

Annual Report on Research

2014



AUBURN

UNIVERSITY

COLLEGE OF SCIENCES

AND MATHEMATICS

Office of the Associate Dean for Research

Raymond Henry, Ph.D.

Amy Thomas

Nancy Robinson

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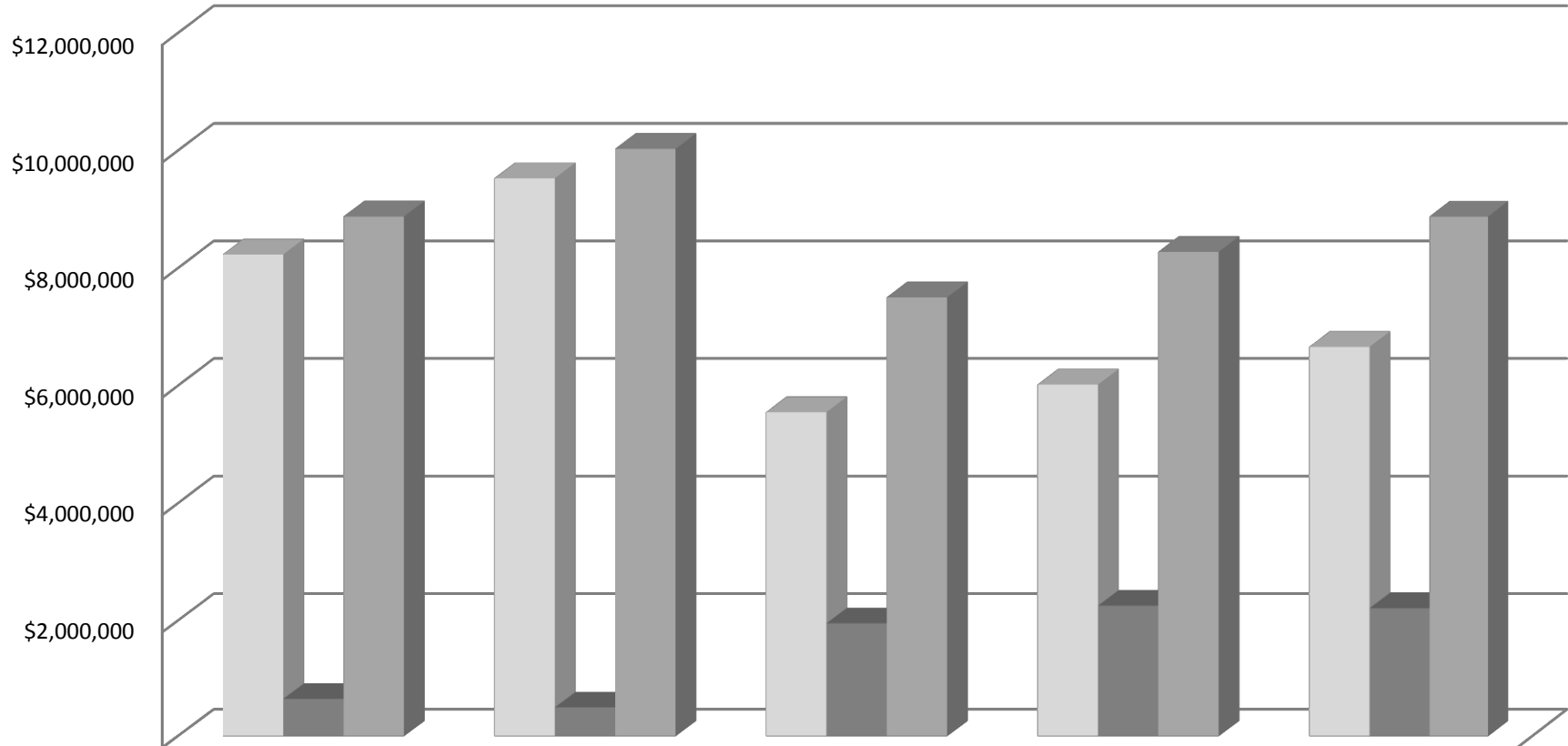
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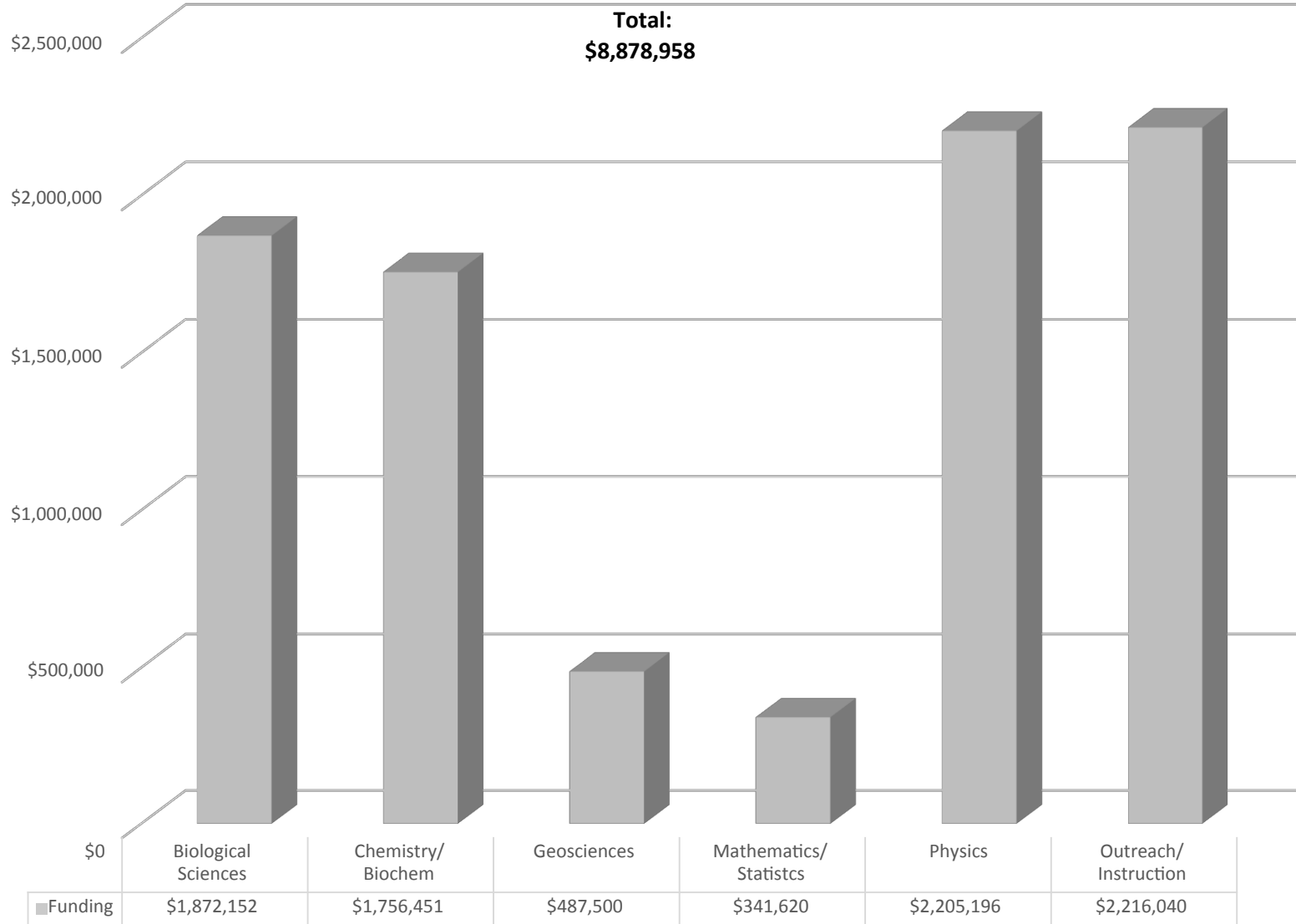
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EXTRAMURAL FUNDING COSAM FY 2010-2014

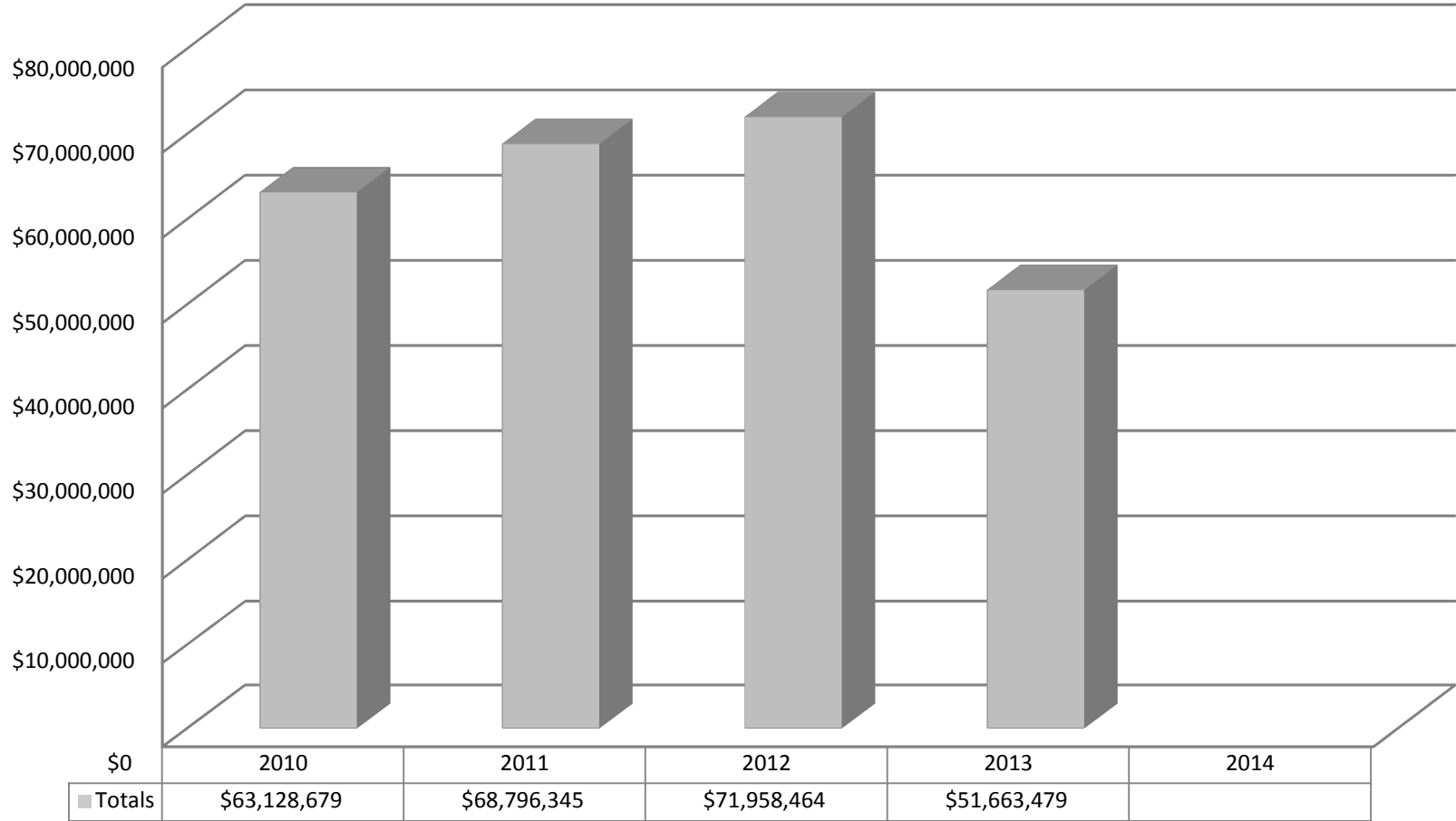


	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
■ Research	\$8,234,976	\$9,532,139	\$5,551,293	\$6,021,581	\$6,662,918
■ Outreach	\$646,042	\$499,111	\$1,954,296	\$2,258,089	\$2,216,040
■ Total	\$8,881,018	\$10,031,250	\$7,505,589	\$8,279,670	\$8,878,958

EXTRAMURAL RESEARCH FUNDING COSAM DEPARTMENTS FY 2014



EXTRAMURAL FUNDING AUBURN UNIVERSITY FY 2014



**COSAM EXTRAMURAL FUNDING
BY DEPARTMENT
2010-2014**

Dept. Name	Number of Proposals Submitted for 2010-2014	Number of Grants Receiving new dollars 2010-2014	Funding for 2010 - 2014 Amount of
Biological Sciences			
FY 2010	37	30	\$3,376,031
FY 2011	36	29	\$3,393,985
FY 2012	32	24	\$1,713,491
FY 2013	53	23	\$2,127,778
FY 2014			
Research		32	\$1,872,152
Outreach/Instructional		6	\$184,042
Total			\$12,667,479
 Chemistry/Biochemistry			
FY 2010	31	17	\$1,285,294
FY 2011	26	11	\$1,461,933
FY 2012	17	11	\$1,158,626
FY 2013	26	7	\$666,508
FY 2014			
Research		14	\$1,756,451
Outreach/Instructional		0	\$0
Total			\$6,328,812

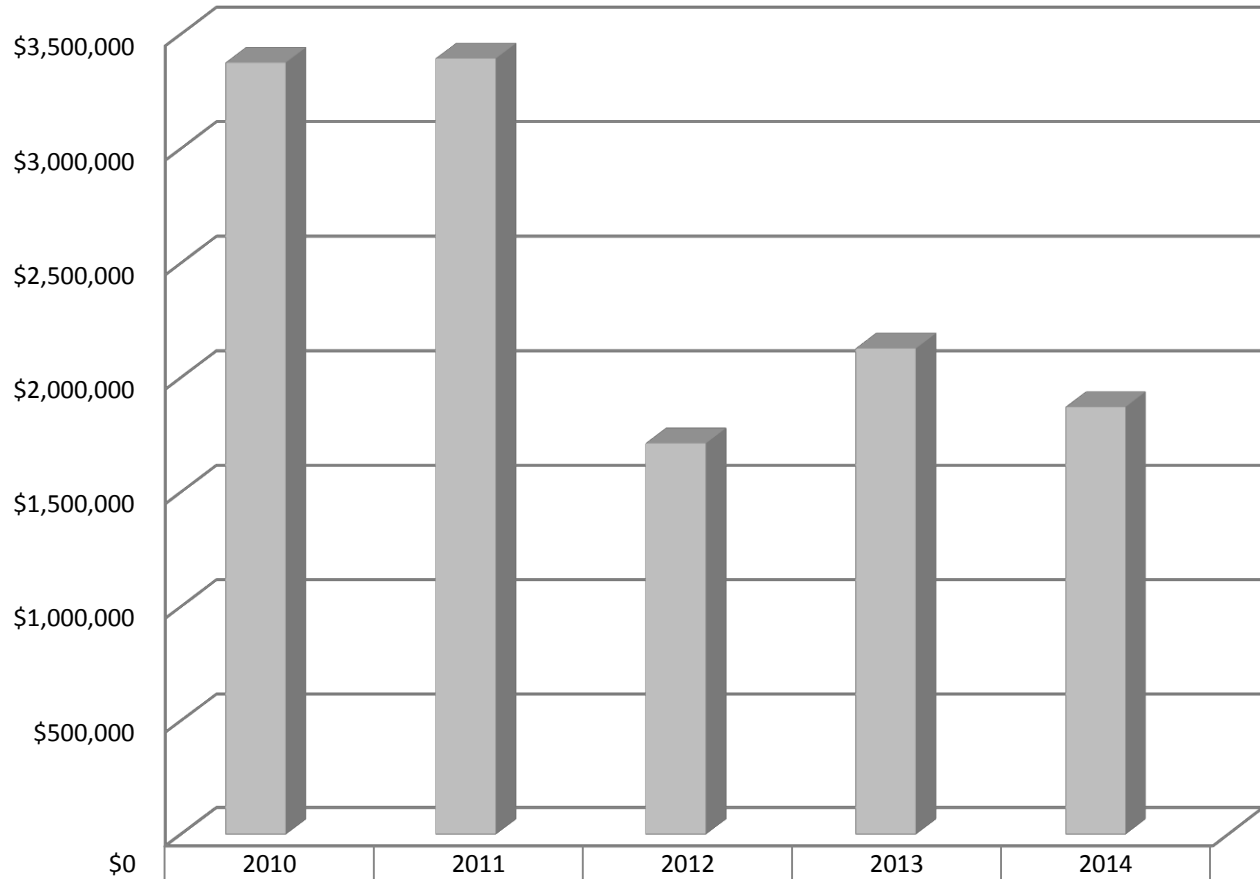
**COSAM EXTRAMURAL FUNDING
BY DEPARTMENT
2010-2014**

Dept. Name	Number of Proposals Submitted for 2010-2014	Number of Grants Receiving new dollars 2010-2014	Funding for 2010 - 2014 Amount of
Geology/Geography			
FY 2010	18	7	\$136,897
FY 2011	13	6	\$221,095
FY 2012	18	4	\$155,407
FY 2013	22	8	\$131,817
FY 2014			
Research		7	\$487,500
Outreach/Instructional		2	\$24,673
Total			\$1,157,389
 Mathematics/Statistics			
FY 2010	8	6	\$338,160
FY 2011	9	3	\$158,000
FY 2012	11	0	\$0
FY 2013	14	4	\$130,886
FY 2014			
Research		7	\$341,620
Outreach/Instructional		6	\$260,452
Total			\$1,229,118

**COSAM EXTRAMURAL FUNDING
BY DEPARTMENT
2010-2014**

Dept. Name	Number of Proposals Submitted for 2010-2014	Number of Grants Receiving new dollars 2010-2014	Funding for 2010 - 2014 Amount of
Physics			
FY 2010	33	34	\$4,014,914
FY 2011	30	30	\$4,297,126
FY 2012	24	21	\$2,523,769
FY2013	38	27	\$2,964,592
FY 2014			
Research		29	\$2,205,196
Outreach/Instructional		4	\$353,989
Total			\$16,359,586
 COSAM Outreach			
FY 2010		3	\$646,042
FY 2011		4	\$499,111
FY 2012		11	\$1,954,296
FY 2013		5	\$1,659,295
FY 2014		33	\$2,216,040
Total			\$6,974,784
 Totals FY 2010-2014	 496		 \$44,717,168
Totals FY 2014	122		\$8,878,959

EXTRAMURAL RESEARCH FUNDING HISTORY BIOLOGICAL SCIENCES FY 2010-2014



■ Amount of new dollars in FY	\$3,376,031	\$3,393,985	\$1,713,491	\$2,127,778	\$1,872,152
Number of grants receiving new dollars	30	29	25	23	32

EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Biological Sciences

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Best, Troy L.	Monitoring populations of Lesser Prairie Chickens on BLM administered lands in SE New Mexico	\$44,242	100%	USDI - Bureau of Land Management	9/1/2011	9/30/2016
Bond, Jason E.	NATR Vegetation classification & mapping - USG0R041	\$1,558	100%	NatureServe	5/1/2014	11/30/2014
Bond, Jason E.	NSF graduate research fellowship program	\$13,333	100%	NSF-National Science Foundation	1/15/2014	5/31/2014
Bond, Jason E.	Collaborative Research: Digitization TCN: InvertEBase-Reaching back to see the future: Species Rich invertebrate faunas document causes and consequences of biodiversity shifts	\$231,217	75%	NSF-National Science Foundation	9/1/2014	8/31/2018
Bond, Jason E.	NATR Vegation classification and mapping-USG0R041	\$12,983	100%	NatureServe	5/1/2014	11/30/2014
Bond, Jason E.	NSF graduate research fellowship program (Nicole Garrison)	\$44,000	100%	NSF-National Science Foundation	1/15/2014	5/31/2015
Cobine, Paul A.	Transport and distribution of mitochondrial copper	\$139,022	100%	NSF-National Science Foundation	5/15/2012	4/30/2016
Cobine, Paul A.	Transport and distribution of mitochondrial copper	\$8,000	100%	NSF-National Science Foundation	5/15/2012	4/30/2016
Feminella, John W.	Development of probabilistic models for southeastern streams	\$20,000	100%	Savannah River Nuclear Solutions, LLC	12/13/2013	3/31/2014

EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Biological Sciences

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Goertzen, Leslie Richard	Digitization TCN: Collaborative research: The key to the cabinets: Building and sustaining a research database for a global biodiversity hotspot	\$65,990	100%	NSF-National Science Foundation	8/15/2014	7/31/2018
Guyer, Craig R.	Brumation behavior & reproductive success of Argentine tegus (Tupinambis meriana) Hel in Semi-Natural enclosures at a high-latitude site	\$26,149	100%	USDI - U.S. Geological Survey	9/2/2014	9/30/2015
Guyer, Craig R.	Delineating EEEV over-wintering and early season amplification mechanisms	\$11,500	100%	University of South Florida	8/1/2013	7/31/2014
Guyer, Craig R.	Grassland habitat management for diverse taxa and stakeholders	\$26,089	33%	MSU - Mississippi State University	5/1/2014	7/31/2015
Halanych, Kenneth M.	Elucidating the early history of metazoans	\$235,714	100%	NASA - National Aeronautics and Space Administration Headquarters	4/18/2013	4/17/2017
Halanych, Kenneth M.	Elucidating the early history of metazoans	\$233,775	100%	NASA - Goddard Space Flight Center	4/18/2013	4/17/2017
Hermann, Sharon M.	A conservation status assessment of Chamberlain's Dwarf Salamander Eurycea Chamberlaini and One-toed Amphiuma, Amphiuma Pholeter	\$45,000	100%	Georgia Department of Natural Resources	12/31/2013	11/15/2015
Hill, Geoffrey	NSF Graduate Research Fellowship Program (Rebecca Koch)	\$44,000	100%	NSF-National Science Foundation	1/15/2014	8/31/2014

EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14**Biological Sciences**

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Hill, Geoffrey	Understanding the mechanisms of mycoplasma gallisepticum virulence	\$1,000	100%	Society for Integrative and Comparative Biology	2/15/2014	2/14/2015
Hill, Geoffrey	The role of the immune system in preventing infectious diseases in wild birds	\$2,497	100%	American Ornithologists Union	6/15/2013	6/15/2014
Hill, Geoffrey	NSF graduate research fellowship program	\$19,892	100%	NSF-National Science Foundation	1/15/2014	8/31/2014
Hood, Wendy R.	Characterizing the mechanisms responsible for linking a maternal egg hormone to the production of aggressive young	\$600	100%	North American Bluebird Society	7/28/2013	9/30/2014
Liles, Mark R.	BAC Sudoku sequencing paradigm to accelerate metagenomic natural product chemistry discovery	\$82,500	100%	Lucigen Corporation	6/1/2014	1/31/2015
Liles, Mark R.	Evaluation of antimicrobial activity for Bacillus strains for aquaculture application	\$10,686	100%	Organic Pond, LLC	6/1/2014	5/31/2015
Liles, Mark R.	MetaBiopOR-Bioprospecting of oil reservoir metagenomes for novel thermostable biocatalysis of industrial relevance	\$97,190	100%	SINTEF	9/1/2013	5/31/2014

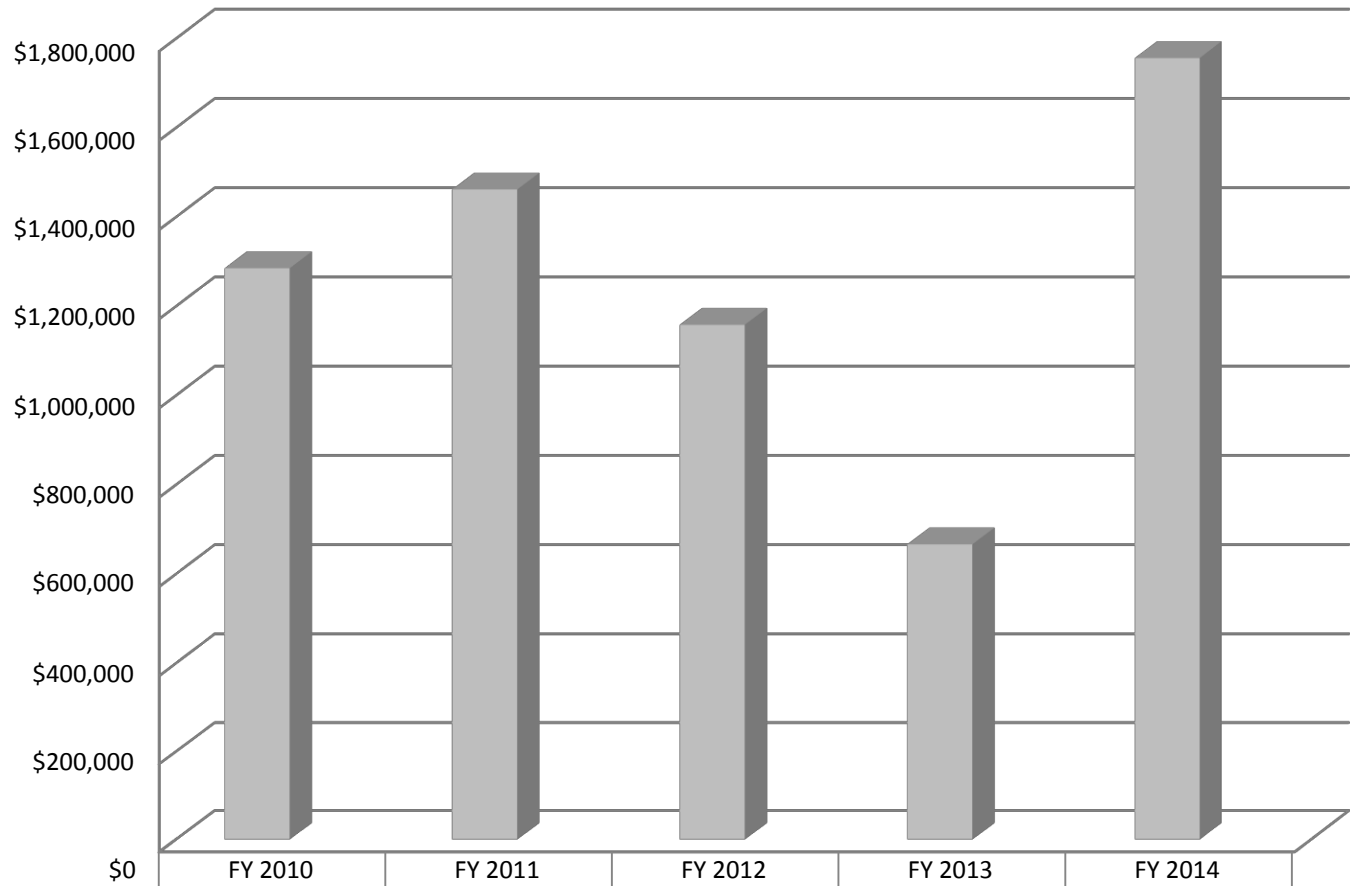
EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Biological Sciences

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Liles, Mark R.	Studies to improve the control of virulent aeromonas hydrophilia & evaluate the impact on environmental factors on its abundance in catfish aquaculture ponds	\$27,410	33%	MSU - SRAC - Mississippi State University - Southern Regional Aquaculture Center	6/1/2014	5/31/2015
Liles, Mark R.	Antifungal compound discovery from soil metagenomes	\$62,339	100%	Lucigen Corporation	6/1/2014	1/21/2015
Liles, Mark R.	Microbial studies of corn & soybean agricultural systems	\$206,762	50%	Ag Spectrum	6/1/2011	5/31/2017
Liles, Mark R.	Microbial strain genome sequencing and analysis	\$18,572	100%	Agricen Sciences	12/15/2013	12/14/2014
Liles, Mark R.	Bayer drought tolerance 2014	\$7,958	100%	Bayer (Agriculture Division)	1/1/2014	12/31/2014
Liles, Mark R.	Genomics, virulence and detection of emerging pathogenic aeromonas hydrophila in channel catfish	\$75,799	33%	MSU - Mississippi State University	9/1/2013	8/31/2016
Liles, Mark R.	Mining multidrug-resistant desert soil bacteria for biocontrol activity and biologically active compounds	\$47,000	100%	BARD - Binational Agricultural Research & Development Fund	7/1/2014	6/30/2015
Liles, Mark R.	Studies to improve the control of virulent aeromonas hydrophilia & evaluate the impact on environmental factors on its abundance in catfish aquaculture ponds	\$9,375	33%	MSU - SRAC - Mississippi State University - Southern Regional Aquaculture Center	6/1/2014	5/31/2015
	Biological Sciences Total	\$1,872,152				
	Biological Sciences Count	32				

EXTRAMURAL RESEARCH FUNDING HISTORY CHEMISTRY AND BIOCHEMISTRY FY 2010-2014



■ Amount of new dollars in FY	\$1,285,294	\$1,461,933	\$1,158,626	\$666,508	\$1,756,451
Number of grants receiving new dollars	17	11	11	7	14

EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Chemistry & Biochemistry

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Acevedo, Orlando A.	Collaborative research: Protein Arginine Methylation	\$100,000	100%	NSF-National Science Foundation	8/1/2014	7/31/2017
Duin, Eduardus C.	Collaborative Research: Understanding electron bifurcation in methanogenic archaea	\$250,000	100%	NSF-National Science Foundation	8/15/2014	7/31/2017
Duin, Eduardus C.	Iron-sulfur clusters in the evolution of the enzymatic synthesis of RNA	\$31,188	100%	University of Arkansas	1/14/2013	1/13/2017
Easley, Christopher J.	Interrogating dynamics of acute secretion of adiponectin multimers from adipose tissue	\$160,950	50%	DHHS PHS-NIH-NIDDK-National Inst for Diabetes, Digestive & Kidney Diseases	6/8/2012	5/31/2015
Easley, Christopher J.	Hormone-responsive electrodes for quantitative discourse with endocrine cells	\$329,990	100%	NSF-National Science Foundation	7/1/2014	6/30/2017
Ellis, Holly R.	Defining the mechanistic strategies of desulfonation in the alkanesulfonate monooxygenase system	\$5,150	100%	NSF-National Science Foundation	9/1/2013	8/31/2017
Ellis, Holly R.	Defining the mechanistic strategies of desulfonation in the alkanesulfonate monooxygenase system	\$5,224	100%	NSF-National Science Foundation	9/1/2013	8/31/2014
Ellis, Holly R.	Defining the mechanistic strategies of desulfonation in the alkanesulfonate monooxygenase system	\$169,052	100%	NSF-National Science Foundation	9/1/2013	8/31/2017

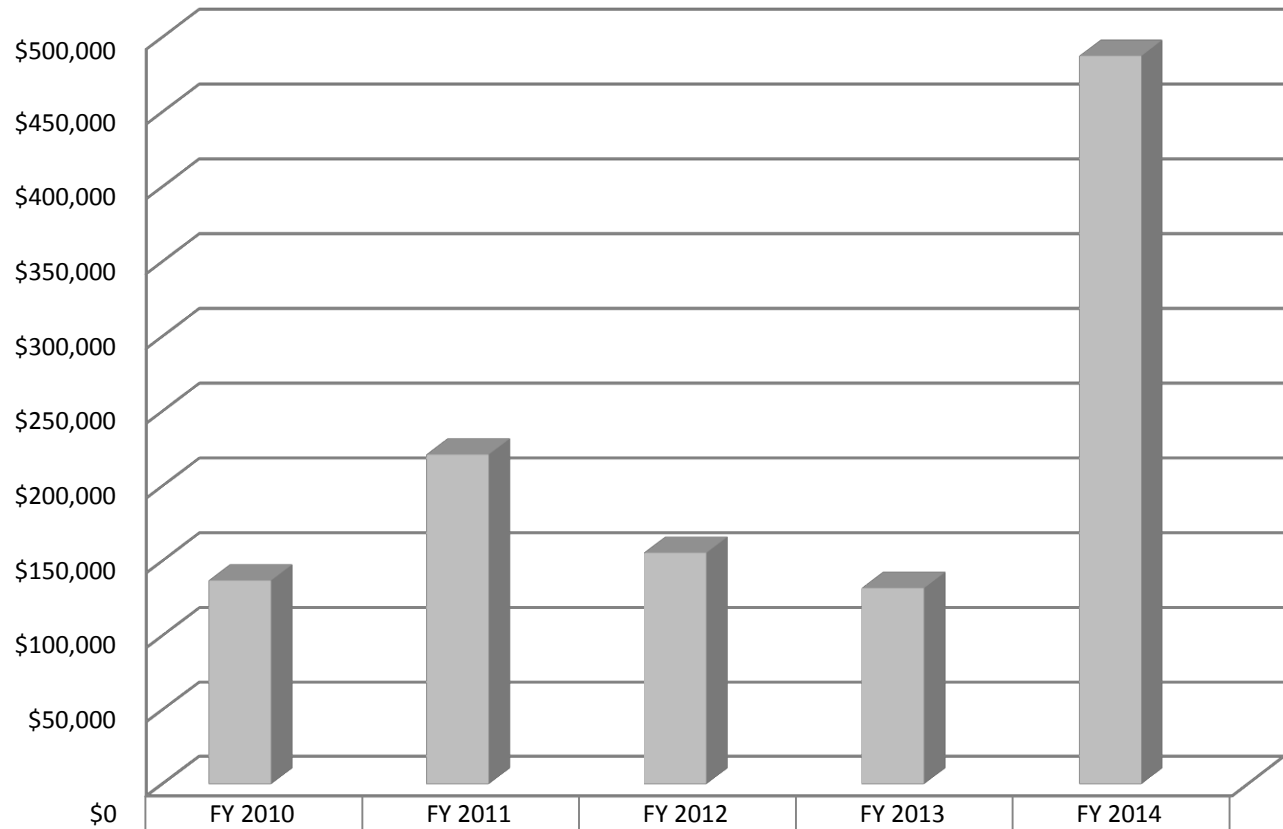
EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Chemistry & Biochemistry

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Ellis, Holly R.	Defining the mechanistic strategies of desulfonation in the alkanesulfonate monooxygenase system	\$163,904	100%	NSF-National Science Foundation	9/1/2013	8/31/2017
Patkowski, Konrad J.	CAREER: Towards an accurate & illuminating theory of weak interactions between open-shell systems	\$15,000	100%	NSF-National Science Foundation	3/15/2014	2/28/2019
Patkowski, Konrad J.	CAREER: Towards an accurate & illuminating theory of weak interactions between open-shell systems	\$444,273	100%	NSF-National Science Foundation	3/15/2014	2/28/2019
Shannon, Curtis G.	Tuskegee University Nano-bio MSP	\$69,680	67%	Tuskegee University	9/1/2011	8/31/2014
Shannon, Curtis G.	Tuskegee Universit ynano-bio MSP	\$8,040	67%	Tuskegee University	9/1/2011	8/31/2014
Worley, S. D.	N-Halamines	\$4,000	100%	Various - Industries	11/18/2009	
	Chemistry & BioChemistry Total	\$1,756,451				
	Chemistry & BioChemistry Count	18				

EXTRAMURAL RESEARCH FUNDING HISTORY Geosciences FY 2010-2014



	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
■ Amount of new dollars in FY	\$136,897	\$221,095	\$155,407	\$131,817	\$487,500
Number of grants receiving new dollars	7	6	5	8	7

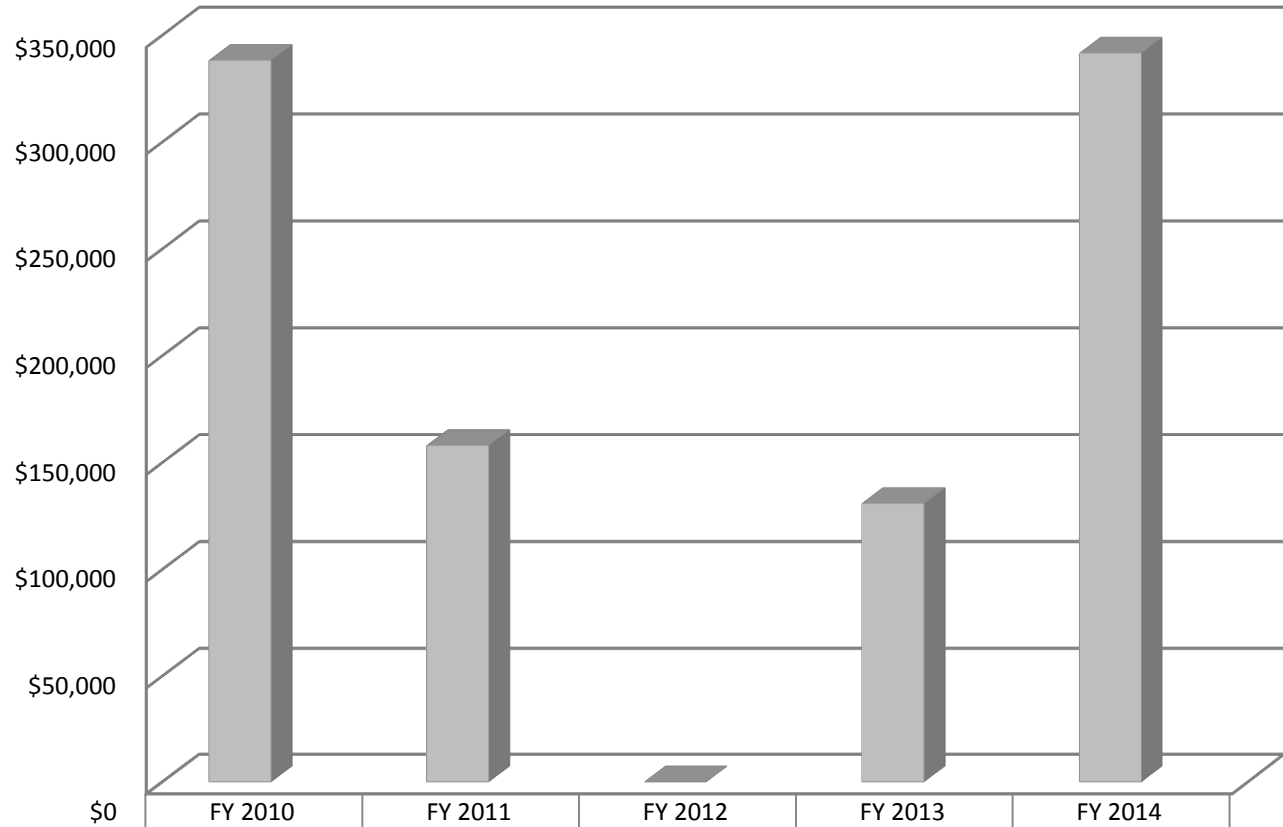
EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Geosciences

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Chaney, Phillip L.	Mapping Indian removal: Developing a series of maps documenting Indian land loss and removal as a result of the War of 1812	\$12,497	50%	USDI - National Park Service	6/30/2014	12/31/2014
Saunders, James A.	Metal(loid) sequestration by natural bacterial sulfate reduction and field-scale biostimulation	\$3,000	100%	NSF-National Science Foundation	8/1/2014	7/31/2017
Saunders, James A.	Transport & deposition of metallic nanoparticles as a hydrothermal ore-forming process	\$69,122	100%	NSF-National Science Foundation	2/15/2013	1/31/2016
Saunders, James A.	Metal(loid) sequestration by natural bacterial sulfate reduction and field-scale biostimulation	\$341,348	100%	NSF-National Science Foundation	8/1/2014	7/31/2017
Shepherd, Stephanie L.	Collaborative Research: Defining the role of heterogeneous lithology in bedrock incision & terrace formation in the Buffalo National River, Arkansas	\$36,229	100%	NSF-National Science Foundation	8/12/2014	8/31/2016
Steltenpohl, Mark G.	Geology of the 1:24,000 Wadley South, AL Quadrangle	\$16,270	100%	USDI - U.S. Geological Survey	9/1/2014	8/31/2015
Wolf, Lorraine W.	Paleoliquefaction studies in moderate seismicity regions with a history of large events	\$9,034	100%	Tuttle and Associates, Georgetown, Maine	8/24/2011	5/13/2015
	Geology and Geography Total	\$487,500				
	Geology and Geography Count	7				

EXTRAMURAL RESEARCH FUNDING HISTORY MATHEMATICS & STATISTICS FY 2010-2014



■ Amount of new dollars in FY	\$338,160	\$158,000	\$0	\$130,886	\$341,620
Number of grants receiving new dollars	6	3	0	4	7

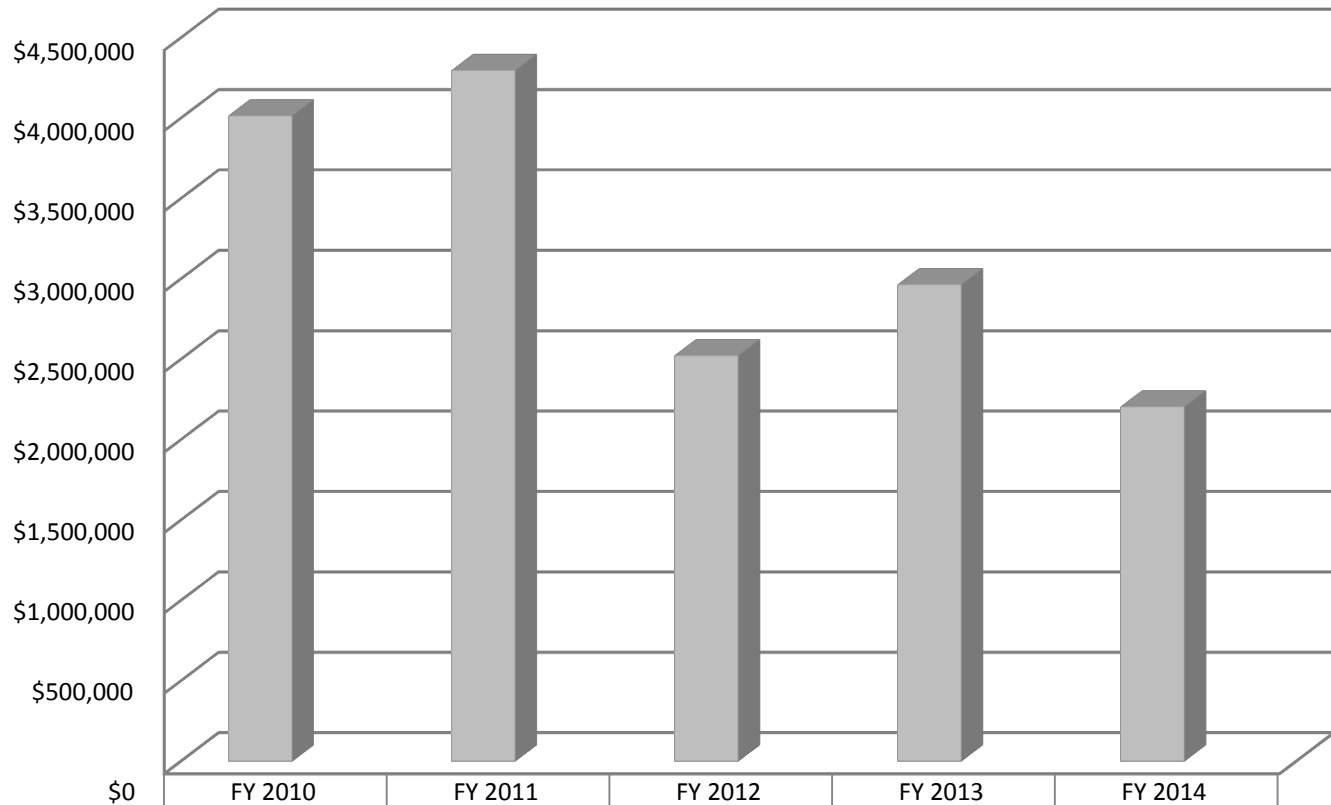
EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Mathematics & Statistics

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Albrecht, Ulrich F.	MTEP actively learning mathematics research action cluster	\$59,222	67%	Association of Public and Land-Grant Universities	1/6/2014	3/31/2015
Cao, Yanzhao	Fast numerical methods for stochastic partial differential equations	\$60,000	100%	Florida A & M University	7/1/2012	6/30/2014
Jenda, Overtoun M.	Research experience for undergraduates in algebra & discrete mathematics at Auburn University	\$22,786	100%	NSF-National Science Foundation	3/1/2013	2/29/2016
Jenda, Overtoun M.	Research experience for undergraduates in algebra & discrete mathematics at Auburn University	\$44,800	100%	NSF-National Science Foundation	3/1/2013	2/29/2016
Kuperberg, Krystyna M.	Computer-assisted formalization of mathematics, 6th Podlasie conference, Bialystok, July 1-4, 2014	\$1,890	100%	NSF-National Science Foundation	3/15/2014	2/28/2015
Kuperberg, Krystyna M.	Computer-assisted formalization of mathematics, 6th Podlasie conference, Bialystok, July 1-4, 2014	\$8,110	100%	NSF-National Science Foundation	3/15/2014	2/28/2015
Lin, Junshan	Modeling and computation in Elastography	\$144,812	100%	NSF-National Science Foundation	8/1/2014	7/31/2017
	Mathematics and Statistics Total	\$341,620				
	Mathematics and Statistics Count	7				

EXTRAMURAL RESEARCH FUNDING HISTORY PHYSICS FY 2010-2014



	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Amount of new dollars in FY	\$4,014,914	\$4,297,126	\$2,523,769	\$2,964,592	\$2,205,196
Number of grants receiving new dollars	34	30	21	27	29

EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Physics

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Ballance, Connor Peter	Inner shell atomic data for iron peak elements	\$30,000	100%	NASA - Goddard Space Flight Center	6/1/2014	5/31/2017
Ballance, Connor Peter	Photoexcitation, photoadsorption and spectra of low ionization fe-peak species	\$67,815	100%	Western Michigan University	8/15/2014	7/31/2016
Bozack, Michael J.	Custom solder doping task under Trysail II	\$102,419	10%	DOD - United States Department of Defense	6/28/2013	11/30/2017
Dhar, Sarit	Advanced high voltage silicon carbide insulated gate bipolar transistor (IGBT)	\$60,000	100%	United Silicon Carbide, Inc.	7/12/2013	8/15/2015
Dhar, Sarit	Auburn University special equipment purchase	\$26,000	100%	II-VI Foundation	9/11/2014	8/31/2015
Dhar, Sarit	SiO ₂ /4H0SiC Interface optimization for next generation power MOSFETs	\$95,000	100%	II-VI Foundation	7/1/2014	6/30/2015
Dong, Jianjun A.	Ab initio phonon models of lattice thermal conductivity of lower mantle minerals	\$76,049	100%	NSF-National Science Foundation	6/1/2014	5/31/2015
Fogle, Michael R.	Electron-driven correlated dynamics of complex systems	\$79,485	100%	NSF-National Science Foundation	8/1/2014	7/31/2017
Fogle, Michael R.	Electron-driven correlated dynamics of complex systems	\$2,000	100%	NSF-National Science Foundation	8/1/2014	7/31/2017
Guazzotto, Luca	Equilibrium model improvement for the HYM Code	\$23,631	100%	Princeton University	9/18/2014	11/28/2014
Hanson, James D.	3D equilibrium reconstruction and MHD studies in stellarators	\$100,000	100%	DOE - United States Department of Energy	12/1/2002	10/31/2014
Lin, Yu	GEM: Mode conversion and kinetic alfvén waves at the magnetopause and their effects in the magnetosphere	\$153,542	100%	NSF-National Science Foundation	6/1/2014	5/31/2017

EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Physics

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Lin, Yu	Observations and hybrid simulations of fast flows in the magnetotail	\$24,149	100%	Johns Hopkins University	4/26/2013	1/31/2016
Lin, Yu	A simulation study of mode conversion associated with Kinetic Alfvén Waves	\$135,000	100%	DOE - United States Department of Energy	8/15/2013	8/14/2015
Liu, Kaijun	Collaborative Research: An integrated study of fast magnetosonic waves in the radiation belts	\$80,148	100%	NSF-National Science Foundation	7/1/2013	8/31/2016
Liu, Kaijun	Chorus excitation and relativistic electron scattering	\$125,003	100%	NASA - National Aeronautics and Space Administration Headquarters	2/1/2013	1/30/2015
Loch, Stuart David	Atoms and ions interacting with particles and fields	\$12,005	100%	Purdue University	2/1/2014	1/31/2015
Maurer, David A.	MHD stability and equilibrium in a current-driven stellarator-tokamak hybrid	\$540,000	100%	DOE - United States Department of Energy	9/1/2000	3/31/2015
Perez, Joseph D.	TWINS mission operations and data analysis phase #-Extended version (FY2014-2015)	\$25,000	100%	SWRI - Southwest Research Institute	4/1/2014	9/30/2014
Pindzola, Michael S.	Few body dynamics of atomic and molecular systems	\$60,000	100%	NSF-National Science Foundation	9/1/2013	8/31/2016
Thomas, Edward E.	Physics of magnetized dusty plasmas	\$247,500	100%	DOE - Office of Science	8/15/2013	8/14/2015
Thomas, Edward E.	Dusty plasmas...(TBA)	\$80,000	100%	California Institute of Technology-Jet Propulsion Laboratory	12/17/2012	12/31/2014
Thomas, Edward E.	Physics of magnetized dusty plasmas	\$2,500	100%	DOE - Office of Science	8/15/2013	8/14/2015

EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14

Physics

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Thomas, Edward E.	Collabortive Research: Physics of magnetized dusty plasmas (Undergraduate Research)	\$5,000	100%	NSF-National Science Foundation	8/1/2013	7/31/2016
Thomas, Edward E.	Collaborative research: Physics of magnetized dusty plasmas (undergraduate support)	\$5,000	100%	NSF-National Science Foundation	8/1/2013	7/31/2016
Wersinger, Jean-Marie	Utilization of minimal weight composites as smart-structure compliant manipulators	\$18,500	100%	UAH - University of Alabama at Huntsville	5/6/2010	5/5/2015
Wersinger, Jean-Marie	Auburn University Student Space Program- Ala Space Grant projects for workforce development (AubieSat 2, A CubeSat project for 2013-2014)	\$12,850	50%	UAH - University of Alabama at Huntsville	5/6/2010	5/5/2015
Williams, John R.	SiO ₂ /4HOSiC interface optimization for next generation power MOSFETs	\$10,000	100%	II-VI Foundation	7/1/2014	6/30/2015
Wersinger, Jean-Marie	Alabama space grant projects for workforce development	\$6,600	55%	UAH - University of Alabama at Huntsville	8/1/2014	4/30/2015

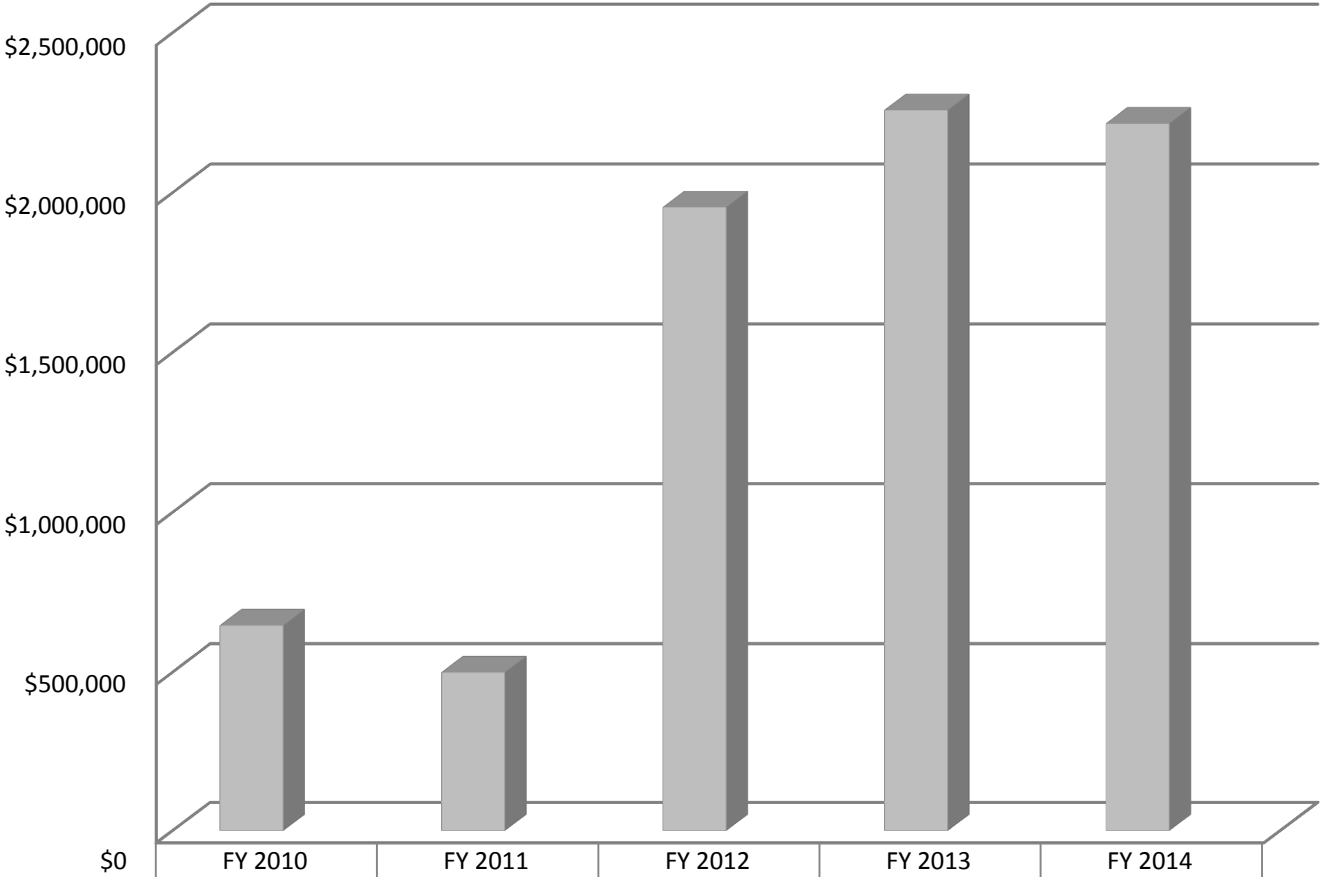
Physics Total

\$2,205,196

Physics Count

29

**EXTRAMURAL FUNDING HISTORY
OUTREACH AND INSTRUCTION FOR ALL COSAM DEPARTMENTS
FY 2010-2014**



■ Amount of new dollars	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
	\$646,042	\$499,111	\$1,954,296	\$2,258,089	\$2,216,040
Number of grants receiving new dollars	3	4	11	12	33

**EXTRAMURAL RESEARCH GRANTS WITH NEW DOLLARS RECEIVED IN FY 14
Outreach & Instruction**

10/01/2013 – 09/30/2014

PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Alabama Math, Science, and Technology Initiative						
Hickman, Elizabeth Powe	TEAM-Math and AMSTI mathematics professional learning communities partnership	\$6,400	20%	Alabama Dept. of Education - ALDoEd	10/1/2013	9/30/2014
Hickman, Elizabeth Powe	TEAM-Math and AMSTI mathematics professional learning communities partnership	\$29,640	20%	Alabama Dept. of Education - ALDoEd	10/1/2013	9/30/2014
	Alabama Math, Science, and Technology Ini	\$36,040				
	Alabama Math, Science, and Technology Ini	2				
Biological Sciences						
Bond, Jason E.	Nature teaches Barbour County students	\$2,000	100%	Wiregrass R C & D Council	10/1/2014	7/15/2015
Bond, Jason E.	Environmental education at the Robert G. Wehle Nature Center	\$21,000	100%	ADCNR-State Lands Division	8/1/2014	7/31/2015
Bond, Jason E.	Legacy Earth month sponsorship	\$500	100%	Legacy, Inc., Partners in Environmental Education	4/1/2014	4/30/2014
Cobine, Paul A.	STEM-IQ Science, technology, engineering and mathematics inquiry- Enhancing science education in Southeast Alabama	\$40,738	20%	NSF-National Science Foundation	3/15/2014	2/28/2019
Cobine, Paul A.	STEM-IQ Science, technology, engineering and mathematics inquiry- Enhancing science education in Southeast Alabama	\$107,804	20%	NSF-National Science Foundation	3/15/2014	2/28/2019

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Hood, Wendy R.	Meeting: Symposium support for SICB 2014 stress and ornamentation	\$12,000	100%	NSF-National Science Foundation	12/1/2013	11/30/2014
	Biological Sciences Total	\$184,042				
	Biological Sciences Count	6				
Geology and Geography						
Marzen, Luke J.	StateView research program development and operations for the State of Alabama	\$23,673	100%	AmericaView, Inc	12/13/2013	9/15/2014
Marzen, Luke J.	StateView research program development and operations for the State of Alabama	\$1,000	100%	AmericaView, Inc	12/13/2013	12/31/2014
	Geology and Geography Total	\$24,673				
	Geology and Geography Count	2				
Mathematics and Statistics						
Albrecht, Ulrich F.	TEAM-Math and AMSTI mathematics professional learning communities partnership	\$29,640	20%	Alabama Dept. of Education - ALDoEd	10/1/2013	9/30/2014
Albrecht, Ulrich F.	TEAM-Math and AMSTI mathematics professional learning communities partnership	\$6,400	20%	Alabama Dept. of Education - ALDoEd	10/1/2013	9/30/2014
Meir, Amnon J.	Intergovernmental Personnel Act (IPA) NSF Assignment	\$173,322	100%	NSF-National Science Foundation	8/12/2013	8/11/2015

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PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Meir, Amnon J.	Intergovernmental personnel act (IPA) NSF Assignment	\$6,350	100%	NSF-National Science Foundation	8/12/2013	8/11/2014
Rodger, Chris	Graduate student combinatorics conference	\$14,740	100%	NSF-National Science Foundation	2/1/2014	7/31/2014
Smith, Michel	Common Core	\$30,000	100%	Common Core, Inc.	3/1/2014	5/31/2014
	Mathematics and Statistics Total	\$260,452				
	Mathematics and Statistics Count	6				
Physics						
Landers, Allen Lee	Robotics and engineering education fostering the conceptual understanding of science	\$41,362	33%	Alabama Dept. of Education - ALDoEd	10/1/2013	9/30/2014
Landers, Allen Lee	Robotics and engineering education fostering the conceptual understanding of science	\$15,542	33%	Alabama Dept. of Education - ALDoEd	10/1/2013	9/30/2014
Landers, Allen Lee	STEM-IQ Science, technology, engineering and mathematics inquiry- Enhancing science education in Southeast Alabama	\$215,608	40%	NSF-National Science Foundation	3/15/2014	2/28/2019
Landers, Allen Lee	STEM-IQ Science, technology, engineering and mathematics inquiry- Enhancing science education in Southeast Alabama	\$81,476	40%	NSF-National Science Foundation	3/15/2014	2/28/2019
	Physics Total	\$353,989				
	Physics Count	4				

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PI NAME	PROJECT TITLE	Dollars Received	% CREDIT	SPONSOR	BEGIN DATE	END DATE
Ewald, Mary L.	Alabama math science and technology initiative (AMSTI-AU)	\$24,000.00	60.00%	Alabama Dept. of Education - ALDoE	10/1/2012	5/31/2014
Ewald, Mary L.	STEM-IQ Science, technology, engineering and mathematics inquiry- Enhancing science education in Southeast Alabama	\$40,738.20	20.00%	NSF-National Science Foundation	3/15/2014	2/28/2019
Ewald, Mary L.	Robotics and engineering education fostering the conceptual understanding of science	\$41,349.86	33.33%	Alabama Dept. of Education - ALDoE	10/1/2013	9/30/2014
Ewald, Mary L.	STEM-IQ Science, technology, engineering and mathematics inquiry- Enhancing science education in Southeast Alabama	\$107,804	20.00%	NSF-National Science Foundation	3/15/2014	2/28/2019
Ewald, Mary L.	Alabama Math, Science, and Technology Initiative (AMSTI-AU)	\$12,000	60.00%	Alabama Dept. of Education - ALDoEd	10/1/2014	9/30/2015
Ewald, Mary L.	Alabama math science and technology initiative (AMSTI-AU)	\$36,000	60.00%	Alabama Dept. of Education - ALDoEd	10/1/2012	5/31/2014
Ewald, Mary L.	Alabama Math, Science, and Technology Initiative (AMSTI-AU)	\$915,000	60.00%	Alabama Dept. of Education - ALDoEd	10/1/2014	9/30/2015
Ewald, Mary L.	Robotics and engineering education fostering the conceptual understanding of science	\$15,538	33.33%	Alabama Dept. of Education - ALDoEd	10/1/2013	9/30/2014
Ewald, Mary L.	Auburn University Science in Motion	\$600.00	100.00%	Alabama Dept. of Education - ALDoEd	10/1/2012	12/31/2013
Wit, Lawrence C.	Rural medicine program	\$32,763.00	100.00%	Alabama Dept of Public Health - ALDoPH	7/1/2010	9/30/2014

COSAM PATENTS, TRADEMARKS, and COPYRIGHTS

FY 2012 to FY 2014

Year	Number of Disclosures	Number of US Patent Applications (1)	Number of US Patent, Trademarks, and Copyrights Issued	Number of License/Option Agreements (2)	Number of NDA, MOU, MTA, Amends, Teaming, Testing (3)	Total Revenue of Option and License Income	Total Revenue of Option and License Income, Royalty Receipts and Patent Reimbursement
FY 2012	11	16	7	1	20	\$459,480	\$468,960
FY 2013	3	10	4	0	29	\$455,308	\$465,308
FY 2014	7	11	2	4	24	\$459,182.26	\$461,000.14