2012


Office of Research and Economic Development, Florida International University

Follow this and additional works at: http://digitalcommons.fiu.edu/research_reports

Recommended Citation
http://digitalcommons.fiu.edu/research_reports/18

This work is brought to you for free and open access by the Office of Research and Economic Development at FIU Digital Commons. It has been accepted for inclusion in Office of Research and Economic Development Reports and Publications by an authorized administrator of FIU Digital Commons. For more information, please contact dcc@fiu.edu.
Florida International University is a comprehensive university offering 340 majors in 188 degree programs in 23 colleges and schools, with innovative bachelor’s, master’s and doctoral programs across all disciplines including medicine, public health, law, journalism, hospitality, and architecture. FIU is Carnegie-designated as both a research university with high research activity and a community-engaged university. Located in the heart of the dynamic south Florida urban region, our multiple campuses serve over 50,000 students, placing FIU among the ten largest universities in the nation. Our annual research expenditures in excess of $118 million and our deep commitment to engagement have made FIU the go-to solutions center for issues ranging from local to global. At FIU, we are proud to be

*Worlds Ahead!*
FIU continues building research infrastructure to support the goals of research breakthroughs and discoveries. Research at FIU focuses on addressing scientific challenges, as well as the social and economic needs of Florida and the nation. Some key indicators for 2011-2012 include the third consecutive year with research awards above $100 million, increased funding requested through applications (36.7%), and increased number of applications (10.6%). During the past four years, the proportion of faculty with external funding has increased from 36% (FY 2009) to 43% (FY 2012). Additionally, research expenditures grew from $110M to $118M.

We have focused on raising the number of faculty receiving external research funding. To this end, we created the Mentors-in-Residence Program, which links experienced researchers and junior faculty members interested in submitting proposals to federal agencies. We are offering grant-writing tutorials, and other types of support to assist junior and midlevel faculty interested in applying for funding. During FY 2012, the proportion of assistant professors with external funding increased to 22.8%, from 15.8% in FY 2009. These efforts will expand and mature in future years. Since 2009, the proportion of faculty whose research is externally funded has increased by 19%, and since 2010 the proportion of principal investigators in externally funded grants has increased by 31%.

Interdisciplinary research is vital to accelerate new knowledge and discoveries, as innovations usually transcend a single discipline. In order to promote and support integration of ideas, we have established interdisciplinary research networks. Through this effort, we join faculty with common interests in specific research areas so they are better prepared to respond to external research funding opportunities. We expect this initiative to flourish and expand as opportunities arise.

Worlds Ahead research during FY 2011-2012 identified new ways that arsenic enters human cells, developed groundbreaking nanotechnology capable of non-invasive neural network stimulation, developed a prototype of a low cost handheld optical imager for cancer tumor detection, developed and tested devices for neural interfaces for prosthetic control in upper limb amputees, developed a revolutionary method to tie a shooter to the ammunition used to commit a crime, influenced the Florida Building Code through testing at the Wall of Wind, and launched a clean water program in West Africa, among many others.

Andrés G. Gil, Ph.D.
Vice President for Research
Angela Laird  
*Department of Physics*

Angela Laird joined FIU as a faculty member in the Department of Physics, part of the School of Integrated Science and Humanity’s Cognitive Neuroscience Initiative. Recognized as a “Rising Star” by the University of Texas System, Laird came to FIU to leave her mark in science education.

Laird’s work focuses on developing data analysis algorithms, neuroscience informatics tools, and neuroimaging ontologies that may lead to effective ways to analyze the brain networks of healthy individuals and those with psychiatric and neurologic diseases or disorders.

Laird received her Ph.D. and Master of Science in physics from the University of Wisconsin-Madison and a Bachelor of Science from Florida State University. She has published neuroimaging studies of patients with various mental health disorders, such as depression, autism spectrum disorder, schizophrenia, bipolar disorder, and post-traumatic stress disorder.

Shuliang Jiao  
*Department of Biomedical Engineering*

Ophthalmic specialist Shuliang Jiao is one of the newest faculty members in the Department of Biomedical Engineering in FIU’s College of Engineering and Computing. Jiao is focusing on the development of technologies for imaging the anatomy and functions of the eye, including a retinal imaging tool that enables the early diagnosis of diabetic retinopathy before clinical signs occur.

Jiao’s research looks at developing high resolution multimodal anatomical and functional imaging technologies for the diagnosis and research of diseases that cause blindness, with the ultimate goal of helping to prevent and cure blindness through technological innovations. Previously, as an associate professor at the University of Southern California, Jiao established one of the most active laboratories for multimodal ophthalmic imaging with grants from the National Institutes of Health, Department of Defense, and the Wallace Coulter Foundation.

Jiao earned his B.S. and Ph.D. in photonics from Huazhong University of Science and Technology in China. He also received a second Ph.D. in biomedical engineering from Texas A&M University. Jiao has more than 50 peer-reviewed publications and holds multiple patents.

Virginia Mueller-Gathercole  
*Department of English*

Virginia Mueller Gathercole, FIU’s first-ever English professor to possess a linguistics degree, returned to the university in 2012. Gathercole originally came to FIU in 1981. A Panther for nearly 15 years, she served as director of the Linguistics Program and director of the English Language Skills Center during her first tenure. Prior to her return to FIU, Gathercole served as a senior lecturer and professor in the Bangor University. There, she helped expand research on language acquisition in the School of Psychology and served as the director of the Dyslexia Unit.

Gathercole’s areas of expertise include psycholinguistics, first-language acquisition, bilingual language acquisition, and bilingual language assessment.

In her new role at FIU, Gathercole will be helping to develop a cross-disciplinary doctorate program in linguistics. Gathercole received a Bachelor of Arts degree from St. Louis University and a master’s and doctorate degree in linguistics from the University of Kansas.

Mark Padilla  
*Department of Global and Sociocultural Studies*

Mark Padilla, a medical anthropologist with multidisciplinary experience in public health, is a new faculty member in FIU’s Department of Global and Sociocultural Studies.
An anthropologist trained in ethnographic methods, globalization, and critical medical anthropology, Padilla’s work focuses on HIV/AIDS and sexuality in Latin America and the Caribbean, exploring issues of intervention, inequality and processes in public health.


Padilla was formerly assistant professor in the Department of Health Behavior and Health Education at the School of Public Health, University of Michigan, Ann Arbor. He has a Bachelor of Arts degree in anthropology from the University of New Mexico, a master’s degree in international health from Emory, and a doctorate in philosophy and anthropology from Emory University.

Inés Triay
*Applied Research Center*

Inés Triay, a former Assistant Secretary for Environmental Management at the U.S. Department of Energy, was named executive director of FIU’s Applied Research Center (ARC) in fall 2012.

Triay had been a visiting U.S. DOE scholar supporting ARC’s DOE Workforce Development Program when she accepted the position of executive director. In her new role, Triay will continue to enhance and strengthen a pipeline of women and minorities in STEM (Science, Technology, Engineering, and Mathematics) careers as well as further develop ARC’s emphasis on focusing research efforts to solve real-world problems.

Triay was appointed by President Barack Obama as the DOE’s seventh assistant secretary in the Office of Environmental Management (EM) and sworn into office in May 2009. In this role, she led the largest, most diverse, and most technically complex environmental cleanup program in the world. Prior to Triay’s executive positions in Washington D.C., she served as manager of DOE’s Carlsbad Field Office in New Mexico and held several key positions at Los Alamos National Laboratory.

Triay received her bachelor’s degree in chemistry and her doctorate degree in physical chemistry from the University of Miami. She is a member of numerous professional organizations and has produced more than 300 articles, papers, reports, and presentations for professional conferences and workshops, as well as major trade publications. She is American Chemical Society-certified.

Yuk-Ching Tse-Dinh
*Department of Chemistry and Biochemistry*

Yuk-Ching Tse-Dinh arrived at FIU in late August after serving on the faculty of New York Medical College for more than 20 years. A professor in the Department of Chemistry and Biochemistry, Tse-Dinh will also be leading an initiative focused on biomolecular research.

In her former position, Tse-Dinh was professor and Ph.D. Graduate Program Director.

Currently Tse-Dinh’s research focuses on DNA enzymes. She has two R01 grants from the National Institutes of Health. The goal of the first project, “Control of DNA Topology,” funded by National Institute of General Medical Sciences, is to elucidate the basic structure, mechanism and function of a class of enzymes, DNA topoisomerases, that control the structure of chromosomes. The second project, “Bacterial Cell Killing by Topoisomerase I Mediated DNA Lesion,” funded by National Institute of Allergy and Infectious Diseases, utilizes a novel topoisomerase target in bacteria for discovery of a new antibacterial drug leading to combat drug resistant bacterial pathogens.

Tse-Dinh received her undergraduate degree from Hollins University and her doctorate from Harvard.

In addition to her biomedical and biomolecular work, Tse-Dinh also has a background in theoretical chemistry.
Florida International University has undergone a major transformation with the addition of long-awaited research and learning space to the university’s campuses.

New buildings on MMC

Construction crews have completed our new Science Classroom Complex/Academic Health Center IV (AHC IV). Part of the university's expansion and renewal of its STEM-related facilities, AHC IV will house a new mass spectrometry facility that will be available to researchers from FIU and South Florida. The Herbert Wertheim College of Medicine, the School of Integrated Science and Humanity’s Cognitive Neuroscience Initiative, and the Department of Biomedical Engineering will also have state-of-the-art laboratories and expanded opportunities for interdisciplinary research in one location.

Right next door to the east is the Academic Health Center V (AHC V), which will be home to the Stempel College of Public Health and Social Work, the Extreme Events Institute, and the Department of Earth and Environment. The building is anticipated to open in January 2014.

Other projects in the works include the MANGO (Management and New Growth Opportunities) building to the west of the Ryder Business Building, the Stocker Astrophysics Center and Observatory, and the Satellite Chiller Plant just west of SW 10th Ave.

Driving Simulation Lab

Sharing a commitment to advancing research on the study and application of new driver safety methods, FIU’s Colleges of Engineering and Computing (CEC) and Nursing and Health Sciences (CNHS) and the Division of Research have collaborated to develop the Driving Simulation Lab, a new center dedicated to driver safety, human factors and related civil engineering projects. The Driving Simulation Lab is the only one of its kind in South Florida.

With a centralized physical space for research, the Driving Simulation Lab is building upon the current work conducted by FIU’s Lehman Center for Transportation Research (LCTR), and will create new interdisciplinary studies on transportation research in areas such as public safety, driving performance, driver behavior, transportation, vehicle technologies and their effect on driving, congestion, and individual and public safety.

The driving simulator used by LCTR is the STISIM Drive Model 400 with Car Conversion Kit, a high-fidelity driving simulator that interfaces with an actual automobile to provide a realistic setting for innovative transportation-related research. The interactive simulator has a 135-degree driver field-of-view and is integrated with an active steering and pedal system.
Wall of Wind

In August 2012, FIU unveiled the nation’s first university research facility capable of simulating Category 5 hurricane winds. The 12-fan Wall of Wind is a major research project of FIU’s International Hurricane Research Center (IHRC), which was established, in part, with funds from the Hurricane Andrew We Will Rebuild effort. Additional funding from the state (including a Center of Excellence grant), the federal government (National Science Foundation and Department of Energy) and other private sources have supported the project over the years.

The Wall of Wind research team from FIU’s Department of Civil & Environmental Engineering, under the direction of Arindam Chowdhury, director of wind engineering research at the IHRC, has already had a significant impact in mitigating hurricane damage by enhancing building codes, validating innovative mitigation technologies, and developing new materials. In fact, the team has a patent pending for a new type of roofing material. Recommendations made as a result of Wall of Wind testing were published in the 2010 Florida Building Code.

With 700 horsepower behind each six-foot tall fan, the Wall of Wind can generate winds of up to 160 miles per hour. With a test section 15-feet high by 20-feet wide, the Wall of Wind allows researchers, businesses, government agencies and industry to test and analyze how structures and products perform in various hurricane conditions. The 12-fan Wall of Wind is powered by electric fan-motor units and controlled by two variable frequency drives. In late 2012, a flow management system was added to help researchers create a more realistic wind in terms of turbulence and other characteristics, as well as improve the water system to increase the intensity of the wind-driven rain.

The Driving Simulation Lab, the only center of its kind in South Florida, will conduct interdisciplinary research on transportation and human factors to improve safety, considering the interaction among the driver, vehicle and surrounding environment.

Fabian Cevallos, transit program director at the Lehman Center for Transportation Research at FIU, and Dennis McCarthy, assistant professor and director of the South Florida Community Mobility Research Lab, conduct cross disciplinary research at the university’s new Driving Simulation Lab.
CRUSADA Receives Renewal of P-20 Grant

In 2003, Mario De La Rosa founded the Center for Research on U.S. Latino HIV/AIDS and Drug Abuse (CRUSADA) and the Center for Substance Use and AIDS Research on Latinos in the United States (C-SALUD) at FIU. De La Rosa, professor of social work in the Robert Stempel College of Public Health and Social Work, envisioned the Center’s studies would help reduce, educate, prevent, and eventually eliminate HIV and substance abuse health disparities affecting Latino minorities in the U.S., in particular among Latinos residing in Miami-Dade County.

CRUSADA was created as a reaction to a lack of research on the twin epidemics of HIV/AIDS and substance abuse in South Florida’s rapidly growing Latino populations. CRUSADA’s geographical location and its association with FIU provided a unique setting to increase the understanding on these epidemics in South Florida’s Latino populations. It also provided an exceptional opportunity to translate research results into best-practice models that could be utilized by community-based agencies to curb the spread of HIV/AIDS and substance abuse in the area.

The Center was first established with a $3.7 million grant from the National Institute on Drug Abuse (NIDA) and the National Institute on Minority Health and Health Disparities (NIMHD). In 2007, CRUSADA received funding for $6.5 million for five years with a P-20 Exploratory Center of Excellence grant from NIMHD. In 2012, the Center received a renewal of the P-20 funding for $5.8 million over five years. “The new grant is based on progress made and is more difficult to obtain. This solidifies the Center as one of this country’s leaders on research focusing on Latino substance abuse and HIV,” says De La Rosa.

During the past nine years, the faculty, students and staff affiliated with the Center have published more than 100 articles in peer reviewed journals and scholarly publications, and have made more than 150 presentations at national and international conferences. Future projects include a study on substance abuse and HIV behaviors among recent Latina immigrants, a continuation of earlier CRUSADA work on this topic. The Center will also continue to develop its research on migrant farmworkers’ substance abuse and HIV behaviors and will partner directly with the community-based organizations providing health services to Latino immigrants and farmworkers.

FIU’s CRUSADA presented the C-SALUD BI-ANNUAL CONFERENCE on “Substance Abuse and HIV/AIDS in Latinos: Linking Research with the Community,” where participants exchanged ideas and information on key issues in epidemiology, research and community, research funding, substance abuse, HIV/AIDS treatment and prevention. The next conference is scheduled for 2013.
RISE

FIU received a five-year renewal for its Minority Biomedical Research Support-Research Initiative for Scientific Enhancement (MBRS-RISE) Program.

Funded by the National Institutes of Health (NIH) and National Institute of General Medical Sciences (NIGMS), the $4.8 million grant will provide direct support and training of 15 undergraduate and 16 graduate students in the College of Arts & Sciences, College of Engineering and Computing, Herbert Wertheim College of Medicine, and Robert Stempel College of Public Health & Social Work.

An initiative from the Division of Research, the MBRS-RISE Program aims to increase the number of students from underrepresented groups who enter and complete Ph.D. programs in the biomedical and behavioral fields. MBRS-RISE fellows are given travel money for conferences and presentations. They are also provided with a variety of opportunities in lab safety, responsible conduct of research, CPR, and professional development training. By working alongside active research faculty and the larger scientific community, program fellows gain hands-on research experience in these fields. Charles H. Bigger, professor in the Department of Biological Sciences, is the director of the MBRS-RISE Program.

Since its establishment in 2000, the MBRS-RISE program has helped 30 undergraduate students graduate and enroll in Ph.D. programs across the country. Eleven alumni of the program have successfully completed their doctoral programs and are currently conducting postdoctoral research. Sixteen former MBRS-RISE fellows have also earned faculty status in universities.

STEM Transformation Institute launched

FIU launched the STEM Transformation Institute in fall 2012. The STEM Transformation Institute is a multidisciplinary partnership that will pave the way for student success in science, technology, engineering and math (STEM). The STEM Transformation Institute responds to several key recommendations made by the President’s Council of Advisers on Science and Technology to meet the national imperative for more and diverse scientists and engineers.

The Institute brings all of the university’s efforts together into a collective mission to transform STEM education from preschool through graduate school. Transformative institute approaches include implementing collaborative learning models and innovative pathways to increase the number, diversity and excellence of STEM graduates and teachers.

Currently, FIU has 7,500 undergraduate students majoring in STEM fields, is the largest producer of STEM degrees for Hispanics and one of the top producers of STEM degrees for all minorities. The university manages more than $20 million in active STEM education grants. The STEM Transformation Institute brings together faculty from FIU’s College of Arts & Sciences, College of Education, and College of Engineering and Computing to build a nationally recognized STEM education research group that will capitalize on these efforts and develop effective instructional techniques for the classroom.

The Institute will target STEM majors and non-STEM majors alike, promoting education projects designed to increase science and math literacy among all students, while increasing enrollment, retention and graduation rates for STEM students. The Institute’s approach will focus on research, as well as university-industry partnerships.
The School of Environment, Arts and Society (SEAS), located at FIU's Biscayne Bay Campus, has created an intensified focus on environmental issues along with multidisciplinary synergies and collaborations. Some of the research programs located at BBC include:

### Mangrove Restoration

SEAS has set out on a mission to protect the long-term viability of mangroves, cultivating the unique plants and hosting community planting events to help restore the forest along Biscayne Bay including FIU's Biscayne Bay Campus and Oleta River State Park. Since the inception of the program, thousands of seedlings have been planted.

An education and engagement initiative, the mangroves program reaches the broader community by working with the state park, students and faculty beyond FIU.

Mangroves serve as a source of food, shelter and nursery ground for countless species of fish, crustaceans, mollusks, birds, bald eagles and reptiles, including the threatened American crocodile. Below the water, mangroves are home to different types of sponges, corals, starfish and seagrass.

Mangroves are important to the human species and they create a buffer system along the shoreline that protects the land from rising sea levels and storm surges. An example is the 2004 tsunami that struck Thailand. The areas with an established mangrove habitat suffered less damage than those areas that had removed mangroves or open beach areas.

In the U.S., the growth of mangroves is limited to the subtropical, coastal environments of Louisiana, Texas and Florida. Ninety percent of Florida's mangroves are in South Florida, including Miami-Dade and Monroe counties. Biscayne Bay is known for its mangroves, but parts of the bay have been cleared to make way for urban construction and public beach access.

### BBC Gardens

The Atala butterfly, once thought extinct in Florida, found a new home in the gardens of FIU's Biscayne Bay Campus.

The gardens on BBC are filled with flora and fauna native to South Florida in an effort to help preserve and nurture some of the region’s most unique species. The gardens are planted and maintained by students in BBC’s First Year Experience classes and others fulfilling service learning requirements.

Included in the BBC gardens is the coontie plant (Zamia floridana), which serves as a host to the Atala butterfly. For the past 200 years, coontie has been harvested across Florida for its edible starchy roots, but urbanization and pesticide use have caused a significant decline of the plant. As a result, the Atala butterfly has experienced its own population decline. But the Atala butterfly is now making a comeback on the BBC campus due to the plethora of coontie plants.

The presence of coontie on BBC has allowed the Atala to lay eggs, mature into caterpillars, and complete their final metamorphosis into butterflies. Projects are being implemented to propagate the coontie seeds to further expand both the coontie and Atala populations. The gardens at FIU will always be a home for native plants that attract butterflies such as the Monarch, Swallowtail, Atala and more. The long-term goal of these gardens is to provide native habitats for endangered species with the eventual aim of removing these species from the endangered list entirely.

Thousands of seedlings have been planted as a result of FIU’s mangrove restoration efforts.
Ecotoxicology

The Southeast Environmental Research Center (SERC) Ecotoxicology and Risk Assessment Laboratory at FIU is a state-of-the-art facility located on Biscayne Bay accredited by the National Environmental Laboratory Accreditation Program. The laboratory conducts ecotoxicity studies with organic and inorganic chemicals and a multitude of exposure types (e.g., single-slug, intermittent and continuous) with indigenous, exotic and standard test species. Species studied in the laboratory include amphibians/reptiles, fish, aquatic and terrestrial invertebrates such as zooplankton, insects, snails, earthworms, phytoplankton, periphyton, aquatic and terrestrial vascular plants. Test species are housed separately and continuously cultured in the laboratory.

SERC’s location and computer-interface exposure systems provide unique capabilities in aquatic and sediment toxicity to conduct exposures in natural full-strength seawater as well as in freshwater. The laboratory is equipped with a salinity control system to automatically produce a range of salinities for estuarine studies based upon study needs.

Marine Sciences

FIU’s Marine Sciences Program is committed to enhancing understanding and stewardship of the world’s oceans, especially coastal ecosystems.

The interdisciplinary program is based in a newly opened building on the Biscayne Bay Campus but includes faculty from diverse departments on two campuses.

With unique access to diverse coastal ecosystems of South Florida and the Caribbean and long-term programs worldwide, the Marine Science Program at FIU focuses on research, teaching, and public outreach that will aid in the conservation of marine resources for future generations.

Professor Jim Fourqurean studies seagrass ecology in the marine areas of South Florida.
ACCESS and Education Effect partnership with Miami-Dade County Public Schools

ACCESS and Education Effect is a partnership between FIU and Miami-Dade County Public Schools (MDCPS) designed to align the two institutions’ combined instructional, research, and creative talents to improve MDCPS students’ academic success, increase high school graduation and promote college transition.

In this project, FIU’s Division of Research leads a work group centered around collaborative fundraising and research. The group’s main goals are to:

1. Explore outside funding sources to generate revenue for the partnership
2. Collaborate on NSF grants and other STEM possibilities
   - More and better prepared discipline-focused teachers, including current teacher professional development
   - Research on the teacher and/or student impact
   - K-12 outreach
   - Shared advocacy at the federal and state levels for the role of educational research across programs
   - Assess and statistically define Miami-Dade’s need for STEM graduates, teachers, and agree upon key metrics for STEM collaboration

BioFlorida Conference

The BioFlorida Conference is where the business of innovation in Florida happened.

The Conference brought together 500 attendees for three days in October 2012, with a program that included dedicated investor and business tracks that combined product and technology presentations with interactive expert-led panel sessions, an online system (biopartnering.com) for scheduling one-on-one meetings and many networking socials. More than 100 products and technologies were profiled in the conference’s online meeting system.

Three FIU faculty participated in the conference as speakers and as a panel moderator. Pictured second from left, FIU VP for Engagement Irma Becerra-Fernandez moderated the closing session discussion, which featured Mark Rosenberg, president of Florida International University, Donna Shalala, president of the University of Miami, and Frank Nero, president of Beacon Council.

The next BioFlorida Conference will be held on September 15-17, 2013 at the Tampa Marriott Waterside Hotel.
LifeSciences South Florida

Life Sciences South Florida (LSSF) aims to establish an industry cluster in South Florida, from the Treasure Coast to the Keys, that is focused on life sciences, biotechnology, pharmaceuticals, diagnostics, and information technology. The LSSF executive committee members include leaders of 16 educational, economic development, and research institutions. Their goal is to leverage existing regional life sciences assets in the area with public and private investment opportunities to develop a more resilient economy that will generate more stable, sustainable and high-paying jobs.

LSSF will link the elements of the innovation ecosystem: research, entrepreneurship, venture capital, and life sciences companies, with a goal toward increasing research density and accelerating research commercialization.

Regional Undergraduate STEM Conference:
One of Life Sciences South Florida’s strategic priorities is to create, develop and strengthen programs designed to increase STEM student and workforce development within the region.

In an effort to put this strategy into action, Life Sciences South Florida’s member institutions held a STEM research symposium on March 16, 2013 at Miami Dade College. The conference enabled students to meet professionals and graduate students in the life sciences sector. The aim was to encourage students’ academic interests in STEM and to provide students with the opportunity to envision their future careers. Life Sciences South Florida, through donor participation, presented prizes for the best oral and poster presentations.

Shared Communications Portal
The Shared Communications Portal will enable researchers from LSSF member institutions to search for and locate equipment, services or facilities specific to their needs. The portal will help foster the creation of a regional research community with more opportunities for cross-collaborative projects.

Ultimately, the portal is anticipated to build cost-effectiveness and efficiency by sharing research infrastructure, resources, and facilities through tapping into “unused capacity” to maximize overall research productivity.

Monthly Webinars
From January through May 2013, LSSF will host regional webinars to educate faculty, graduate and doctoral students, entrepreneurs, venture capital and other companies about scientific breakthroughs and potential commercial applications and spin-off companies. Past webinars have explored topics such as digital medicine and the evolution of a biotech startup without venture capital funding.

To view recordings of past webinars, visit: http://lifesciencessf.org/resources/index.shtml

The Life Sciences Industry Cluster Analytics Group met at FIU’s Reagan House. FIU President Mark Rosenberg and Vice President for Engagement Irma Becerra-Fernandez represented the university at the Life Sciences South Florida Executive Committee Meeting in July 2012.
Secretary of Smithsonian Institution Leads NSF-Sponsored Workshop

Government, industry and university collaboration, and increasing retention were among the themes discussed by top engineering education and industry leaders gathered March 7-9, 2012 for the College of Engineering & Computing workshop entitled “Building Partnerships and Pathways to Address the Foundational Grand Challenge for Engineering Education.”

Sponsored by the National Science Foundation, some 50 stakeholders at the decision making level from the engineering schools, community colleges, school districts, industry and government attended the three-day workshop, exploring ways to help increase the stagnant supply of the next generation of engineering workforce in the U.S. The workshop presented participants the opportunity to engage in discussions and share ideas in four sessions. Attending schools included Minority Serving Institutions (MSIs), Historically Black Colleges and Universities (HBCUs) and Hispanic Serving Institutions (HSIs) along with their national research university partners.

Department of Defense Learns More About Innovative Research and STEM

There are 246 Hispanic Serving Institutions (HSIs) in the United States, many of which are major research universities. In August 2012, the Department of Defense (DOD) decided to send out a team from its headquarters to learn more about the innovative research and opportunities for STEM education underway at a select group of HSIs. FIU was one of those chosen for a site visit.

The Department of Defense team consisted of Kevin M. Gates and Timothy R. McClees, professional staff members from the U.S. Representatives Armed Services Committee; Antonio R. Baines, Office of the Chief of Legislative Liaison at the U.S. Army, and Evelyn W. Kent, DOD HBCU/MI (Historically Black Colleges and Universities /Minority Institutions) Program in the Defense Research and Engineering Office of the Secretary of Defense.

The team heard about research programs at FIU supported by the DOD as well as core capabilities and capacity for supporting additional DOD research efforts. Current sources of DOD funding include the Army Research Office, the Army Corps of Engineers, the Air Force Office of Scientific Research, the Office of Naval Research, Navy Engineering Logistics, and the Defense Advanced Research Project Agency. FIU has several dozen additional proposals in review to the DOD Research and Education Program for HBCUs and MSIs.

USAID Administrator Announced Creation of USAID Fall Semester

In a visit to FIU in September, the head of the United States Agency for International Development (USAID) announced several new initiatives designed to increase participation among students, professors and researchers in solving the world’s most complex problems. Dr. Rajiv Shah, USAID administrator, made his remarks in an address to students, faculty and university leaders in a whirlwind visit to FIU’s Modesto A. Maidique Campus.

Shah announced the creation of a new fellowship opportunity for professors, researchers and students from FIU and “other leading American institutions” to work at USAID. The fellowship, which will enable individual offices at USAID to partner directly with students and researchers, is an acknowledgement that the agency does not have all the answers.

Shah noted that USAID is increasingly focused on harnessing the creativity and expertise of a broad development community to solve challenges that were once thought intractable. Called open-source development, it reflects the agency’s desire to literally open development to problem-solvers everywhere, from students on campus to CEOs of major corporations.

FIU Hosts STEM Education Dialogue

FIU hosted a STEM Education Dialogue Jan. 23 and 24 at the Modesto A. Maidique Campus. National advocates and experts, industry leaders and community college and public school partners convened to engage in this dialogue for STEM education. The discussion targeted challenges, opportunities and innovative approaches in STEM education in hopes to advance systemic change.

The dialogue was structured as a series of intensive discussions focused on key topics, ranging from leveraging change through research to implementation strategies. Most sessions were comprised of two brief presentations on complementary topics followed by thorough moderated discussions led by FIU President Mark B. Rosenberg.
10-Year History of Awards Received

Number of Awards Received

Five-Year History of Research Expenditures

2011-2012 Research Awards by Unit in Millions

* Data includes $8.8M one-time expenditures related to Florida Boost Awards, ARRA, and other one-time investments.
Division of Research Leadership

Andrés G. Gil  
Vice President for Research  
gila@fiu.edu

Joseph Barabino  
Associate Vice President for Research Administration  
barabino@fiu.edu

Luis P. Salas  
Associate Vice President for Research  
salasl@fiu.edu