

## Introduction



### Vice Chancellor for Research, Alexander Gates

In FY 2011-2012, the Rutgers-Newark campus brought in \$27,223,575 in external funding for research, education, outreach and training. This is the third highest amount in the history of the campus.

Unfortunately, the first and second highest amounts were in the two prior years. This total represents a 12% drop in funding from FY 2010-2011, the most productive year. Many universities experienced a similar drop because of the end in ARRA funding. At Rutgers-Newark, this may have contributed to the decrease in new funding but the main reason for the decrease was situational. The departure of several key faculty members, including the top person in terms of research funding, and move of another to an administrative position accounted for a significant amount of the decrease. The main divisions that suffered through this attrition were CMBN and FASN. Other divisions experienced significant increases in external funding including Nursing, Criminal Justice and Public Administration.

The Research Office has and continues to investigate new opportunities to expand external funding and to streamline the grant process. A new committee on corporate relations is developing methods to attract and process corporate funding. Initiatives to leverage our excellent position for education and outreach have resulted in several new projects. In terms of streamlining the proposal process, endorsement forms can now be electronically signed and e-mailed rather than hand carrying paper copies. There is currently a study being conducted to investigate opportunities to streamline other processes in the Research Office. If anyone has suggestions that would improve their ability to submit proposals and obtain grants, please send them to me and I will include them in the study.

Another reason for the decrease in external funding is a decrease in proposals submitted in FY 2011-2012. The staff at the Research Office is eager to help you to identify opportunities and to help prepare and submit your proposal in a timely manner. We will also continue to offer seminars on ways to secure funding. If anyone has particular needs for a seminar or workshop, please send it to me and it will be addressed.

I wish you a productive year in FY 2012-2013.

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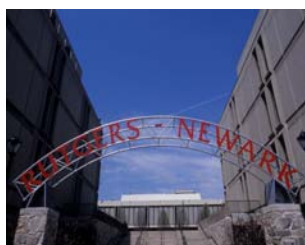
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## FY 12 CUMULATIVE AWARDS MORE THAN \$500,000

**Brenda Hopper**  
RBS/SBDC  
\$3,553,260

**William Holzemer**  
College of Nursing  
\$1,925,893

**Deborah Walker—  
McCall**  
Academic Foundations  
\$1,220,084

**Alexander Gates**  
Chancellor's Office  
\$1,070,000

**Wilma Friedman**  
Biological Sciences  
\$1,036,011

**Barry Komisaruk**  
Graduate School  
\$772,776

**Anthony Braga**  
School of Criminal  
Justice  
\$771,685

**Denis Pare**  
CMBN  
\$765,395

**Mauricio Delgado**  
Psychology  
\$741,816

**Haesun Kim**  
Biological Sciences  
\$572,678

**Karina Schafer**  
Biological Sciences  
\$547,546

**Nihal Altan-Bonnet**  
Biological Sciences  
\$532,157

**Alan Sadovnik**  
SPAA  
\$510,500

**Lee Slater**  
Earth &  
Environmental Sciences  
\$507,286

**Jonathon Eckstein**  
Rutgers Business  
School  
\$499,870

**SINGLE AWARDS MORE THAN \$300,000**

Hopper	Brenda	RBC/NJSBDC	Deborah Smarth	US Small Business Administration	NJ Small Business Development Center	<b>\$2,945,060</b>
Holzemer	William	College of Nursing		Robert Wood Johnson Foundation	Faculty Preparation Program: New Jersey Nursing Initiative RWJF Phase II	<b>\$1,793,057</b>
Gates	Alexander	Chancellor's Office	Alexander Gates	NSF	LSAMP - The Garden State Alliance for Minority Participation	<b>\$1,000,000</b>
Komisaruk	Barry	FASN-Psychology		NIH/NIGMS	Minority Biomedical Research Support Program at Rutgers-Newark	<b>\$624,224</b>
Kim	Haesun	FASN-Biological Science		NJ Dept. of Health & Senior Services: Commission on Brain Injury Research	Effects of diffused axonal injury on myelin and myelinated axons	<b>\$540,000</b>
Friedman	Wilma	FASN-Biological Science		NIH/NINDS	Modulating ProNGF-Induced Cell Death in Epilepsy: Strategies for Neuroprotection	<b>\$473,552</b>
Plinio	Alex	RBS		Prudential Foundation	Institute for Ethical Leadership: Prudential Nonprofit Executive Leadership Fellows Program	<b>\$450,000</b>
Pare	Denis	CMBN		NIH/NIMH	Associative properties of the perirhinal network	<b>\$421,246</b>
Holzapfel	Claus	FASN-Biological Sciences	Kirk Moloney	US Army Corps of Engineers	Understanding and Combating the Fire-enhancing Impact of Non-native Annuals in Deserts	<b>\$403,787</b>
Jaekle	Frieder	FASN-Chemistry		NSF	Conjugated Organoboron Oligomers and Polymers: Functional Building Blocks for Supramolecular Structures	<b>\$400,000</b>
Jones	Rachel	College of Nursing		NIH/NINR	Reducing HIV Risk in Urban Women: Soap Opera Videos on Video-Capable Cell Phones	<b>\$394,119</b>
Altan-Bonnet	Nihal	FASN-Biological Science		NIH/NIAID	Assembly dynamics and role of PI4P enriched replication organelles for enteroviral RNA replication in vivo	<b>\$383,363</b>
Boxer	Paul	FASN-Psychology		NIJ-Office of Justice Programs	Evaluation of Intervention Services for Gang-Involved Youth	<b>\$372,570</b>
Jordan	Frank	FASN-Chemistry		NIH/NIGMS	Structure and Mechanism of alpha-Ketoacid Decarboxylases and Dehydrogenases	<b>\$366,894</b>
Eckstein	Jonathan	RBS-MSIS		NSF	Approximate Augmented Lagrangians: First-Order and Parallel Optimization Methods	<b>\$358,499</b>

**SINGLE AWARDS MORE THAN \$300,000**

Hill	Diane	Chancellor's Office-OUCP	City of Newark	RU READY for WORK	\$351,680
Pare	Denis	CMBN	NIH/MIMH	Role of Intercalated amygdala neurons in the extinction of conditioned fear	\$344,149
Koos	Tibor	CMBN	James Tepper NIH/NINDS	Optogenetic Analysis of Neostriatal Circuits Engaged by Cholinergic Interneurons	\$338,333
Maurel	Patrice	FASN-Biological Science	NIH/NINDS	Nectin-like cell adhesion molecules and the mechanism of myelination	\$337,240
Delgado	Mauricio	FASN-Psychology	NIH/NIDA	Neural mechanisms of avoidance learning and active coping via emotion regulation	\$333,825
Zaborszky	Laszlo	CMBN	NIH/NINDS	Afferent Regulation of Cholinergic Fore-brain Neuron	\$331,388
Tepper	James	CMBN	NIH/NINDS	Nigrostriatal Dopamine Function.	\$331,309
Abercrombie	Elizabeth	CMBN	NIH/NINDS	Basil Ganglia Function in Huntington's Disease: Genetic Mouse Models	\$331,209
Friedman	Wilma	FASN-Biological Science	NIH/NINDS	Neurotrophin Actions in the Injured Brain	\$331,209
Delgado	Mauricio	FASN-Psychology	NIH/NIMH	Modulation of human reward circuitry by social factors	\$326,942
Clear	Todd	School of Criminal Justice	US Dept. of Justice	Excellence In Policing	\$299,691



The **LSAMP** program, under the direction of **Alexander Gates**, recently completed its third year of operations and has shown tremendous growth.

**Newark Campus**  
**60 Participants—Fall 2010**  
**159 Participants—Fall 2012**

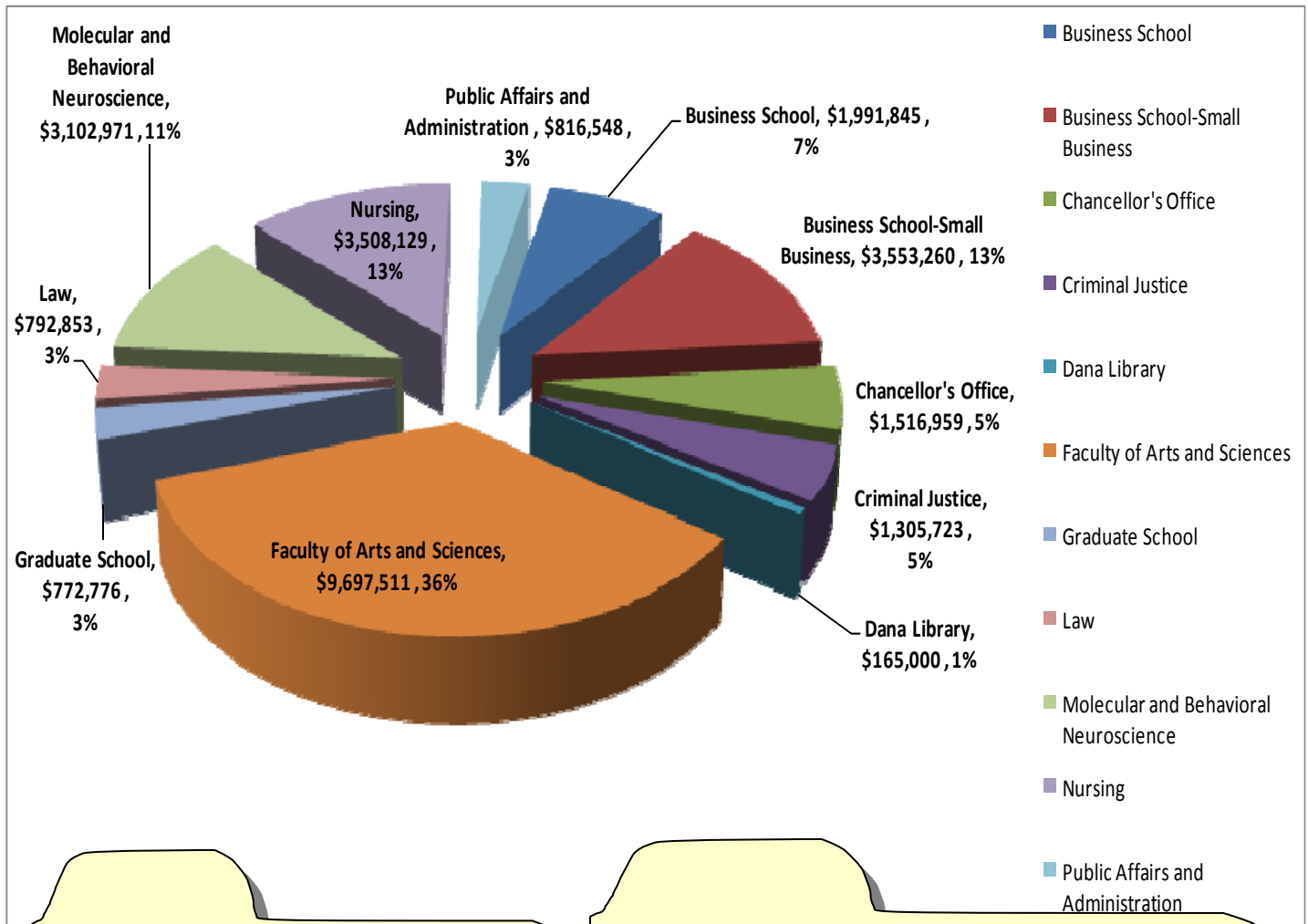
The Louis Stokes Alliances for Minority Participation is a true alliance incorporating the Newark and New Brunswick campuses along with Bloomfield and Essex County colleges, Fairleigh Dickinson, Kean, Montclair, New Jersey City and

William Patterson universities.

On the Newark campus participants are mentored by faculty spanning several departments. Students are also involved in the Minority Biomedical Research Support on the campus (Barry Komisaruk).

The program aims to diversify the STEM workforce through their efforts at significantly increasing the numbers of students successfully completing high quality degree programs in science, technology, engineering and mathematics (STEM) disciplines.

**BY DEPARTMENT**



**CHANCELLOR'S OFFICE**

Office of University-Community Partnerships  
\$424,680  
Paul Robeson Gallery - \$14,701  
LSAMP - \$1,000,000  
Child Care Access - \$77,578

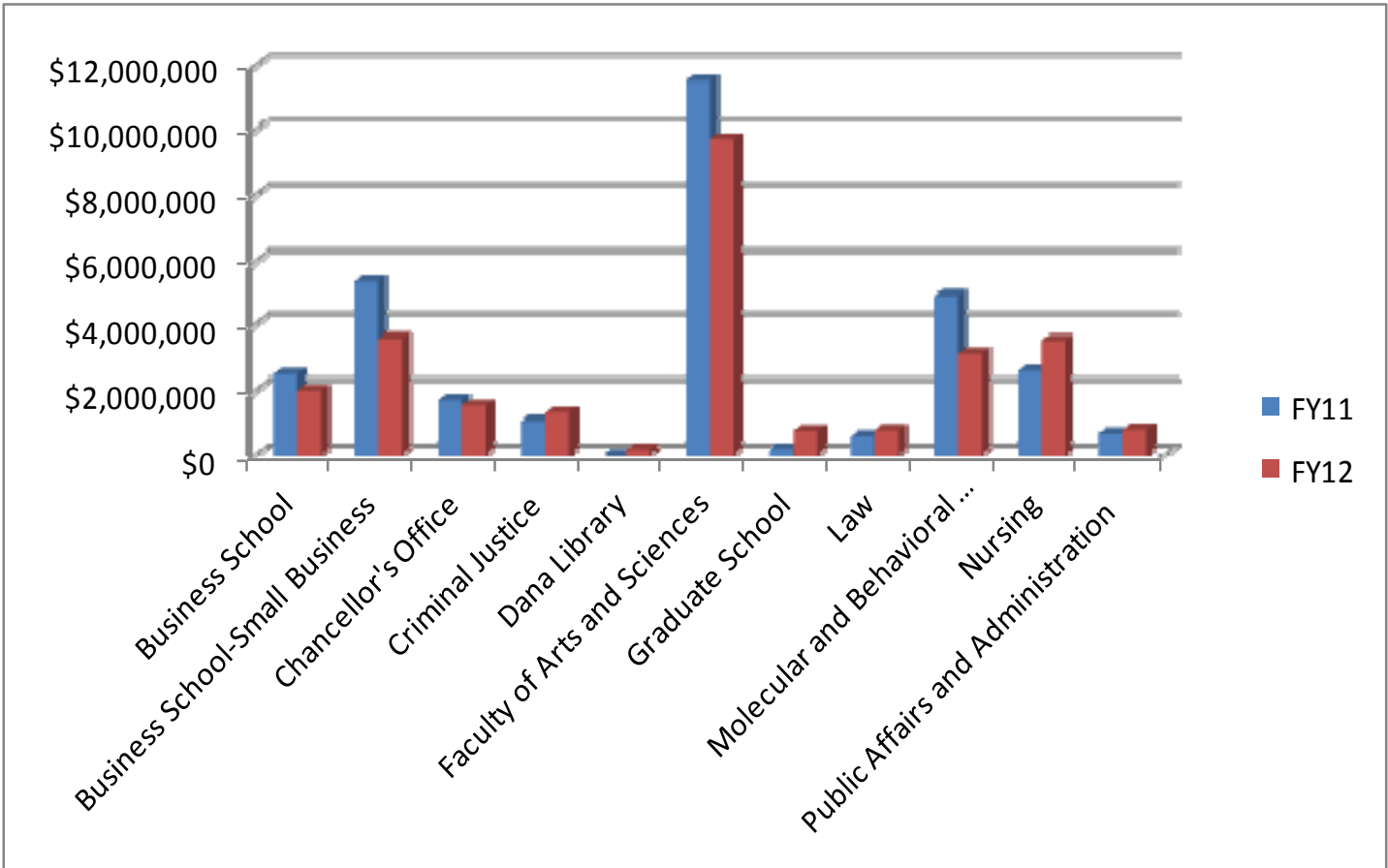
**FACULTY OF ARTS AND SCIENCES**

Academic Foundations	- \$1,220,084
Biological Sciences	- \$3,674,081
Chemistry	- \$1,268,394
Classical & Modern Languages & Literature	- \$ 6,647
Earth and Environmental Sciences	- \$ 825,855
English (Creative Writing)	- \$ 3,400
History (IECME)	- \$ 96,246
Math and Computer Sciences	- \$ 584,138
Physics	- \$ 8,947
Psychology	- \$1,527,915
Social Work	- \$ 24,922
Sociology and Anthropology	- \$ 40,000
Urban Education	- \$ 416,882

**RUTGERS BUSINESS SCHOOL**

Dean's Office	- \$ 282,368
Finance & Economics	- \$ 85,895
Institute for Ethical Leadership	- \$ 511,659
Management and Global Business	- \$ 237,526
Mgt. Science & Information Systems	- \$ 759,397
RU Technical Assistance Project	- \$ 100,000
Supply Chain Mgt. & Marketing Science`	- \$ 15,000

**BY DEPARTMENT - FY12 / FY11**



The above figures may be reflective of the post effects of the American Recovery and Reinvestment Act of 2009 (ARRA).

The School of Criminal Justice, School of Law and the College of Nursing show increases over the prior year.

The College of Nursing numbers were boosted by receipt of a \$1,793,057 grant from the Robert Wood Johnson Foundation. The funds support the New Jersey Nursing Initiative (NJNI) Faculty Preparation Program under the direction of **William Holzemer**, Dean of the College of Nursing.

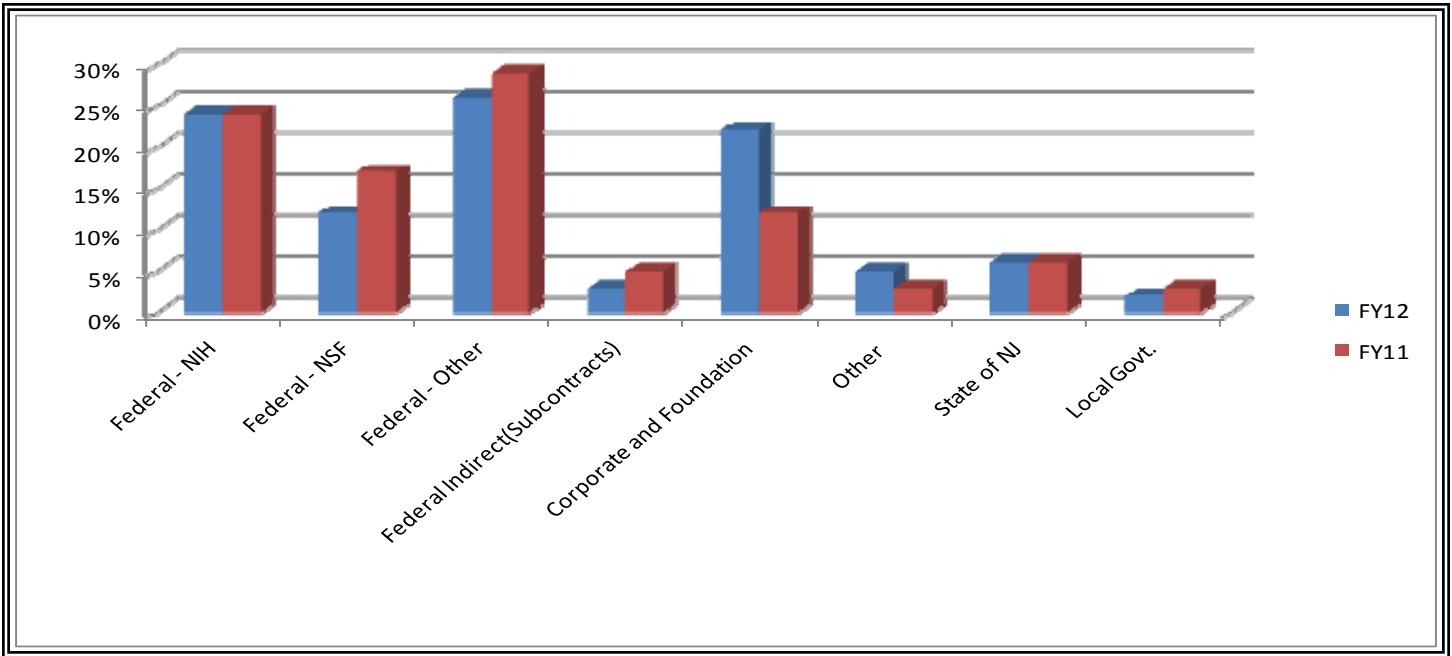
The NJNI goal is to “develop, implement and evaluate a statewide model for recruitment and retention of nurse faculty in New Jersey” with particular emphasis on Ph.D. prepared nurse faculty.

The Dana Library Institute of Jazz Studies, **Vincent Pelote**, received \$165,000 from The Andrew W. Mellon Foundation to support the project to catalog five jazz collections of prominent women in jazz—Ella Fitzgerald, Abbey Lincoln, Annie Ross, Victoria Spivey and Wilma Dobie.





**BY FUNDING AGENCY TYPE - FY12 / FY11**



**BY FUNDING AGENCY DOLLARS - FY08 - FY12**

	FY12	FY11	FY10	FY09	FY08
Federal - NIH	\$6,556,042	\$7,566,747	\$9,085,679	\$5,291,282	\$3,940,598
Federal - NSF	\$3,348,047	\$5,303,411	\$5,541,945	\$3,701,860	\$2,815,480
Federal - Other	\$7,195,823	\$8,998,700	\$6,029,821	\$4,883,440	\$4,370,385
Federal Indirect (Subcontracts)	\$939,016	\$1,662,385	\$1,526,664	N/A	N/A
Corporate and Foundation	\$5,883,337	\$3,704,639	\$5,583,098	N/A	N/A
Foundations	N/A	N/A	N/A	\$8,065,970	\$4,002,420
Industry	N/A	N/A	N/A	\$512,995	\$920,714
Other	\$1,304,696	\$819,706	\$361,437	N/A	N/A
Other	N/A	N/A	N/A	\$2,222,068	\$1,693,483
State of NJ	\$1,505,734	\$1,900,665	\$1,573,506	\$1,835,625	\$1,404,571
Local Govt.	\$490,880	\$1,039,747	\$353,663	\$423,000	\$329,450
<b>TOTAL</b>	<b>\$27,223,575</b>	<b>\$30,996,000</b>	<b>\$30,055,813</b>	<b>\$26,936,240</b>	<b>\$19,477,101</b>

**BY AWARD TYPE**

<b>NEW</b>	<b>123</b>
<b>CONTINUATION</b>	<b>55</b>
<b>RENEWAL</b>	<b>28</b>
<b>SUPPLEMENT</b>	<b>6</b>
<b>INCREMENT</b>	<b>3</b>



**WHY EVERY GRANT COUNTS**

	<b>FY12</b>	<b>FY11</b>
<b>\$500,000—\$3,000,000</b>	<b>2%</b>	<b>4%</b>
<b>\$300,000—\$499,000</b>	<b>9%</b>	<b>9%</b>
<b>\$150,000—\$299,999</b>	<b>15%</b>	<b>17%</b>
<b>\$50,000 —\$149,999</b>	<b>23%</b>	<b>25%</b>
<b>Under \$50,000</b>	<b>51%</b>	<b>45%</b>



**ENSURING THE FUTURE**

The **Academic Foundations Center** as part of its mission “provides academic opportunities, resources, and support programs primarily for underrepresented students to achieve success through education”. Undergraduate Academic Programs and Pre College Programs provide academic and service programs that ensure the success of students ranging from the sixth grade through college graduation.

In support of that mission the Director, Deborah Walker-McCall, and her team were successful in obtaining funding from the U.S. Department of Education Trio Programs—Talent Search and Upward Bound. The two Talent Search programs focus on the East Orange and Irvington and Orange neighborhoods. The Center was also the recipient of support funds from the New Jersey Higher Education Aim High Academy for the Summer Earth Ecology Program (SEED).



The blend of research and education is demonstrated in the National Science Foundation funded project *New Hybrid Materials based on Organosilicon and Organoboron Polymeric Scaffolds* under the direction of **John Sheridan** and **Freider Jaekle**. Some of the students involved in the Academic Foundations’ SEED project are also summer interns on this project. The project also expands on the departmental Polymer and Materials Chemistry Outreach Programs with Newark high schools.

This particular project is the design and preparation of novel materials that are stimuli responsive, e.g. the materials properties such as color, magnetism, softness, crystallinity, shape etc, can be changed through the application of an external stimulus such as light (UV or visible), electricity, pressure, heat or addition of certain chemicals. Stimuli-responsive materials have an increasing importance in many new technologies.

This novel approach involves the inclusion of transition-metal atoms (e.g Ru, Fe, Pt etc) into polymers by attaching these atoms to groups that contain boron and silicon atoms. The metals are susceptible to a variety of stimuli, not easily found in non-metal containing compounds. The choice of both boron or silicon containing linkers to the metal atoms extends the variety of metals that can be used and their interactions with the polymer chains. In the presence or absence of various stimuli, the metals respond and change their mode of binding, thereby changing the overall properties of the material.



**THE STORIES AND THE PEOPLE BEHIND THE NUMBERS**

The total award dollars for FY12 was \$27,223,575 based on the internal records of the Research Office. The amount reflects a reduction of just over 12% from FY year 11.

Federal dollars accounted for 63% of total award dollars.

The Small Business Development Centers in New Jersey are supported by the US Small Business Administration which is the largest single annual source of federal dollars to the campus. The Center is managed by Brenda Hopper and her team.

The Department of Biological Sciences recorded the largest total dollar awards, followed by CMBN.

The College of Nursing and the School of Criminal Justice recorded total increases over FY11, along with SPAA and the School of Law.

Several Young Investigators changed ranks by receiving their first federal funding including—Jonathan Eckstein, Nan Gao, Patrice Maurel, Ioannis Sakellardis and Hui Xiong.

Karina Schafer, Department of Biological Sciences, is a very busy person on campus. She has several active projects funded by the NSF, Dept. of Energy and the USDA Forest Service. Her projects examine the environmental impact of carbon sequestration in the New Jersey Pine Barrens along with the greenhouse gas balance of urban temperate wetlands. The crystal ball shows more new awards in FY13.

The Paul Robeson Gallery, under the direction of Anonda Bell, received another citation of excellence from the New Jersey State Council on the Arts in recognition of the highest possible assessment of a project proposed for funding. The proposals are reviewed by esteemed, independent panels of peers.

Anthony Braga, School of Criminal Justice, spearheads the project on Analyzing Violent Crime and Illicit Drugs Market Problems in Newark, New Jersey. Funding is provided by several agencies that include the Community Fund of New Jersey, Victoria Foundation, Prudential Foundation, Nicholson Foundation and PSE&G.

# CONGRATULATIONS

## NEWARK CAMPUS

### FY12



This state-of-the-art MRI facility, opened in May 2011, enables researchers with Rutgers, other institutions in the region and the business world to conduct a wide variety of studies.

<http://researchoffice.newark.rutgers.edu/>



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