



# Annual Report 2012

Creating Opportunities for Research

# Planning for the Future



A donation from the Arthur W. Perdue Foundation to WKU-O showcases how private enterprise and the university can work together to increase research opportunities. This gift will put WKU-O students on the cutting edge of food technology research.



*Dr. Gordon C. Baylis, VP for Research, WKU makes comments at the ribbon cutting.*

In today's economy, competition for federal, state, and private foundation grant dollars is greater than ever. Western Kentucky University has been creative in finding new ways of funding research.

Corporate partnerships are a wise investment in the future. Working with WKU can advance a corporation's strategic positioning, mission and goals while expanding the future of science, technology, and social service.

WKU recognizes its many partners in this effort, all of which are key to successful research opportunities. Investing in research projects and supporting students significantly benefits the University's academic and service programs.

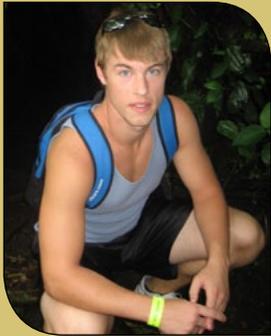
Recognizing that research opportunities do not always result from the efforts or actions of any single person, department, or college, the Office of Research has taken a holistic and inclusive approach toward promoting research.

The Vice President for Research, Dr. Gordon C. Baylis, works with colleges and departments campus-wide to promote intercollegiate research initiatives. To support this vital connection, a competitive internal grant program was designed to develop faculty and students individual research projects leading to the pursuit of external funding sources, and/or the promotion of scholarly and creative activities.



# Undergraduate Research presented during REACH Week

## Student Representatives for Undergraduate Research



J. P. Stoval



Bailey Mack



Nate Hovee



Keyana Boka

REACH Week, an annual conference, encourages student research and creativity across multiple disciplines. The 42nd Annual WKU Student Research Conference was, by far, the biggest in the event's history.

The 269 presentations included 146 papers, 111 posters/exhibits, six performances/videos, and six spotlight presentations. A total of 184 undergraduate students and 85 graduate students were the primary authors, and an additional 151 students are co-authors.

Among the undergraduate participants in the conference were 69 Honors College students. In addition, 32 of the undergraduate participants are students in the Carol Martin Gatton Academy of Mathematics and Science in Kentucky. Since its creation in 2008, a total of 102 Gatton Academy students have presented at the conference.

A total of 154 faculty members served as mentors, providing expert instruction and guidance to the student researchers and artists. Student participants represented 33 departments and programs from all colleges.

There were multiple presentations throughout the week by renowned speakers, and a "Worlds of Research" night, where Honors students presented research and shared their Capstone/Thesis project experience with their peers.

The conference featured a presentation by a student of the new Educational Leadership doctoral program (Ed.D.) in the Department of Educational Administration, Leadership, and Research. Wesley Waddle presented a paper entitled "An Analysis of Factors Impacting K-12 Technology-Infused Lesson Design."

# Supporting Innovation



The WKU NOVA Center Ribbon Cutting



High Performance Computing Center



Pure Power Technologies new office Ribbon Cutting

## Here's what happened...

The Center for Research and Development (CRD) provides an ideal environment for business start-ups as well as bringing together scientists and engineers for research collaborations and commercialization of technology. Below are some of the successes realized during 2011-2012 Fiscal Year.

- The Student Business Accelerator program was launched with three new companies at the end of June, 2012.
- Several new Small Business Accelerator clients were added.
- Second expansion of the Small Business Accelerator was completed, adding three new offices, small conference room, restrooms and an outside entrance.
- The WKU NOVA Center held its Ribbon Cutting on October 18, 2011.
- The High Performance Computing Center was completed and made operational.
- Pure Power Technologies moved into custom-designed 13,000 sq. ft. office and lab suite.
- Sensora, a technology client in the Small Business Accelerator, expanded and remodeled.
- Bucks for Bright Ideas contest attracted 125 submissions.
- The CRD Common Area was used as an art gallery for several months displaying art pieces from WKU students and faculty.
- Advanced Materials Laboratory was completed and occupied.
- Telepresence Center was completed and made operational.

# Sponsored Programs Overview

Fiscal year 2012 proved to be a year of declining funding resources, requiring faculty and staff to be even more productive to keep the research engine going. OSP measures this productivity by looking at proposal submissions, new awards, total expenditures, and individual departments in an effort to gauge our progress overall.

disciplines and involve numerous community service agencies in the region.

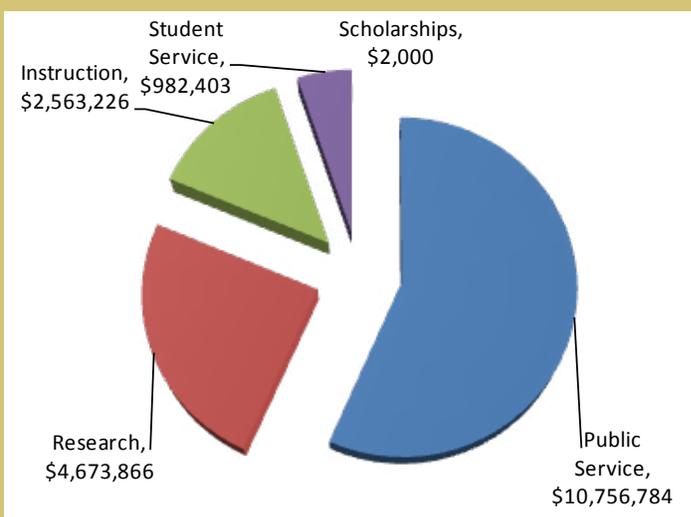
These achievements are evidence that WKU faculty and staff efforts continue to augment resources for scholarly and creative endeavors and remains strong.

This past year, after many years of continuing along an upward trajectory, we began to see a slight slowdown in expenditures. In this challenging economy, where there is more competition than ever before for scarcer dollars, our researchers continue to persevere. OSP continues to keep an eye on funding trends and data as priorities continue to shift in Washington, DC.

WKU faculty, staff and students submitted a total of 218 proposals for external funding. During that same period, 186 grants were awarded. These efforts brought in \$18,978,279 in grants during the period July 1, 2011 through June 30, 2012. Many of these funded projects include a number of collaborations across

Awards by Sponsor Type	Dollars	Awards
Federal & Appropriations	\$14,774,677	107
State	\$2,581,896	45
Local	\$23,000	2
Private	\$1,598,706	32
Awards by Colleges and Other Units	Dollars	Awards
College of Education and Behavioral Sciences	\$5,819,306	37
Other	\$5,464,001	28
Ogden College of Science and Engineering	\$5,128,838	71
College of Health and Human Services	\$1,179,911	29
Honors College	\$798,619	4
Potter College of Arts and Letters	\$306,917	4
University College/Community College	\$171,519	7
Gordon Ford College of Business	\$105,469	5
Division of Extended Learning and Outreach	\$3,699	1
<b>Total</b>	<b>\$18,978,279</b>	<b>186</b>

Awards by Project Type, 2012



Top Ten Awards by Dollars

<b>1.</b>	U.S. DoEd	\$2,538,471
<b>2.</b>	USDA	\$1,967,313
<b>3.</b>	DHHS/ACF	\$1,366,856
<b>4.</b>	KY Transp. Cabinet	\$1,200,000
<b>5.</b>	CPB Private	\$994,456
<b>6.</b>	Flagship/NSEP/DOD	\$797,708
<b>7.</b>	NSF	\$605,247
<b>8.</b>	NPS/Mammoth Cave	\$493,667
<b>9.</b>	KHEAA	\$400,000
<b>10.</b>	KDE - Federal	\$378,086

# Internal Funding Opportunities

The WKU Office of Research has long held the belief that fostering faculty research and scholarly endeavors creates a bridge to successfully cultivating the minds of WKU's students. The Research & Creative Activities Program (RCAP) was established to support this link.

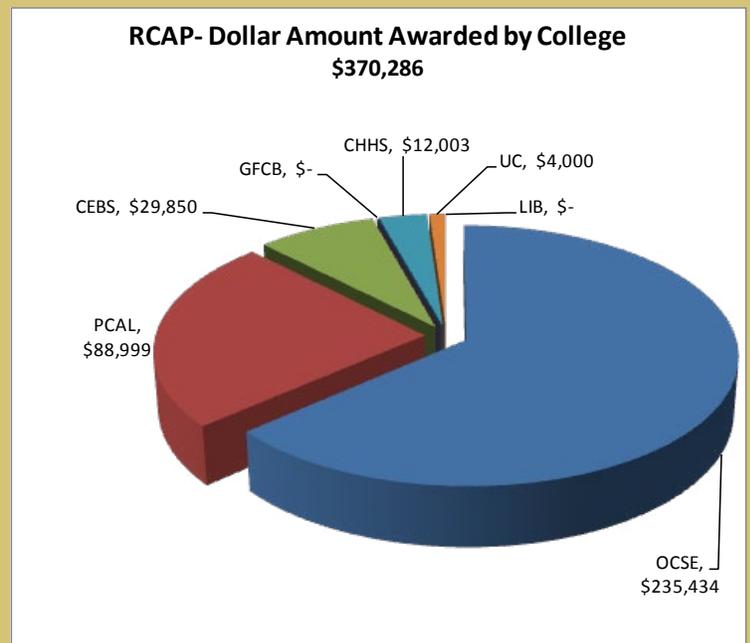
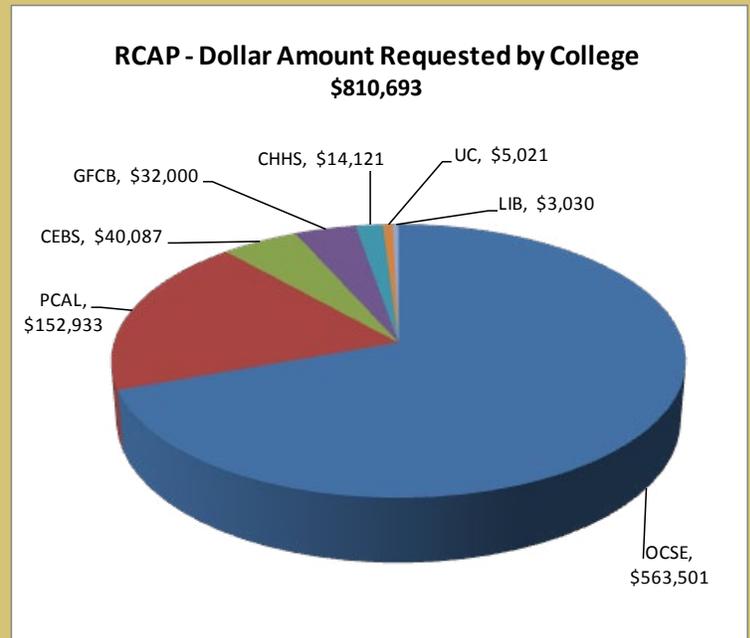
During fiscal year 2012, WKU faculty submitted 69 proposals covering a broad spectrum of scientific and artistic pursuits. Thirty-eight proposals were awarded for a total amount of \$370,286. The funding is used for a variety of reasons, from salary support for graduate and undergraduate student workers to the purchase of supplies and equipment.

Eligible faculty apply for funding through two funding categories:

- RCAP Category I – awards up to \$20,000 per application with the stated objective of enhancing the competitiveness of a proposal for external grant funding.
- RCAP Category II – awards up to \$8,000 per application to support the general development, expansion, or enhancement of faculty research and scholarly activity.

WKU is proud to invest in its faculty's academic pursuits, and the Office of Research & Sponsored Programs actively demonstrates this spirit of support through the RCAP program.

## RCAP by College



Percentage Comparison		
	Requested	Awarded
OCSE	70%	64%
PCAL	19%	24%
CEBS	5%	8%
GFCB	4%	0%
CHHS	2%	3%
UC	1%	1%
LIB	0%	0%
Total	100%	100%



Hemali Rathnayake



Stacy Wilson



Cathleen Webb



Rajalingam  
Dakshinamurthy



Daniel Carter



Keith Andrew



Doris Sikora



Nicole Breazeale

# Awards

External funding supports research, teaching, public service and creative activities initiated by faculty and staff at the university. The following faculty/staff received recognition for their efforts in submitting grant proposals and/or receiving awards from federal, state, local, private and international sponsoring agencies.

Recognition Awards were given in the following categories.

In Grateful Appreciation of your Dedicated Service to the Research & Creative Activities Program:

**Steve Haggblom**, Psychology

**Kristina Arnold**, Art

In Recognition of Significant Progress Towards Commercialization:

**Stacy Wilson**, Engineering

**Hemali Rathnayake**, Chemistry

**Rajalingam Dakshinamurthy**, Chemistry

In Recognition and Sincere Appreciation for Over 30 Years of Distinguished Service:

**Martha Sales**, WKU TRIO Programs

In Recognition Of Outstanding Research Mentoring:

**Cathleen Webb**, Chemistry

**Keith Andrew**, Physics and Astronomy

The Interdisciplinary Award recognizes:

**Daniel Carter**, Institute for Rural Health

**Nicole Breazeale**, Sociology

**Patricia Desroisers**, Social Work

**Doris Sikora**, Family and Consumer Science

**Connie Jo Smith**, Training and Technical Assistance Services

*\*Note: Not all award recipients are shown.*