and resubmit a large grant proposal to the National Endowment for the Humanities.



DAVID TANNER, Department of Physics, researches the optical properties of solids. He is a leader in fields including high T_c superconductors, conjugated polymers, organic molecular conductors, and composites. As an expert in optics he has also branched out into gravitational wave science, searching for dark matter. He has written over 220 peer-reviewed journal articles with over 8200 citations. He has been principal investigator or co-principal investigator on external research awards totaling over \$12M.



PHILIP WILLIAMS, Department of Political Science, has been an active researcher in addition to serving as department chair for four years. He has been principal investigator or co-principal investigator on grants from the Ford Foundation, U.S. Department of Justice, Pew Charitable Trusts, National Science Foundation, and Rockefeller Foundation totaling over \$1.4M. His research brings innovative scholarship on religion and politics to bear on contemporary debates about immigration and globalization.

CLAS TERM PROFESSORS

Since 1995, CLAS Term Professorships have been awarded to outstanding faculty who excel in scholarship, teaching, and service. These professorships, funded entirely by private sources, allow the College to recognize faculty who are making a difference in the classroom as well as through their research and scholarship. Each recipient receives a one-year salary bonus in addition to research and teaching-support funds that can be used for travel and equipment.



MIKLOS BÓNA

*Colonel Allan R. and Margaret G. Crow
Term Professor*

Dr. Bóna, Professor of Mathematics, published *A Walk Through Combinatorics* in 2002, *Combinatorics of Permutations* in 2004, and *Introduction to Enumerative Combinatorics* in 2007. He has received grants from the National Security Agency, the National Science Foundation, the National Institute of General Medical Sciences, and the Howard Hughes Medical Institute. He has been at UF since 1999.



ELIZABETH GINWAY

*Colonel Allan R. and Margaret G. Crow
Term Professor*

Dr. Ginway is an Associate Professor of Portuguese. She also serves as Graduate Program Coordinator. Ginway sees Brazilian science fiction as a tool for discovering and describing the South American nation's experience of modernization in her recently published book *Brazilian Science Fiction: Cultural Myths and Nationhood in the Land of the Future*. She specializes in Brazilian literature and culture, and Latin American Science Fiction and Fantasy.



VICTORIA PAGÁN

*Waldo W. Neikirk
Term Professor*

Dr. Pagán is an Associate Professor in Classics. Pagán's recent publications include *Rome and the Literature of Gardens* in 2006, *Conspiracy Narratives in Roman History* in 2004, and currently in press, *A Sallust Reader*. Her research interests are in Tacitus, Roman historiography, Latin prose, and post-Augustan Literature. Pagán joined UF in 2005.

ENHANCING THE HUMANITIES

UF Research and Graduate Programs (RGP) established the Humanities Scholarship Enhancement Fund in 1997 to stimulate new or existing creative/research activity in the humanities and fine arts. The following CLAS faculty received grants totaling \$200,000 from the program this year:

Akintunde Akinyemi, *Languages, Literatures and Cultures*

Luiz Alvarez-Castro, *Spanish and Portuguese Studies*

Juliana Barr, *History*

Alexander Burak, *Languages, Literatures and Cultures*

Kendal Broad-Wright, *Sociology*

Elizabeth Dale, *History*

James Essegbey, *Languages, Literatures and Cultures*

David Hackett, *Religion*

Jessica Harland-Jacobs, *History*

Michael Heaney, *Political Science*

Benjamin Hebblethwaite, *Languages, Literatures and Cultures*

Jeffrey Needell, *History*

Victoria Pagan, *Classics*

John Palmer, *Philosophy*

Jodi Schorb, *English*

R. Allen Shoaf, *English*

Travis Smith, *Religion*

Stephanie Smith, *English*

Tamir Sorek, *Sociology*

Andrea Sterk, *History*

Trysh Travis, *Women's Studies and Gender Research*

Luise White, *History*

Alyson Young, *Anthropology*

FACULTY FOCUS

Associate Professor of History **ANDREA STERK** is studying eastern Christian missions from the age of Constantine to the conversion of the Slavs (c. 300-c.1000). She teaches courses on pagans and Christians in late antiquity, the history of Christianity, and women in the Middle Ages. She is an affiliate faculty member of the Department of Religion and the Center for Medieval and Early Modern Studies at UF. She and Associate Professor Nina Caputo organized the three-semester lecture series *Faithful Narratives: The Challenge of Religion in History*.



RESEARCH BRIEFS

The remains of the largest snake the world has ever known—as long as a school bus—were found in Colombia by an international team of scientists co-led by biologist **Jonathan Bloch**. The team's research also yielded the most accurate representation of the appearance of the neotropical rain forest. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090205-titanoboa.html> and <http://www.clas.ufl.edu/events/news/articles/20091021-neotropical.html>

A study by biology postdoctoral associate **Andre Chanderbali** is helping to shed light on the mystery of what the first flowers looked like and how they evolved from nonflowering plants. The study compares the genetic structure of two vastly different flowering plants to see whether differences exist in the set of circuits that create each species' flower. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090518-flowers.html>

The Department of Energy awarded the Quantum Theory Project research team of **Jim Dufty**, **Frank Harris**, **Keith Runge**, and **Sam Trickey** a \$1.275 million research grant to predict the properties of “warm dense matter” by theory, modeling, and computer simulation. Warm dense matter can exist in the cores of gas giant planets such as Jupiter, Saturn, and the newly discovered extra-solar planets. It also appears in the initial stages of controlled nuclear fusion. Better understanding of its processes could lead to fusion as a clean energy source. Read more at: <http://www.clas.ufl.edu/events/news/articles/20091022-warm-dense-matter.html>

Sociology and Criminology & Law's **Chris Gibson** received the prestigious W.E.B. Du Bois Fellowship from the National Institute of Justice. During his fellowship, Gibson will be conducting research on victimization and delinquent involvement among Hispanic children and adolescents residing in various Chicago neighborhoods. Specifically, he and his colleague, Holly Ventura-Miller at the University of Texas San Antonio, will be using data from the Project on Human Development in Chicago Neighborhoods (PHDCN) to understand how assimilation and acculturation processes affect victimization and delinquency, while at the same time attempting to capture the neighborhood context in which these processes occur. This work extends Gibson's current research on how neighborhood influences impact children and adolescents, with a specific focus on one particular ethnic group. Further, this work will extend his empirical research testing various theories of criminal and deviant behavior.

The U.S. Department of State renewed political scientists **Aida Hozic** and **Ido Oren's** grant of nearly \$290,000 to conduct the 2009 Study of the United States Institute on U.S. Foreign Policy. Eighteen academics from around the world traveled to the University of Florida to better understand and appreciate the intricacies of U.S. foreign policy. The institute offers opportunities that some attendees would not have in their home countries, including extensive access to research or library resources. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090604-policy.html>

Biologist **Doug Levey** reported that mockingbirds recognize and remember people whom the birds perceive as threatening their nests. If the white-and-grey songbirds common in cities and towns throughout the Southeast spot their unwelcome guests, they screech, dive bomb, and even sometimes graze the visitors' heads—while ignoring other passers-by or nearby strangers. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090518-mockingbird.html>

Biologist **Brian McNab's** research concludes that contrary to common belief, dinosaurs didn't attain their colossal body sizes because they had more food to eat. Instead, McNab says, like Popeye with his spinach-induced bulging muscles, dinosaurs simply converted more of the energy in their food to body mass. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090708-dinosaur.html>

Researchers led by ecologist **Ted Schuur** reported experimental results suggesting tundra plant growth may keep up with rising carbon dioxide initially; however if thawing continues in a warmer world, the permafrost will spew carbon for decades, and the plants will become overwhelmed—unable to sop up the excess carbon despite even the most vigorous growth. The research was funded by the National Science Foundation, NASA, and a cooperative agreement with the National Park Service. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090527-permafrost.html>

A team led by chemistry professor **Weihong Tan** developed a “molecular nanomotor” driven only by photons, or particles of light. While it is not the first photon-driven nanomotor, the almost infinitesimal device is the first built entirely with a single molecule of DNA—giving it a simplicity that increases its

potential for development, manufacture, and real-world applications in areas ranging from medicine to manufacturing. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090608-nanomotor.html>

Geographer **Andy Tatem's** study forecasts when climate factors such as temperature, humidity, and rainfall will match at geographically distant airline departure and destination points, which could help to shuffle invasive species, and the diseases they may carry, across the globe along existing flight routes. The findings provide a framework that could help people who monitor airline flights—and the people, baggage, and cargo aboard—to plan more efficiently and accurately for detecting and intercepting invasives. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090227-tatem.html>

A research team led by scientists at the University of Florida explained why two subtypes of HIV-1—the virus that causes acquired immunodeficiency syndrome, or AIDS—held steady at relatively low levels for more than 50 years in west central Africa before erupting as an epidemic in east Africa in the 1970s. “We were able to use geographic data to interpret the genetic data,” said geographer **Andy Tatem**. Read more at: <http://www.clas.ufl.edu/events/news/articles/20090930-hiv.html>

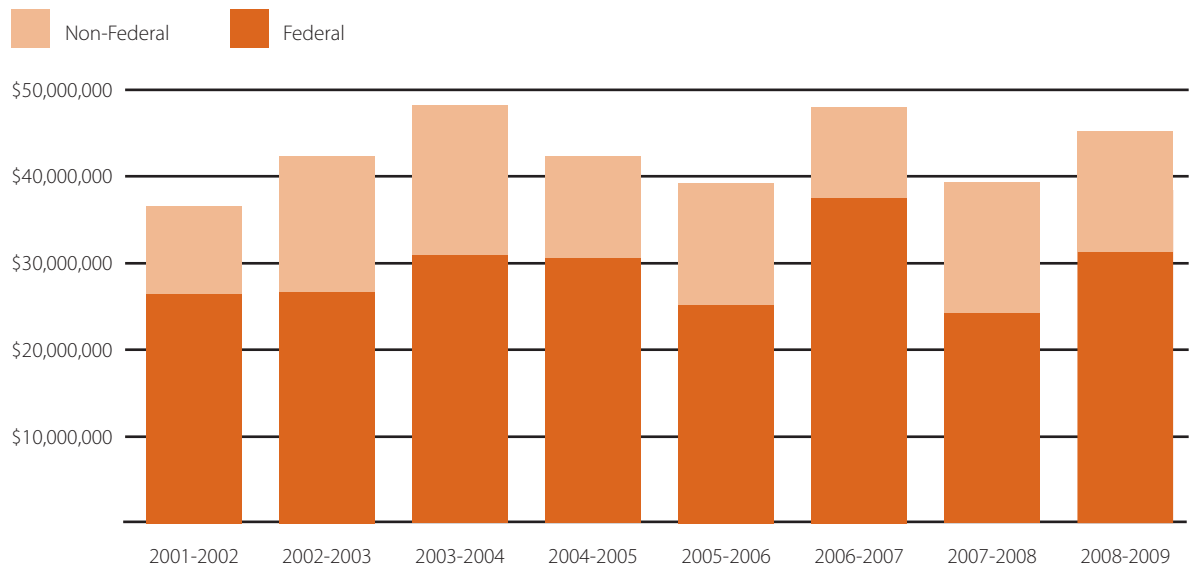
A study by **Kenneth Wald** and political scientists from two other universities showed that Christians who value communal forms of worship over doctrine have emerged as a politically liberal alternative to the religious right. The research has broad political implications in that it contradicts the so-called “God gap” theory that white religious Christians are conservative and more likely to vote Republican. Read more at: <http://www.clas.ufl.edu/events/news/articles/20091027-liberal.html>

FUNDING REPORTS

SUMMARY

Research is the benchmark by which top-tier universities measure themselves. The College of Liberal Arts & Sciences has successfully competed for research dollars from both federal sources and non-federal sources.

CLAS Sponsored Research Awards 2001-2009

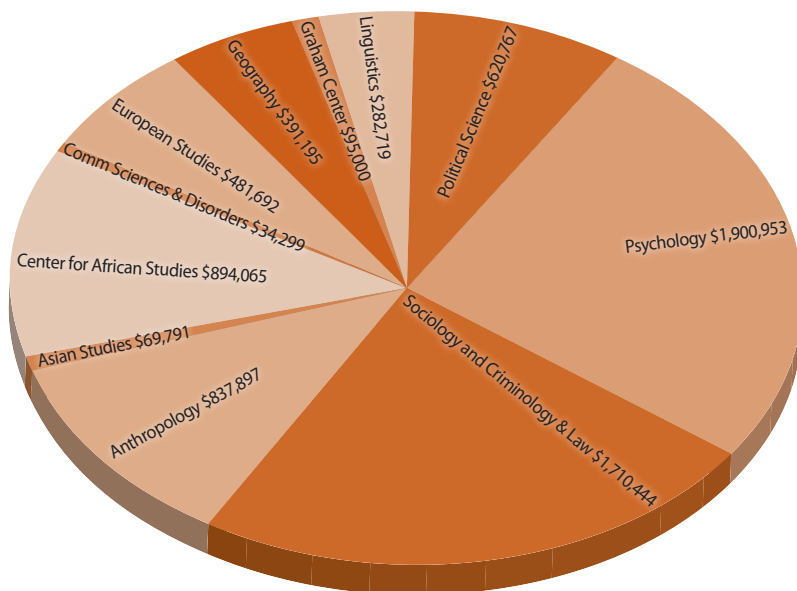


SOCIAL & BEHAVIORAL SCIENCES AWARDS 2008-2009

Anthropology, Geography, Linguistics, Political Science, Psychology, Sociology, Criminology & Law, Asian Studies, Bob Graham Center for Public Service at the University of Florida, Center for African Studies, Center for European Studies, Institute for Psychological Study of the Arts, Reubin O'D. Askew Institute on Politics and Society

“Social and behavioral sciences are the scholarly disciplines that seek knowledge and understanding about human nature. They differ from, but complement, the College’s humanistic inquiry about humanity in their scientific methods and applied research. These departments also differ from, but again complement, the physical sciences in developing methods for analyzing the social, cultural, and subjective qualities of human nature. In this respect, social and behavioral sciences provide the requisite knowledge for implementing the results of physical science to real-world problems, as well as evaluating the value and consequences of such actions. Social behavioral scientists today are expressly interdisciplinary and international in scope.”
—Excerpt from Division Mission Statement

The departments of Psychology and Sociology led the social and behavioral sciences division with over \$3M in funding. In Psychology, Jesse Dallery was awarded a grant from the National Institute of Health to study a home-based behavioral treatment for cigarette smoking. Monika Ardel, Sociology, is using her foundation grant to conduct a cross cultural study of the concept of wisdom. Criminology professor Chris Gibson was awarded a grant from the National Institute of Justice to conduct a longitudinal study on crime and victimization among Hispanic adolescents. John Krigbaum of Anthropology has secured multiple sponsors for his research concerning bone testing.



NATURAL & MATHEMATICAL SCIENCES AWARDS 2008-2009

Astronomy, Biology, Chemistry, Geological Sciences, Mathematics, Physics, Statistics, Archie Carr Center for Sea Turtle Research, Center for Applied Mathematics, Center for Catalysis, Center for Chemical Physics, Center for Chemical Research at the Bio/Nano Interface, Center for Condensed Matter Sciences, Center for Macromolecular Science and Engineering, Florida Center for Heterocyclic Compounds

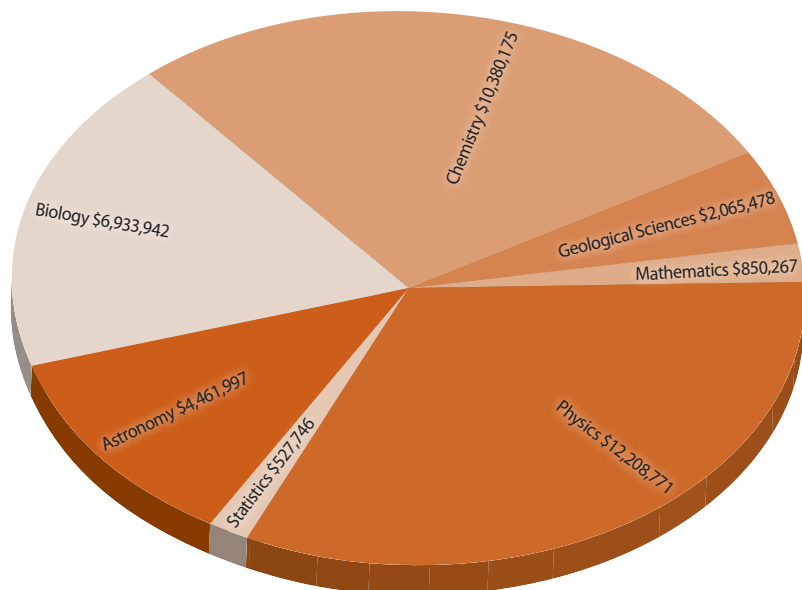
“Excellence in the natural and mathematical sciences is critical to establishing a position of leadership with high external evaluations for the University of Florida. Within the College and University, these departments fulfill a unique and essential mission by providing basic research and graduate education, teaching most of the courses designed to develop a scientifically literate population through general education, and creating a professional scientific workforce at all levels (B.S., M.S., and Ph.D.). Strong support of this complex research and instructional mission is in the best interests of the University and the State because it provides the most efficient means of educating scientists who understand the human and societal framework that supports science, helps create the scientifically literate society that we need, and conducts sponsored scientific research that constitutes nearly one-third of all funds expended annually in CLAS.”
—Excerpt from Division Mission Statement

Physics led the natural sciences and mathematics division with over \$12M in funded research awards. David Tanner received over \$1M for his continued research in gravitational physics. In addition, Tanner and David Reitze’s “THz Input Optics Subsystem of Advanced LIGO” will continue operating on a \$2M grant through 2011. LIGO is one of the largest projects ever undertaken by the National Science Foundation and studies gravitational waves from large-scale astrophysical sources.

Biology professor Sixue Chen was awarded a grant from the National Institute of Health for the establishment of a high performance UPLC-QSTAR Elite Proteomics Platform.

Jian Ge in astronomy received multiple grants from federal sources and foundations to study multi-target remote-sensing technology and for using Bayesian analysis to search for extra-solar planets.

Chemistry received over 120 grants primarily from federal agencies, private corporations, and foundations. Charles Martin’s research on nanotube biosensors for protein-toxin analytes is funded by the U.S. Army. His research group conducts research on the interface between analytical chemistry and materials science.



HUMANITIES AWARDS 2008-2009

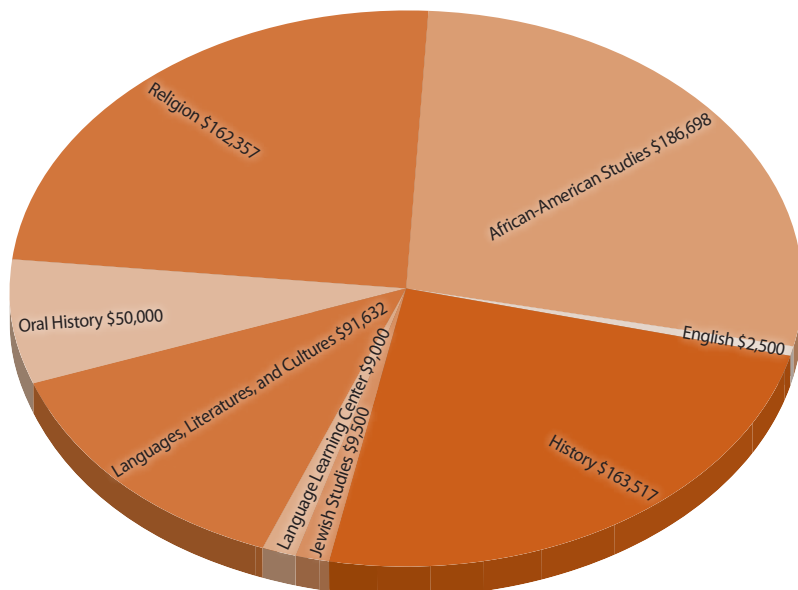
Classics, English, History, Languages Literatures and Cultures, Philosophy, Religion, Spanish and Portuguese Studies, African American Studies, Center for Children's Literature and Culture, Center for Film Studies, Center for Greek Studies, Center for Jewish Studies, Center for Medieval and Early Modern Studies, Center for Modern German Studies, Center for Women's Studies and Gender Research, Center for the Humanities and the Public Sphere, Center for the Study of Hindu Traditions (CHITra)

“The humanities are a core of the research component of the university and central to its educational mission. These are the areas of study in which most students participate and are what make a university education distinctive. The humanities are the way in which students are introduced to the best of what has been thought about and said. A liberal education inculcates in students a range of high level skills in thinking critically and reflectively and in writing clearly and effectively, through exposure to, and critical examination of diverse and often conflicting intellectual traditions. This education is essential to students’ development as autonomous and thoughtful adults prepared to view their world from the perspective of history and culture, with a moral vision that places them in their proper relations to others and the social world.”

—Excerpt from Division Mission Statement

The humanities division received over \$675,000 in grant awards. Religion received grants for the development of an ethics of sustainability program, sponsored by the National Science Foundation (NSF). Helene Blondeau, Languages, Literatures and Cultures, received a grant from the NSF to study the roles of perception and production in adult language acquisition. The History of Science Foundation has continued funding the History of Science Project, which hosted a series of lectures through the academic year.

Nina Caputo and Andrea Sterk from History received a project grant from the Wabash Center for Teaching and Learning in Theology and Religion for their lecture series *Faithful Narratives: The Challenge of Religion in History*. The series promoted the discussion of history and religion in light of a paradox of American culture: an increasing public religiosity juxtaposed to a diminished understanding of religion.





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