

RESEARCH ANNUAL REPORT

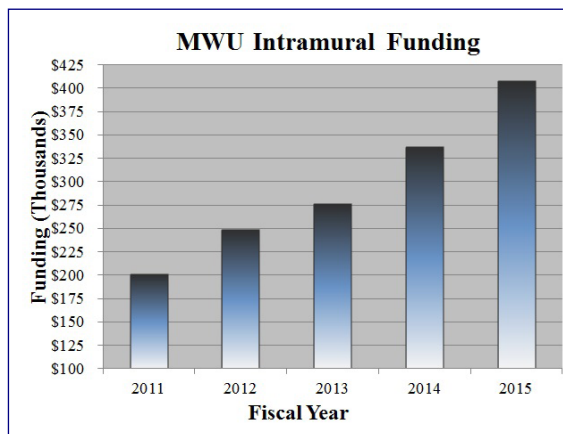
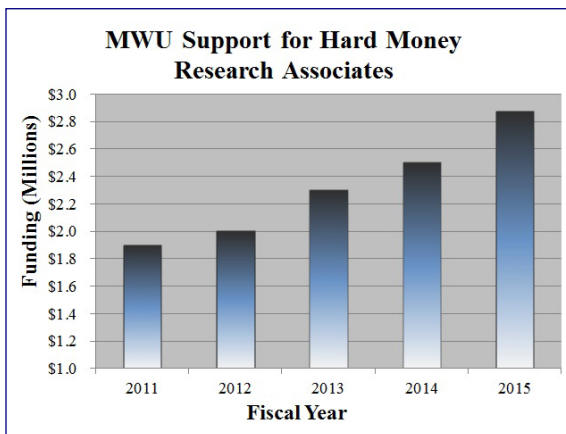
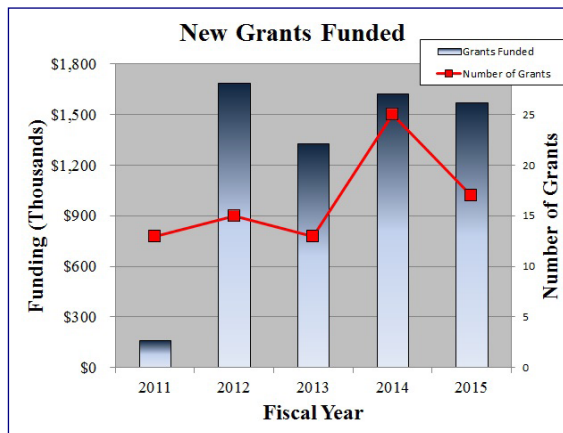
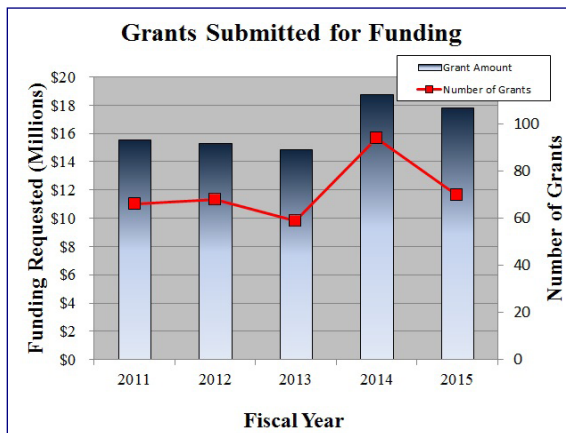
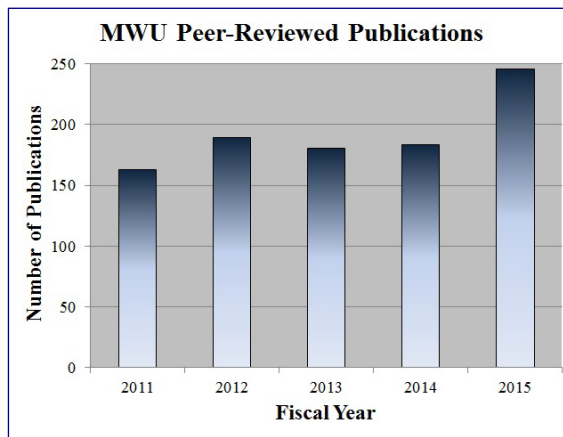
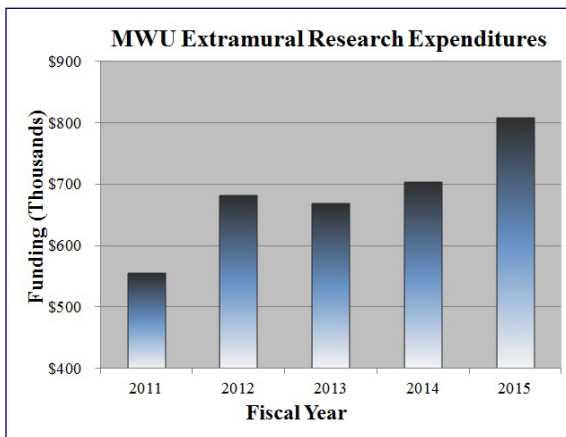
TOGETHER, WE'LL
GUIDE THE FUTURE
OF TOMORROW'S
HEALTH CARE.

OFFICE OF RESEARCH AND SPONSORED PROGRAMS

July 1, 2014 - June 30, 2015

Historical Research Support and Activity Data

Midwestern University's (MWU's) *Research Annual Report* demonstrates research achievements of which members of the MWU community should be proud. As you will see inside this report, support for research at MWU is growing. The graphs below show historical data over the last five years, highlighting MWU's research activity and support. THANK YOU to all of MWU's faculty members, research staff and students whose efforts have consistently strengthened MWU's research programs.



Theresa W. Fossum, DVM, PhD
Vice President of Research & Strategic Initiatives



James M. Woods, PhD
Director, Office of Research & Sponsored Programs

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Fast Research Facts 2014 - 2015



Support for Faculty Research

- All Midwestern University (MWU) faculty are in 100% “hard money” (university-funded) positions, where they are encouraged, but not dependent upon bringing in extramural funding;
- Recaptured Salary Incentive: Faculty who receive grants which support “hard money” salary positions can earn “additional compensation;”
 - MWU paid out \$53,022 in such incentives directly to faculty July 2014 through May 2015
- MWU provides “hard money” research technicians for faculty, including 48.1 Full Time Equivalents funded at \$2,870,136 for FY 2015;
- New faculty are provided start-up packages;
- Faculty can request capital research equipment through the university;
 - MWU purchased \$950,602 in capital research equipment in FY 2014;
 - Each campus requested and received a new confocal microscope within FY 2013 or FY 2014
- Competitive intramural funding is available for faculty who actively seek extramural funding, including \$407,736 awarded in FY 2015;

Support for Student Research

- MWU makes a significant commitment to student research, demonstrated through the availability of \$336,980 in research stipends in 2015;
- MWU’s Research Days, held on each campus, had a total of 272 presentations in 2015 where almost all of these were by students engaged in research;
- MWU pays for high quality poster printing costs for its students and faculty, including printing of more than 280 research posters in FY 2015;
- MWU supports students to travel and present their research, including \$500 of support for first author students who have an abstract accepted at a national meeting;

Funding Success

- MWU’s active research awards in FY 2015 totaled \$4,447,788
- MWU faculty have received numerous NIH grants, including over 40 R15 grants, several of which transitioned into R01s
- NSF & HRSA Grants
- Foundation Grants: American Heart Association, American Optometric Foundation, Leakey Foundation, Alzheimer’s Drug Discovery Foundation, National Association of Chain Drug Stores, Pharmaceutical Research & Manufacturers of America Foundation, etc.
- For-profit grants: Celleration, Contamac, Novo Nordisk, Hiossen, Sangart, etc.

Office of Research & Sponsored Programs (ORSP)

- MWU's ORSP handles both pre-award and post-award grant and contract submissions, including 70 proposals submitted in FY 2015 requesting over \$17,800,000;
- MWU's ORSP has received significant budget increases since 2008, allowing us to offer intramural funds to all colleges, and to offer the following full-time positions to support faculty research:
 - A *Senior Grants Specialist* and *Grants Administrator* to assist faculty with grant and budget preparation and submission;
 - *Research Administrators* to assist MWU's IACUC, IRB, Radiation Safety and Biosafety Committees;
 - A *Manager of Bio/Clinical Statistics* to assist with data management and statistical needs;
 - A *Research Compliance Specialist* to help ensure MWU performs research in a manner compliant with federal, state and MWU regulations;
- For faculty involved in animal research who are seeking extramural funding, the ORSP can waive animal per diem charges, including greater than \$108,000 of waived charges in FY 2015;
- In FY 2015, MWU budgeted \$7,000 in honorariums to support a Research Seminar Series where faculty can bring in experts in their field;

Research Facilities

- In 2014 MWU completed a new Veterinary Classroom and Laboratory building on our Glendale, Arizona campus:
 - This building has 11,161 square feet of space dedicated to research;
 - The research-related costs of the building total \$10,017,270;
 - This brings the total cost of expenditures for research space on the Glendale campus, including our Foothills, Cholla and Cactus Wren buildings, to \$20,870,255;
 - Our Foothills Building includes a 2,920 square foot animal facility;
- In 2011 MWU completed construction of a new Science Hall on our Downers Grove campus:
 - This provides researchers with 104,789 net assignable square feet dedicated to research;
 - The research-related costs of the building totaled \$56,200,200;
 - This includes a 13,170 square foot animal facility which received full AAALAC accreditation in 2012;
- A new Institute for Healthcare Innovation clinical research center is being planned for the Glendale campus, which will add additional research space, anticipated in the coming year;

The Bottom Line

- Midwestern University's commitment to building and sustaining a vital research environment is genuine;
- Administrative support for research is very strong, because of a firm belief in the ingenuity of MWU faculty.

Congratulations to Northwestern University's Inaugural Multidisciplinary Research Award Recipients!

Downers Grove Campus Multidisciplinary Research Award

Project Title: Biochemically Coated Topographical Substrates to Enhance and Direct Peripheral Nerve Regeneration; Investigators: Dr. Michele Fornaro (CCOM), Dr. Kolla Kristjansdottir (CHS) and Dr. Joshua Gasiorowski (CHS)



Peripheral nerve damage is a common complication from many types of injuries and disease states. While the peripheral nervous system has been shown to spontaneously regenerate, it is often insufficient to fully restore motor function and sensation. The permanent loss of nerve-to-nerve and nerve-to-muscle contact can have a

severe impact on the quality of life for many patients. Previous research has demonstrated that axonal growth and regeneration can be induced through the use of biochemical signals, such as growth factors. While these factors can result in significant axonal sprouting, the regrowth is often uncontrolled and random in direction. Instead of solely adding biochemical signals to nerve cells, our proposal will also employ nano- and micro-scale biophysical cues (the shapes, elasticity, and stiffness of a cell's underlying substrate) to enhance and control the direction of axonal growth. If nerve growth can be directed across sites of injury to reestablish functional contact with target tissue, it could be possible to overcome partial or full paralysis in patients. In order to maximally control and understand axonal growth, we will also develop live cell imaging models and use proteomics to investigate molecular changes in rapidly growing neurons compared to stagnant neurons. Ultimately, we hope to eventually create an implantable biomaterial that can guide axons across injury sites to restore peripheral nervous system loss-of-function.

Glendale Campus

Multidisciplinary Research Award

Project Title: Genistein-lipidic Nanocarrier Combinations for Abrogation of Cancer Resistance to Various Chemotherapies in Diverse Tumors; Investigators: Dr. Tamer Elbayoumi (CPG), Dr. Vinay Janthakahalli Nagaraj (AZCOM) and Dr. Jose Rodriguez Sosa (AZCOM)

Drug resistance is a major cause for the failure of chemotherapy and results in numerous deaths from cancer. P-glycoprotein (P-gp) - a cell surface protein that acts as a multidrug efflux pump - is one principal mechanism by which many cancers develop resistance to chemotherapy drugs. An inhibition of P-gp provides a highly attractive approach to prevent as well as overcome resistance to chemotherapeutics.

Genistein (Gen), a small, biologically active flavonoid, has recently emerged as an excellent P-gp drug-efflux pump inhibitor. In addition, it is also known to be a potent apoptosis-inducing agent, in different types of malignancies. However, the enormous potential of Gen to overcome drug resistance and enhance the effect of chemotherapeutics has not been realized due to its lipophilic nature, extremely low aqueous solubility and poor bioavailability. An innovative approach to overcome these challenges



is to develop a nano-pharmaceutical drug-delivery system that increases the solubility of Gen, co-incorporates other clinically approved antineoplastic drugs, and is capable of enhanced delivery of chemotherapy combinations to cancer cells. Such an approach offers significant hope for humans and animals suffering from cancer.

Our grant application describes the development, *in vitro/in vivo* evaluation and optimization of novel lipid-based nanocarriers as highly efficient drug-delivery vehicles for combination cancer therapy.

College of Veterinary Medicine and College of Dental Medicine Arizona Collaborate to Win Inaugural One Health Research Award



Project Title: The Effect of Canine Periodontal Disease and Periodontal Treatment on Systemic Markers of Inflammation; Investigators: Dr. Angela Mexas (CVM), Dr. David Rolf (CDMA), Dr. John Mitchell (CDMA), Dr. Elizabeth Robbins (CVM) and Dr. Teresa Pulido-Hernandez (CDMA).

The link between periodontal health and overall health in humans has been an area of intense study for many years. Cardiovascular diseases, diabetes, cancer, and respiratory diseases-- all of which affect companion animals—are among the maladies known to be associated with poor oral health in humans and treatment of oral inflammation in people is known to benefit systemic health by reducing inflammatory mediators. Similarly, limited studies in cats and dogs have suggested an association between the presence of periodontal inflammation and changes in systemic markers of inflammation which could adversely impact general health but very few parameters have been measured to date in dogs. Periodontal disease is the most commonly found abnormality on physical examination of dogs and, because it is much more difficult to maintain oral hygiene in animals than it is in people, animals provide us with a naturally occurring, widely available, large number of models for study. Therefore, characterizing the systemic effects of periodontal inflammation in dogs will likely yield information that benefits the health of dogs and people with periodontal diseases.

Our study seeks to investigate the relationship between markers of systemic inflammation and periodontal disease in dogs before and after standard treatment. This is a single center, non-blinded, non-randomized, clinical series trial comparing changes in systemic cytokine levels before and after best-practice-care for periodontal disease in dogs. We hypothesize that dental disease in dogs is associated with systemic inflammation evidenced by high baseline cytokine levels and that treatment for dental disease will result in a transient decrease of those cytokines over time. Dogs with dental disease that are otherwise healthy will be considered for this study. Their owners will be asked to allow for a small sample of blood to be collected from their dogs at two time points before and two time points after dental treatment. Each blood sample will be analyzed for common markers of systemic inflammation and used to measure the levels of C-reactive protein, IL-6, TNF- α , IL-1 β , and IFN- γ . Future studies will be aimed at establishing a link between continual oral health and general wellbeing and elucidating the potential adverse effects of chronic oral inflammation on general health status in dogs.

Another call for One Health Research Award Proposals for the Downers Grove Campus will be offered in Fall 2015.

For One Health Student Research Award Winners, see page 49.

**ARIZONA COLLEGE OF OPTOMETRY (AZCOPT):
EXTRAMURALLY SUBMITTED PROPOSALS**

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
Handford, P.	AZCOPT	Optometry	Study of Binocular Computer Activities for Treatment of Amblyopia (ATS18)	9/29/2014	\$51,500	National Eye Institute Cooperative Agreement with JAEB Center for Health Research, Inc.	11/1/2014
Kozlowski, M.	AZCOPT	Optometry	Evaluation of Senescence-modulating Compounds for the Treatment of Glaucoma	8/27/2014	\$59,132	American Optometric Foundation through The Allergan Foundation	10/1/2014
Kozlowski, M.	AZCOPT	Optometry	Evaluation of Cell Senescence-inhibiting Compounds for the Treatment of AMD	10/27/2014	\$48,715	Retina Research Foundation	1/1/2015
Kozlowski, M.	AZCOPT	Optometry	Treatment of Age-related Macular Degeneration by Inhibition of Cell Senescence	2/25/2015	\$443,595	NIH-R15	9/1/2015

TOTAL OF AZCOPT EXTRAMURALLY SUBMITTED PROPOSALS: \$602,942

**ARIZONA COLLEGE OF OSTEOPATHIC MEDICINE (AZCOM):
EXTRAMURALLY SUBMITTED PROPOSALS**

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
Al-Nakkash, L.	AZCOM	Physiology	Role of Genistein on Intestinal Function in Diabetic Obesity	10/5/2014	\$1,338,300	NIH-R01	7/1/2015
Al-Nakkash, L.	AZCOM	Physiology	The Effects of Genistein on Tissue Structure/ Serum Profile in Obesity and Diabetes	3/13/2015	\$25,000	Soy Health Research Program	10/5/2015
*Al-Nakkash, L.	AZCOM	Physiology	Dietary Genistein Improves Intestinal Function in Diabetic-obesity: How?	5/8/2015	\$60,000	DiaComp	9/1/2015
Carroll, C.	AZCOM	Physiology	Novel Effects of Genistein on Tendon Remodeling in a Model of Estrogen-deficiency	2/25/2015	\$468,640	NIH-R15	12/1/2015
Grossman, A.	AZCOM	Anatomy	Fieldwork at Loperot, Early Miocene, West Turkana, Kenya	7/15/2014	\$2,280 Value of directly supported travel expenses	The Leakey Foundation through Appalachian State University	12/15/2014
Janthakahalli Nagaraj, V.	AZCOM	Biochemistry	Model Systems to Study Drug Resistance Mechanisms in Pancreatic Cancer Cells	9/29/2014	\$357,500	NIH-R21	7/1/2015

AZCOM: EXTRAMURALLY SUBMITTED PROPOSALS (Continued)

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
Jones, T.B.	AZCOM	Anatomy	Early Functional Effects of APOE4 on TREM2 and Microglial Phenotype in Young Adult Targeted Replacement Mice	2/2/2015	\$45,000	Arizona Alzheimer's Disease Core Center	7/1/2015
Kamilar, J.	AZCOM	Anatomy	The Ecology and Evolution of Primate Communities	11/17/2014	\$166,361	NSF Collaboration with Arizona State University	6/1/2015
Kim, C.	AZCOM	Biochemistry	The Role of SAM Polymerization in Polycomb-dependent Chromatin Structures	3/5/2015	\$1,610,300	NIH-R01 Collaboration with Institut de Recherches Cliniques de Montréal	9/1/2015
Korch, S.	AZCOM	Pharmacology	Regulation of the relBE toxin:antitoxin Module in <i>Mycobacterium Tuberculosis</i>	10/24/2014	\$449,301	NIH-R15	7/1/2015
*Muldoon, K.	AZCOM	Anatomy	Survey of Congenital Cytomegalovirus (cCMV) Knowledge Among Medical and Allied Health Students: Does the Use of Clinical Vignettes in Anatomy Education Increase Clinical Knowledge?	6/8/2015	\$6,000	StopCMV: The CMV Action Network	6/15/2015
Riede, T.	AZCOM	Physiology	The Evolution of Avian Vocalization	7/24/2014	\$137,111	Gordon and Betty Moore Foundation Subcontract with The University of Texas at Austin	10/1/2014
Smith, H.	AZCOM	Anatomy	Evolution of Aquatic and Semi-aquatic Turtles in Middle Eocene Climate Change	1/30/2015	\$9,952	PADI Foundation	5/15/2015
Townsend, K.	AZCOM	Anatomy	Collaborative Research: After the Bridgerian Crash: Mammalian Paleocommunities and Paleoecologies during the Middle Eocene	1/13/2015	\$75,864	NSF Collaboration with UCLA, University of Rochester, Lamar University and the San Diego National History Museum	7/1/2015
Vandenbrooks, J., Call, G. & Quinlan, M.	AZCOM	Physiology	Combining Paleontology, Modern Physiology, Genetics and Novel Imaging Techniques to Examine the Impact of Varying Atmospheric Oxygen Levels on Evolution	1/15/2015	\$301,775	NSF	10/1/2015

TOTAL OF AZCOM EXTRAMURALLY SUBMITTED PROPOSALS: \$5,053,384

**CHICAGO COLLEGE OF OSTEOPATHIC MEDICINE (CCOM):
EXTRAMURALLY SUBMITTED PROPOSALS**

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
*Chandar, N.	CCOM	Biochemistry	Regulation of Osteoblast Function by Retinoblastoma Gene	6/25/2015	\$435,004	NIH-R15	4/1/2016
Edwards, J.	CCOM	Pharmacology	Diabetes, Biomarkers and Cell Adhesion After Nephrotoxic Cadmium Exposure	10/1/2014	\$334,889	American Diabetes Association and Boehringer Ingelheim	4/1/2015
Edwards, J.	CCOM	Pharmacology	Cellular Mechanisms of Cadmium-induced Hyperglycemia and Hypoinsulinemia	11/5/2014	\$1,376,476	NIH-R01	7/1/2015
Edwards, J.	CCOM	Pharmacology	Contributions of Cadmium and Nickel to Type 2 Diabetes Mellitus	2/27/2015	\$211,113	NIH-R01 Collaboration with NIEHS	12/1/2015
Kopf, P.	CCOM	Pharmacology	The Role of 12-Lipoxygenase in Aldosterone Secretion	11/5/2015	\$417,792	NIH-R15	7/1/2015
Mejia-Alvarez, R.	CCOM	Physiology	Control of IP ₃ R-mediated Calcium Release	7/5/2014	\$243,470	NIH-R01 Subcontract with Rush University Medical School	4/1/2015
*Murthy, A.	CCOM	Pathology	Mechanism(s) of CD8 ⁺ T Cell-mediated Chlamydia-induced Reproductive Pathology	6/25/2015	\$450,000	NIH-R15	7/1/2016
Plotkin, B.	CCOM	Microbiology & Immunology	HSV-1 and Candida: Co-operative Hostility Towards <i>Staphylococcus aureus</i> Biofilm	2/25/2015	\$449,987	NIH-R15	9/1/2015
Ramsey, K.	CCOM	Microbiology & Immunology	Isolation of Novel Rodent Chlamdiae	3/11/2015	\$426,674	NIH-R21	3/1/2016
Tiwari, V.	CCOM	Microbiology & Immunology	3-O Sulfated Heparan Sulfate Requirement for HSV Infection in Zebrafish Model	10/5/2014	\$937,500	NIH-R01 Subcontract with University of Illinois at Chicago	7/1/2015
Tiwari, V.	CCOM	Microbiology & Immunology	Structure-function Analysis of Sulfated Heparan Sulfate During HCMV Infection	2/25/2015	\$450,000	NIH-R15	9/1/2015
Tiwari, V.	CCOM	Microbiology & Immunology	Virostatic Nanoparticles: A New Generation of Viral Inhibitors	3/5/2015	\$206,250	NIH-R21 Subcontract with University of Illinois at Chicago	12/1/2015

TOTAL OF CCOM EXTRAMURALLY SUBMITTED PROPOSALS: \$5,939,155

CHICAGO COLLEGE OF PHARMACY (CCP): EXTRAMURALLY SUBMITTED PROPOSALS

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
Andurkar, S.	CCP	Pharmaceutical Sciences	A Mechanistic Study of the Endothelin-opioid Functional Interaction in Analgesia	10/25/2014	\$415,857	NIH-R15 (NIDA)	7/1/2015
Bhalla, S.	CCP	Pharmaceutical Sciences	Endothelin Receptors in Angiogenesis and Neurogenesis During Opioid Withdrawal	10/16/2014	\$150,000	NIH-R03	7/1/2015
D'Souza, J.	CCP	Pharmacy Practice	Evaluating the Impact of Pharmacist Interventions on Statin Adherence	8/21/2014	\$5,000	American Society of Health-System Pharmacists Foundation	11/1/2014
Fjortoft, N.	CCP	Pharmacy Practice	MTM and Point-of-Care Testing in the Curriculum	3/7/2015	\$20,000	National Association of Chain Drug Stores Foundation	6/1/2015
Gilchrist, A.	CCP	Pharmaceutical Sciences	Development of Biased Novel FFAR2 Agonists for Type 2 Diabetes	9/25/2014	\$224,970	NIH-R01 Subcontract with Northwestern University	7/1/2015
*Gilchrist, A.	CCP	Pharmaceutical Sciences	Inhibition of Breast Cancer Bone Metastases Through Targeting CCR1	4/22/2015	\$265,876	United States Department of Defense	10/1/2015
*Gilchrist, A.	CCP	Pharmaceutical Sciences	Inhibition of Breast Cancer Bone Metastases Through Targeting CCR1	6/5/2015	\$265,876	NIH-R01 Subcontract with Northwestern University	4/1/2016
Gulati, A.	CCP	Pharmaceutical Sciences	IND Enabling Studies for Centhaquin as a Resuscitative Agent for Hypovolemic Shock	8/4/2014	\$18,859	NIH SBIR Subcontract with Pharmazz	4/1/2015
Gulati, A.	CCP	Pharmaceutical Sciences	Blood Markers for Early Detection of Central Nervous System Damage in Patients with Diabetic Ketoacidosis	10/16/2014	\$274,688	NIH-R15	7/1/2015
*Gulati, A.	CCP	Pharmaceutical Sciences	Mentor and Train PCCM and NPM Fellows for Scholarly Activity	5/21/2015	\$59,360	Advocate & Hospitals Corporation	1/1/2015
Joshi, M.	CCP	Pharmaceutical Sciences	Combination of Drug-loaded PEGylated Liposomal Nanocarriers for the Treatment of Stroke	8/8/2014	\$10,000	American Association of Colleges of Pharmacy	1/1/2015
*Kliethermes, M.	CCP	Pharmacy Practice	Understanding Medication List Utilization	5/15/2015	\$5,000	American College of Clinical Pharmacy	9/15/2015
McLaughlin, M.	CCP	Pharmacy Practice	An Intelligent Wireless System for Real-time Measurement and Improvement of ART and PrEP Adherence	3/25/2015	\$62,996	NIH-R01 Subcontract with Northwestern University	12/1/2015

CCP: EXTRAMURALLY SUBMITTED PROPOSALS (Continued)

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
Phillips, J.	CCP	Pharmacy Practice	Multimedia Educational Strategy to Prevent Adverse Drug Reactions	8/18/2014	\$10,000	American Association of Colleges of Pharmacy	1/1/2015
Scheetz, M.	CCP	Pharmacy Practice	Enhancement of Antibiotic Activity with Nanoparticles	7/25/2014	\$10,191	Northwestern University Clinical and Translational Sciences Institute and Northwestern Memorial Foundation	1/1/2015
Scheetz, M.	CCP	Pharmacy Practice	Effects of Early versus Delayed Antibiotic Treatment for Febrile Neutropenia	10/16/2014	\$21,766	NIH-R21 Subcontract with Northwestern University	7/1/2015
Scheetz, M.	CCP	Pharmacy Practice	Prospective Observational Evaluation of the Association Between the Day 2 Vancomycin Exposure and Failure Rates Among Adult Hospitalized Patients with MRSA Bloodstream Infections (PROVIDE)	12/12/2014	\$20,000	NIH-UMI Subcontract with Northwestern University	12/12/2014 (retroactive)
*Scheetz, M.	CCP	Pharmacy Practice	The Bridge to Personalized Medicine in Intensive Care Children: A Pilot Study to Validate Cefepime PK/PD Outcomes	4/30/2015	\$116,975	Thrasher Research Fund	9/1/2015
*Scheetz, M.	CCP	Pharmacy Practice	Defining Neurotoxicity to Restore Susceptibility for Beta-Lactam Antibiotics	6/5/2015	\$1,871,250	NIH-R01	4/1/2016
Schumacher, C.	CCP	Pharmacy Practice	MEDication Focused Outpatient Care for Underutilization of Secondary Prevention	3/1/2015	\$58,313	NIH-R18 Subcontract with the University of Iowa	4/1/2014 (retroactive)
Venkatesan, N.	CCP	Pharmacy Practice	Novel Microparticulate Curcumin Formulations Against Pancreatic Cancer Cell Lines	8/11/2014	\$10,000	American Association of Colleges of Pharmacy	1/1/2015
Venkatesan, N.	CCP	Pharmacy Practice	Mouth Dissolving Spray-dried Amoxicillin Powder for Oral Use	11/12/2014	\$100,000	Bill & Melinda Gates Foundation	6/1/2015

TOTAL OF CCP EXTRAMURALLY SUBMITTED PROPOSALS: \$3,996,977

**COLLEGE OF HEALTH SCIENCES (CHS):
EXTRAMURALLY SUBMITTED PROPOSALS**

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
Burns, S.	CHS	Nurse Anesthesia	Nurse Anesthetist Traineeship Program	1/6/2015	\$45,000	Health Resources and Services Administration	7/1/2015
Cahill, S. & Egan, B.	CHS	Occupational Therapy	Tiered OT (TOT): Preparing Scholars to Work in School Mental Health	12/5/2014	\$1,157,279	U.S. Department of Education	12/1/2015
Esfandiarei, M.	CHS	Biomedical Sciences	Modulation of Caveolin-1 Expression and Function in a Mouse Model of Marfan Syndrome	3/2/2015	\$74,497	The Marfan Foundation	7/1/2015
Evans, C. & Ciancio, M.	CHS	Physical Therapy & Biomedical Sciences	Exercise and Heat Shock Protein 70 Over-expression Prevent Diet-induced Obesity	3/2/2015	\$24,900	Mayo Clinic Metabolomics Resource Core	7/1/2015
*Hull, E. & Davis, M. (Post Doctoral Fellow)	CHS	Biomedical Sciences	Mechanisms of Epigenetics Regulation of Subtype Switching in the SW13 Human Adrenal Adenocarcinoma Cell Line	4/8/2015	\$139,092	NIH-F32 Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship	9/1/2015
Krzak, J.	CHS	Physical Therapy	Manual Wheelchair Propulsive Biomechanics in Youth and Young Adults with Spina Bifida	7/16/2014	\$22,281	Magistro Family Foundation	1/1/2015
Krzak, J.	CHS	Physical Therapy	Manual Wheelchair Propulsive Biomechanics in Youth and Young Adults with Spina Bifida	9/25/2014	\$21,312	Dr. Ralph and Marian Falk Medical Research Trust	12/1/2014
Krzak, J.	CHS	Physical Therapy	Assessment of Interventional Strategies to Improve Health, Function, and Transitional Care of Youth with Cerebral Palsy	3/16/2015	\$141,038	Administration for Community Living Subcontract with Marquette University	10/1/2015
*Woehrle, J.	CHS	Physical Therapy	The Effect of a Walking Program for People with Hip Osteoarthritis	6/15/2015	\$25,000	Osteoarthritis Action Alliance Collaboration with Mayo Clinic	8/1/2015

TOTAL OF CHS EXTRAMURALLY SUBMITTED PROPOSALS: \$1,650,399

**COLLEGE OF PHARMACY GLENDALE (CPG):
EXTRAMURALLY SUBMITTED PROPOSALS**

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
*Elbayoumi, T.	CPG	Pharmaceutical Sciences	Genistein-lipidic Nanocarrier Combinations for Abrogation of Cancer Resistance to Various Chemotherapies in Diverse Tumors	6/29/2015	\$412,500	NIH-R21 NCI Omnibus	4/1/2016
Olsen, M.	CPG	Pharmaceutical Sciences	Targeted Therapy of Pancreatic Cancer Invasion and Metastasis	11/16/2014	\$56,490	NIH-R21 Subcontract with University of Oklahoma Health Sciences Center	7/1/2015
Veltri, C.	CPG	Pharmaceutical Sciences	Evaluation of Iron-dependent Dioxygenase Inhibition of Grape Derived Polyphenols	2/10/2015	\$5,000	American Society of Pharmacognosy	7/1/2015
Veltri, C.	CPG	Pharmaceutical Sciences	Antimicrobial Effects of Natural Products Derived from Senora Desert Plants	3/11/2015	\$2,000	Arizona Native Plant Society	7/1/2015

TOTAL OF CPG EXTRAMURALLY SUBMITTED PROPOSALS: \$475,990

**COLLEGE OF VETERINARY MEDICINE (CVM):
EXTRAMURALLY SUBMITTED PROPOSALS**

Investigator/s	College	Department	Proposal Title	Date Submitted	Total Budget	Agency	Start Date
Jaffe, M. & Wong, V.	CVM	Veterinary Medicine	Photothermal Nanocomposites for Tissue Repair	9/26/2014	\$76,876	NIH-R01 Subcontract with Arizona State University	1/1/2015
Jaffe, M.	CVM	Veterinary Medicine	Merial Veterinary Scholars Program	11/10/2014	\$11,000	Merial	5/1/2015
Mexas, A.	CVM	Veterinary Medicine	Pharmacokinetics and Pharmacodynamics of "Hands Off" Carprofen Formulations	2/1/2015	\$7,500	American Association for Laboratory Animal Science	6/1/2015
Wong, V. (Harris, S., 1st Year Veterinary Student)	CVM	Veterinary Medicine	Determination of Differential Protein Expression in Primary and Metastatic Hemangiosarcoma Tumors in Dogs - An Observational Pilot Study	2/2/2015	\$5,000	Morris Animal Foundation	5/25/2015

TOTAL OF CVM EXTRAMURALLY SUBMITTED PROPOSALS: \$100,376

**MWU SUBMITTED 70 EXTRAMURAL PROPOSALS FROM ALL COLLEGES
FOR FISCAL YEAR 2015: \$17,819,223**

*The asterisk denotes new material. All material in this report is cumulative from July 1, 2014 through June 30, 2015.

**AZCOM: ALL ACTIVE EXTRAMURALLY-FUNDED
RESEARCH AWARDS DURING THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Al-Nakkash, L.	AZCOM	Physiology	Improving Intestinal Function in the <i>ob/ob</i> Mouse, a Model of Type II Diabetes	\$10,000	Diabetes Action Research and Education Foundation	1/1/2014	12/31/2015
Al-Nakkash, L.	AZCOM	Physiology	Understanding the Mechanism for Genistein-mediated CI Secretion: In Diabetes	\$10,000	United Soybean Board	11/1/2014	10/31/2015
Baab, K.	AZCOM	Anatomy	Integration of Robust Features Across the Cranial and Postcranial Skeleton	\$10,128	The Leakey Foundation	2/1/2015	12/31/2015
Broderick, T.	AZCOM	Physiology	The Cardiac Oxytocin System in Diabetes	\$15,000	Diabetes Action Research and Education Foundation	1/1/2012	12/31/2014
Grossman, A.	AZCOM	Anatomy	New Paleontological Investigation as the Miocene Site of Loperot Turkana District, Kenya	\$20,000	The Leakey Foundation	5/20/2011	10/31/2014
Hernandez, J.	AZCOM	Biochemistry	NF Cereals-Engineering N ₂ Fixation in Mitochondria	\$14,000	Bill & Melinda Gates Foundation Subcontract with the Universidad Politécnica de Madrid, Spain	3/1/2014	7/31/2014
Jones, T.B.	AZCOM	Anatomy	Motoneuron Pool Plasticity Following Spinal Cord Injury	\$4,798	NIH-R01 Subcontract with St. Joseph's Hospital and Medical Center	5/1/2014	4/30/2015
Kamilar, J.	AZCOM	Anatomy	The Evolution of Hair and Fur: Proximate and Ultimate Mechanisms Shaping Primate Pelage Variation	\$57,337	NSF	3/1/2014	2/28/2017
Kamilar, J.	AZCOM	Anatomy	The Evolution of Primate Hair Morphology: A Comparative Approach	\$18,819	The Wenner-Gren Foundation	7/1/2013	6/30/2016
Riede, T.	AZCOM	Physiology	The Evolution of Avian Vocalization	\$137,111	Gordon and Betty Moore Foundation Subcontract with The University of Texas at Austin	11/1/2014	10/31/2016
Valla, J., Jentarra, G., Jones, D., Jones, T.B., Kaufman, J., Olsen, M., Potter, P. & Vallejo, J.	AZCOM	Biochemistry	Modes and Mechanisms for the Early Detection, Tracking and Treatment of Alzheimer's Disease and Associated Disorders	\$114,078 (includes \$58,375 in matched funds)	Arizona Department of Health Services through the Arizona Alzheimer's Research Center, Inc.	7/1/2014	6/30/2015
Worden, K.	AZCOM	Osteopathic Manipulative Medicine	Use and Effectiveness of Osteopathic Manipulative Medicine in the Clinical Setting	\$1,500	A.T. Still University/A.T. Still Research Institute	7/15/2013	12/31/2015

TOTAL OF AZCOM ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$412,771

AZCOPT: ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS DURING THE REPORTING PERIOD

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Handford, P.	AZCOPT	Optometry	Study of Binocular Computer Activities for Treatment of Amblyopia	\$51,500	National Eye Institute Cooperative Agreement with JAEB Center for Health Research, Inc.	11/1/2014	12/31/2018
Harrison, W.	AZCOPT	Optometry	Multisite Fielding of CLAY SIGHT Tool to Active Red Eye Clinical Population: AKA CLAY Red Eye Lite	\$600	CLAY Study Group	10/1/2013	10/1/2015
Kozlowski, M.	AZCOPT	Optometry	Antiproliferative Activity of a New Class of Peptides	\$72,523	Kalos Therapeutics	3/1/2014	1/1/2015
Kozlowski, M.	AZCOPT	Optometry	Evaluation of Telomerase Activating Agents for Prevention and Treatment of Dry AMD	\$42,650	Portes Foundation and the Institute of Medicine Chicago	3/1/2014	12/31/2014

TOTAL OF AZCOPT ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$167,273

CCOM: ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS DURING THE REPORTING PERIOD

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Bjork, B.	CCOM	Biochemistry	Prdm16 and Mecom in Mouse Embryonic Mandible and Palate Development	\$446,940	NIH-R15	7/1/2014	6/30/2017
Graneto, J.	CCOM	Clinical Integration	MBTI Personality Type of 4 th Year Osteopathic Students and Their Career Choice	\$5,289	American Association of Colleges of Osteopathic Medicine	7/1/2014	8/31/2015
Graneto, J.	CCOM	Clinical Integration	Relationship Between Electives Chosen by Osteopathic Medical Students and Their Ultimate Specialty Match Result	\$4,977	American Association of Colleges of Osteopathic Medicine	7/1/2014	12/31/2015
Heinking, K. & Henderson, K.	CCOM	Osteopathic Manipulative Medicine & Physiology	Improving Osteopathic Post-doctoral Training with Basic Science and Osteopathic Manipulative Medicine Integration	\$5,000	American Association of Colleges of Osteopathic Medicine	7/1/2013	10/31/2015
Henderson, K.	CCOM	Physiology	Thyroid Hormone Deiodinases in the Pathogenesis and Treatment for Heart Failure	\$217,668	American Heart Association	8/1/2011	12/31/2014
*Mejia-Alvarez, R.	CCOM	Physiology	Control of IP ₃ R-mediated Calcium Release	\$122,504	NIH-R01 Subcontract with Rush University Medical School	6/1/2015	5/31/2019

**CCOM: ALL ACTIVE EXTRAMURALLY-FUNDED
RESEARCH AWARDS (Continued)**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Murthy, A.	CCOM	Pathology	Immunopathogenesis of Chlamydia Pneumonia Medicated Atherosclerosis	\$214,500	American Heart Association - Midwest Affiliate	7/1/2013	6/30/2016
Murthy, A.	CCOM	Pathology	Mechanism(s) of CD8 ⁺ T Cell-mediated Chlamydia-induced Reproductive Pathology	\$459,396	NIH-R15	7/1/2013	6/30/2016
Orr, C.	CCOM	Anatomy	Comparative Morphological Analysis of the Hand and Wrist in Ardipithecus Ramidus and Miocene Hominoids	\$52,899	NSF	9/1/2013	8/31/2016
Tiwari, V.	CCOM	Microbiology & Immunology	Novel Peptides Against Modified Heparan Sulfate	\$204,875	NIH-R21 Subcontract with University of Illinois Chicago	9/1/2014	8/31/2016
Tiwari, V.	CCOM	Microbiology & Immunology	Structure-function Analysis of Zebrafish Encoded 3-OST Enzyme for HSV-1 Entry	\$363,742	NIH-R15	7/1/2011	12/31/2014

TOTAL OF CCOM ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$2,097,790

**CCP: ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS
DURING THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Arif, S.	CCP	Pharmacy Practice	Cardiovascular and Diabetes Screening for the Middle Eastern Community of Chicagoland	\$4,500	American Heart Association	7/1/2014	6/30/2015
*D'Souza, J.	CCP	Pharmacy Practice	Evaluating the Impact of Pharmacist Interventions on Statin Adherence	\$5,000	American Society of Health-System Pharmacists Foundation	1/1/2015	1/1/2017
Gettig, J.	CCP	Pharmacy Practice	Community Pharmacy Residency Expansion Project	\$50,000	National Association of Chain Drug Stores Foundation	7/1/2013	6/30/2016
Gulati, A.	CCP	Pharmaceutical Sciences	MP40X in Cerebral Ischemia	\$5,000	Sangart, Inc.	3/11/2013	3/10/2015
Gulati, A.	CCP	Pharmaceutical Sciences	Mentor and Train PCCM and NPM Fellows	\$59,360	Advocate & Hospitals Corporation	1/1/2014	12/31/2014
Gulati, A.	CCP	Pharmaceutical Sciences	Nanocarrier Formulation of ETB Receptor Agonist, IRL-1620 for the Treatment of Alzheimer's Disease	\$96,694	Alzheimer's Drug Discovery Foundation	8/1/2012	7/31/2014
Gulati, A.	CCP	Pharmaceutical Sciences	Regulation of Blood Brain Barrier by Sphenopalatine Ganglion	\$75,926	Tian Medical, Inc.	2/3/2014	2/2/2016

**CCP: ALL ACTIVE EXTRAMURALLY-FUNDED
RESEARCH AWARDS (Continued)**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Scheetz, M.	CCP	Pharmacy Practice	Assessing Worldwide Antimicrobial Resistance Evaluation (AWARE) Surveillance Program 2014	\$1,430	JMI Laboratories	2/26/2014	1/31/2015
Scheetz, M.	CCP	Pharmacy Practice	Beyond Benchmarking: Evaluation of Carbapenem Utilization in a National Network	\$10,479	Cubist Pharmaceuticals Subcontract with Wayne State University	10/1/2013	12/31/2014
Scheetz, M.	CCP	Pharmacy Practice	Elucidation of an Informed Drug Dosing Scheme to Minimize Kidney Injury	\$458,764	NIH-R15	4/1/2014	3/31/2017
Scheetz, M.	CCP	Pharmacy Practice	Patient-oriented Research on Hospital-acquired Pathogens	\$36,682	NIH-K24 Subcontract with Northwestern University	7/1/2013	6/30/2018
Scheetz, M.	CCP	Pharmacy Practice	Prospective Observational Evaluation of the Association Between the Day 2 Vancomycin Exposure and Failure Rates Among Adult Hospitalized Patients with MRSA Bloodstream Infections (PROVIDE)	\$20,000	NIH-UMI Subcontract with Northwestern University	12/12/2014	11/30/2019
*Schumacher, C.	CCP	Pharmacy Practice	MEDication Focused Outpatient Care for Underutilization of Secondary Prevention	\$58,313	NIH-R18 Subcontract with the University of Iowa	4/1/2014 (retroactive)	3/31/2019

TOTAL OF CCP ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$882,148

**COLLEGE OF DENTAL MEDICINE ARIZONA (CDMA):
ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS
DURING THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Mitchell, J.	CDMA	Dental	Antibacterial Effects of Synthetic Bone Grafting Materials	\$4,410	Impladent, Ltd.	6/11/2014	12/31/2015
Rolf, D.	CDMA	Dental	Dental Education Grant and Clinical Trials Agreement	The Value of \$485,851	Hiossen, Inc.	12/15/2011	12/14/2016

TOTAL OF CDMA ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$490,261

**COLLEGE OF DENTAL MEDICINE ILLINOIS (CDMI):
ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS
DURING THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Kanjirath, P., Toljanic, J. & Babka, M.	CDMI	Dental	Effectiveness of Digital Technology (prepCheck) in Faculty Calibration	The Value of \$19,320	Sirona Dental, Inc.	7/1/2014	6/30/2015

TOTAL OF CDMI ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$19,320

**CHS: ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS
DURING THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Ciancio, M.	CHS	Biomedical Sciences	STEP-UP Program	\$500	NIH through the American Physiological Society	5/1/2014	8/31/2014

TOTAL OF CHS ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$500

**CPG: ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS DURING
THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Dietrich, M.	CPG	Pharmacy Practice	Community Pharmacy Residency Expansion Project	\$50,000	National Association of Chain Drug Stores Foundation	7/1/2012	6/30/2015

TOTAL OF CPG ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$50,000

**CVM: ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS
DURING THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Graves, T.	CVM	Veterinary Medicine	Shelter Medicine & Community Wellness Program	\$352,725	PetSmart Charities	1/1/2015	12/31/2016
*Wong, V. (Harris, S., 1st Year Veterinary Student)	CVM	Veterinary Medicine	Determination of Differential Protein Expression in Primary and Metastatic Hemangiosarcoma Tumors in Dogs - An Observational Pilot Study	\$5,000	Morris Animal Foundation	6/1/2015	8/31/2015

TOTAL OF CVM ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$357,725

TOTAL MWU ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS: \$4,477,788

**ALL OTHER ACTIVE EXTRAMURALLY-FUNDED AWARDS
DURING THE REPORTING PERIOD**

Investigator/s	College	Department	Proposal Title	Total Award	Agency	Start Date	End Date
Burns, S.	CHS	Nurse Anesthesia Program	Nurse Anesthetist Traineeships	\$25,818	Health Resources and Services Administration	7/1/2014	6/30/2015
Pearl, J.	CHS	Physician Assistant Program	Physician Assistant Training in Primary Care	\$897,456	Health Resources and Services Administration	8/1/2012	7/31/2017

TOTAL OTHER ACTIVE EXTRAMURALLY-FUNDED AWARDS: \$923,274

Proposals included are defined as active grants based on end dates reported to the ORSP on the Principal Investigator's Proposal Approval Form plus any granted no-cost extension or contract addendum.

The numbers in this report do not include a \$1,769,066 grant submitted by Gregory J. Gaus, Sr. Vice President and Chief Financial Officer, and Susan Brassfield, Senior Grant Specialist, that was awarded by the Illinois Board of Higher Education for Science Hall. MWU received these funds in Fiscal Year 2015.

TOTAL MWU ACTIVE EXTRAMURALLY-FUNDED AWARDS: \$5,401,062

*The asterisk denotes new material. All material in this report is cumulative from July 1, 2014 through June 30, 2015.

Alexander LD, Ding Y, Alagarsamy S & Cui X. (2014) Angiotensin II stimulates fibronectin protein synthesis via a G β γ /arachidonic acid-dependent pathway. *American Journal of Physiology: Renal Physiology* 307(3):F287-302.

Baab KL. (2015) Defining *Homo erectus*. In W Henke & I Tattersall (Eds.) *Handbook of Paleoanthropology*. (pp.2189-2219). New York, NY: Springer.

Blob RW, Espinoza NR, Butcher MT, **Lee AH**, D'Amico AR, Baig F & Sheffield KM. (2014) Diversity of limb-bone safety factors for locomotion in terrestrial vertebrates: Evolution and mixed chains. *Integrative and Comparative Biology* 54(6):1058-1071.

Brust KB, **Corbell KA**, **Al-Nakkash L**, Babu JR & **Broderick TL**. (2014) Expression of gluconeogenic enzymes and 11 β -hydroxysteroid dehydrogenase type 1 in liver of diabetic mice after acute exercise. *Diabetes, Metabolic Syndrome, and Obesity: Targets and Therapy* 7:495-504.

Cabana GS, Lewis CM Jr, Tito RY, Covey RA, Cáceres AM, La Cruz De AF, Durand D, Housman G, Hulsey BI, Iannacone GC, López PW, Martínez R, Medina A, Ortego Dávila O, Osorio Pinto KP, Polo SI, Rojas Domínguez P, Rubel M, **Smith HF**, Smith SE, Rubín de Celis Massa V, Lizárraga B & Stone AC. (2015) Population genetic structure of traditional populations in the Peruvian Central Andes and implications for South American population history. *Human Biology* 86:147-165.

Caldwell MW, **Nydam RL**, Palci A & Apesteguía S. (2015) The oldest known snakes from the Middle Jurassic-Lower Cretaceous provide insights on snake evolution. *Nature Communications* 6:5996.

Campisano CJ, Kirk EC, **Townsend KEB** & Deino AL. (2014) Geochronological and taxonomic revisions of the middle Eocene Whistler Squat Quarry (Devil's Graveyard Formation, Texas) and implications for the early Uintan in Trans-Pecos Texas. *Public Library of Science ONE* 9(7):1-21.

Carroll C, **Martineau K**, **Arthur KA**, **Huynh RT**, **Volper BD** & **Broderick TL**. (2015) The effect of chronic treadmill exercise and acetaminophen on collagen and cross-linking in rat skeletal muscle and heart. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 308(4):R294-R299.

***Collins J** & **Middleton TO**. (2015) Pityriasis, Rubra Pilaris. In FJ Domino (Ed.) *www.5minuteconsult.com*. Philadelphia, PA: Wolters Kluwer.

Cooley J, **Al-Nakkash L**, **Broderick TL** & **Plochocki JH**. (2015) Effects of resveratrol treatment on bone and cartilage in obese diabetic mice. *Journal of Diabetes & Metabolic Disorders* March 12: epub ahead of print.

PEER-REVIEWED PUBLICATIONS - AZCOM (Continued)

Eaton JG, Gardner JD, Kirkland JI, Brinkman DB & **Nydam RL**. (2014) Vertebrates of the Iron Springs Formation, upper Cretaceous, southwestern Utah. In JS MacLean, RF Biek & JE Huntoon (Eds.) *Geology of Utah's Far South: Utah Geological Association* 43:523–556.

Ecker SB & Middleton TO. (2014) Pityriasis, Rubra Pilaris. In FJ Domino (Ed.) *www.5minuteconsult.com*. Philadelphia, PA: Wolters Kluwer Health.

Endly DC & Middleton TO. (2014) Paget Disease of the Breast. In FJ Domino (Ed.) *The 5 Minute Clinical Consult 2015*. Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins.

*Everman S, Mandarino LJ, **Carroll CC** & Katsanos CS. (2015) Effects of acute exposure to plasma branched-chain amino acid concentrations on insulin-mediated plasma glucose turnover in healthy young subjects. *Public Library of Science ONE* 10(3):e0120049.

Farzin M, Albert T, Pierce N, **VandenBrooks JM**, Dodge T & Harrison JF. (2014) Acute and chronic effects of atmospheric oxygen on the feeding behavior of *Drosophila melanogaster* larvae. *Journal of Insect Physiology* 68:23-29.

Grossman A, Liutkus-Pierce C, Kyongo B & M'Kirera F. (2014) New fauna from Loperot contributes to the understanding of Early Miocene catarrhine communities. *International Journal of Primatology* September 25:epub ahead of print.

Grossman A & Solounias N. (2014) New fossils of Giraffoidea (Mammalia: Artiodactyla) from the Lothidok Formation (Kalodirr Member, Early Miocene, West Turkana, Kenya) contribute to our understanding of early giraffoid diversity. *Zitteliana* B32:1-8.

Hamzeh MT, **Sridhara R** & **Alexander LD**. (2015) Cyclic stretch-induced TGF- β 1 and fibronectin expression is mediated by β 1-integrin through c-Src- and STAT3-dependent pathways in renal epithelial cells. *American Journal of Physiology: Renal Physiology* 308(5):F425-F436.

Jones TB. (2014) Lymphocytes and autoimmunity after spinal cord injury. *Experimental Neurology* 258:78-90.

Kamilar JM & Baden AL. (2014) What drives flexibility in primate social organization? *Behavioral Ecology and Sociobiology* July 20:epub ahead of print.

***Kamilar JM**, Beaudrot L & Reed KE. (2015) Climate and species richness predict the phylogenetic structure of African mammal communities. *Public Library of Science ONE* 10(4):e0121808.

PEER-REVIEWED PUBLICATIONS - AZCOM (Continued)

Kistler L, Ratan A, Godfrey LR, Crowley BE, Hughes CE, Lei R, Cui Y, Wood ML, **Muldoon KM**, Andriamialison H, McGraw JJ, Tomsho LP, Schuster SC, Miller W, Louis EE, Yoder AD, Malhi RS & Perry GH. (2015) Comparative and population mitogenomic analyses of Madagascar's extinct, giant 'subfossil' lemurs. *Journal of Human Evolution* 79:45-54.

***Klochkov A, Bosin D & Middleton TO**. (2015) Necrobiosis Lipoidica. In FJ Domino (Ed.) *www.5minuteconsult.com*. Philadelphia, PA: Wolters Kluwer.

Le Douairon Lahaye S, Rannou Bekono F & **Broderick TL**. (2014) Physical activity and diabetic cardiomyopathy: Myocardial adaptation depending on exercise load. *Current Diabetes Reviews* 10(6):371-390.

Lee AH & Simons ELR. (2015) Wing bone laminarity is not an adaptation for torsional resistance in bats. *PeerJ* 3:e823.

Leung L, Bhakta A, Cotangco K & Al-Nakkash L. (2015) Genistein stimulates jejunum chloride secretion via an Akt-mediated pathway in intact female mice. *Cellular Physiology and Biochemistry* 35:1317-1325.

Leung L, Kang J, Rayyan E, Bhakta A, Barrett B, Larsen D, Jelinek R, Willey J, Cochran S, Broderick TL & Al-Nakkash L. (2014) Decreased basal chloride secretion and altered cystic fibrosis transmembrane conductance regulatory protein, Villin, GLUT5 protein expression in jejunum from leptin-deficient mice. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy* 7:321-330.

Lingle S & **Riede T**. (2014) Deer mothers are sensitive to infant distress vocalizations of diverse mammalian species. *The American Naturalist* 184(4):510-522.

Loftis A, Castillo-Alcala F, Bogdanovic L & Verma A. (2014) Fatal canine leptospirosis on St. Kitts. *Veterinary Sciences* 1(3):150-158.

Lysne D, Johns J, Walker A, Ecker R, Fowler C & Lawson KR. (2014) P-cadherin potentiates ligand-dependent EGFR and IGF-1R signaling in dysplastic and malignant oral keratinocytes. *Oncology Reports* 32(6):2541-2548.

Maarouf CL, **Kokjohn TA**, Walker DG, Whiteside CM, Kalback WM, Whetzel A, Sue LI, Serrano G, Jacobson SA, Sabbagh MN, Reiman EM, Beach TG & Roher AE. (2014) Biochemical assessment of precuneus and posterior cingulate gyrus in the context of brain aging and Alzheimer's disease. *Public Library of Science ONE* 9(8):e105784.

***Makádi L & Nydam R**. (2014) A new durophagous scincomorphan lizard genus from the Late Cretaceous Iharkút locality (Hungary, Bakony Mts). *Paläontologische Zeitschrift* December 23: epub ahead of print.

PEER-REVIEWED PUBLICATIONS - AZCOM (Continued)

Manolescu DC, Jankowski M, Danalache BA, Wang D, **Broderick TL**, Chiasson JL & Gutkowska J. (2014) All-transretinoic acid stimulates gene expression of the cardioprotective natriuretic peptide system and prevents fibrosis and apoptosis in cardiomyocytes of obese *ob/ob* mice. *Applied Physiology, Nutrition, and Metabolism* April 30:1-10.

Marelli CA & Simons EL. (2014) Microstructure and cross-sectional shape of limb bones in great horned owls and red-tailed hawks: How do these features relate to differences in flight and hunting behavior? *Public Library of Science One* 9(8):e106094.

Middleton TO. (2014) Hematuria. In FJ Domino (Ed.) *The 5 Minute Clinical Consult 2015*. Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins.

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***Neighbors J & Middleton TO.** (2015) Paget Disease of the Breast. In FJ Domino (Ed.) *The 5 Minute Clinical Consult 2015*. Philadelphia, PA: Wolters Kluwer.

***Neufeld K, Ezell K & Grow WA.** (2015) Plastic additives decrease agrin-induced acetylcholine receptor clusters and myotube formation in C2C12 skeletal muscle cell culture. *CellBio* 4:12-22.

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Plante E, Menaouar A, Danalache BA, **Broderick TL**, Jankowski M & Gutkowska J. (2014) Treatment with brannatriuretic peptide prevents the development of cardiac dysfunction in obese diabetic *db/db* mice. *Diabetologia* 57(6):1257-1267.

*Plante E, Menaouar A, Danalache BA, Yip D, **Broderick TL**, Chiasson J, Jankowski M & Gutkowska J. (2015) Oxytocin treatment prevents the cardiomyopathy observed in obese diabetic male *db/db* mice. *Endocrinology* 156(4):1416-1418.

Rayyan E, Polito S, Leung L, Bhakta A, Kang J, Willey J, Mansour W, Drumm ML & Al-Nakkash L. (2015) Effect of genistein on basal jejunal chloride secretion in R117H CF mice is sex and route specific. *Clinical and Experimental Gastroenterology* 8:77-87.

*Rege SD, Geetha T, **Broderick TL** & Babu JR. (2015) Resveratrol protects β amyloid-induced oxidative damage and memory associated proteins in H19-7 hippocampal neuronal cells. *Current Alzheimer Research* 12(2):147-156.

Rege SD, Geetha T, Griffin GD, **Broderick TL** & Babu JR. (2014) Neuroprotective effects of resveratrol in Alzheimer disease pathology. *Frontiers in Aging Neuroscience* 6:218.

Riede T, Forstmeier W, Kempnaers B & Goller F. (2015) The functional morphology of male courtship displays in the Pectoral Sandpiper (*Calidris melanotos*). *The Auk: Ornithological Advances* 132:65-77.

***Riede T**, Li Z, Tokuda IT & Farmer CG. (2015) Functional morphology of the *Alligator mississippiensis* larynx with implications for vocal production. *The Journal of Experimental Biology* 218(7):991-998.

***Riede T**, Zhao Y & LeDoux MS. (2015) Vocal development in dystonic rats. *Physiological Reports* 3(4):e12350.

***Rodriguez-Sosa JR**, Bondareva A, Tang L, Avelar GF, Coyle KM, Modelski M, Alpaugh W, Conley A, Wynne-Edwards K, França LR, Meyers S & Dobrinski I. (2014) Phthalate esters affect maturation and function of primate testis tissue ectopically grafted in mice. *Molecular and Cellular Endocrinology* 398(1-2):89-100.

Roher AE, Maarouf CL, **Kokjohn TA**, Whiteside CM, Kalback WM, Serrano G, Belden C, Liebsack C, Jacobson SA, Sabbagh MN & Beach TG. (2015) Neuropathological and biochemical assessments of an Alzheimer's disease patient treated with the γ -secretase inhibitor semagacestat. *American Journal of Neurodegenerative Disease* 3(3):115-133.

Rosenberger AL, Godfrey LR, **Muldoon KM**, Gunnell GF, Andriamialison H, Ranivoharimanana L, Ranaivoarisoa JF, Rasoamiamanana AH, Randrianasy J & Amador FE. (2015) Giant subfossil lemur graveyard discovered, submerged, in Madagascar. *Journal of Human Evolution* March 6: epub ahead of print.

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***Cahill SM, Egan BE, Wallingford M, Huber-Lee C & Dess-McGuire M.** (2015) The results of a school-based evidence-based practice initiative. *American Journal of Occupational Therapy* 69(2):692220010p1-692220010p5.

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*Kenyon LK, Birkmeier M, **Anderson DK** & Martin K. (2015) Innovation in pediatric clinical education: Application of the essential competencies. *Pediatric Physical Therapy* 27(2):178-186.

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PEER-REVIEWED PUBLICATIONS - CHS (Continued)

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PEER-REVIEWED PUBLICATIONS - CPG (Continued)

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PEER-REVIEWED PUBLICATIONS - CPG (Continued)

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Quinn MM, Henneberger PK; members of the National Institute for Occupational Safety and Health (NIOSH), National Occupational Research Agenda (NORA) Cleaning and Disinfecting in Healthcare Working Group: Braun B, Delclos GL, Fagan K, **Huang V**, Knaack JL, Kusek L, Lee SJ, Le Moual N, Maher KA, McCrone SH, Mitchell AH, Pechter E, Rosenman K, Schulster L, Stephens AC, Wilburn S & Zock JP. (2015) Cleaning and disinfecting environmental surfaces in health care: Toward an integrated framework for infection and occupational illness prevention. *American Journal of Infection Control* March 16: epub ahead of print.

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PEER-REVIEWED PUBLICATIONS - CPG (Continued)

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Weissig V & Edeas M (Eds.). (2015) *Mitochondrial Medicine: Volume II, Manipulating Mitochondrial Function. Methods in Molecular Biology, Volume 1265: Springer Protocols.* (pp.1-447). New York, NY: Springer/Humana Press.

***Weissig V & Guzman-Villanueva D.** (2015) Nanocarrier-based antioxidant therapy: Promise or delusion? *Expert Opinion on Drug Delivery* June 29: epub ahead of print.

Weissig V & Guzman-Villanueva D. (2015) Nanopharmaceuticals (part 2): Products in the pipeline. *International Journal of Nanomedicine* 10:1245-1257.

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PEER-REVIEWED PUBLICATIONS - CVM

Gostelow R, Forcada Y, Graves T, Church D & Niessen S. (2014) Systematic review of feline diabetic remission: Separating fact from opinion. *The Veterinary Journal* August 19: epub ahead of print.

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*The asterisk denotes new material. All material in this report is cumulative from July 1, 2014 through June 30, 2015.

PATENTS ISSUED AND PUBLISHED

Anil Gulati (CCP)

Title: Method and Composition for Treating Diabetic Ketoacidosis

U.S. Patent Number: 8,980,874

Inventors: Gulati A

Date Issued: March 17, 2015

Title: Diagnostic Use of Endothelin ETB Receptor Agonists and ETA Receptor Antagonists in Tumor Imaging

U.S. Patent Number: 8,980,222

Inventors: Gulati A & Gulati K

Date Issued: March 17, 2015

Title: Sensitization of Tumor Cells to Radiation Therapy Through Administration of Endothelin Agonists

U.S. Patent Number: 8,957,014

Inventors: Gulati A, Reddy G & Lenaz L

Date Issued: February 17, 2015

Volkmar Weissig (CPG)

Title: Precision-guided Nanoparticulate Systems for Drug Delivery

U.S. Patent Number: 9,056,129

Inventors: Hanson R, Amiji M & Weissig V

Date Issued: June 16, 2015

INTRAMURAL FUNDING

AZCOM

Investigator/s	College	Department	Proposal Title
Alexander, L.	AZCOM	Physiology	Effect of Cyclic Stretch on α - and β -integrin and Heterotrimeric Protein Expression in Human Renal Proximal Tubular Cells (HK-2)
Al-Nakkash, L.	AZCOM	Physiology	Effects of Genistein Diet on Male and Female <i>Ob/Ob</i> Mouse Jejunum and Physical Characteristics
Broderick, T.	AZCOM	Physiology	Carnitine Biosynthesis During Exercise. I. Role of the Kidney
Call, G.	AZCOM	Pharmacology	Determining the Effects of CO ₂ , Anoxia and <i>White</i> Gene Mutation on Behavior and Isoflurane Response in <i>Drosophila Melanogaster</i>
Carroll, C.	AZCOM	Physiology	Developing Exercise Methodologies to Maximize Tendon Adaptations in the Elderly
Georgi, J.	AZCOM	Anatomy	Head Motion During Unstable Locomotion in <i>Alligator</i> and <i>Varanus</i>
Gonzalez, F.	AZCOM	Microbiology & Immunology	Characterization of the <i>Candida Albicans</i> Lap3p Aminopeptidase
Grossman, A.	AZCOM	Anatomy	Comparing the Early Miocene Mammals Communities of Afro-Arabia
Grow, W.	AZCOM	Anatomy	Effect of Myostatin Inhibitors on Agrin-induced AChR Clustering in C2C12 Cell Culture
Hall, M.	AZCOM	Physiology	Computer Reconstruction of Regional Brain Volume in Squamates
Heesy, C.	AZCOM	Anatomy	Computer Reconstruction of Regional Brain Volume in Squamates
Jones, B.	AZCOM	Anatomy	The Effect of Experimental Spinal Cord Compression on the Tissue Renin-Angiotensin System
Jones, D.	AZCOM	Pharmacology	Effects of Bisphenol A on the Brain and Cholinergic System; Is There a Link to Alzheimer's Disease?
Katzif, S.	AZCOM	Microbiology & Immunology	1) SarR Regulates the Cold Shock Gene <i>cspA</i> of <i>Staphylococcus aureus</i> at Both the Transcriptional and Posttranscriptional levels, 2) The Peroxide Response Repressor PerR Regulates the Activity of the Cold Shock Gene <i>cspA</i> of <i>Staphylococcus Aureus</i> , 3) The Effect of the Cold Shock Gene <i>cspA</i> on Biofilm Production by <i>Staphylococcus Aureus</i> Varies in MRSA and MSSA Strains
Kaufman, J.	AZCOM	Anatomy	Optimization of CLARITY for Imaging Intact Neural Systems
Lawson, K.	AZCOM	Biochemistry	The Role of Aberrant P-Cadherin Expression in Oral Tumor Development
Leyva, K.	AZCOM	Microbiology & Immunology	Collective Cell Migration and EMT in Zebrafish Keratocytes
Nydam, R.	AZCOM	Anatomy	Microvertebrate Fossils from the Early Jurassic Navajo Sandstone, Southern Utah
Potter, P.	AZCOM	Pharmacology	Muscarinic Receptor Alterations and Beta-Arrestin in Alzheimer's
Tarr, E.	AZCOM	Microbiology & Immunology	Bacterial Expression of Nematode and Tardigrade Defensins
Townsend, K. E. B.	AZCOM	Anatomy	Screen Washing and Vertebrate Diversity in the Middle Eocene Uinta Formation, Uinta Basin, Utah

INTRAMURAL FUNDING

AZCOM (Continued)

Investigator/s	College	Department	Proposal Title
Vallejo-Elias, J.	AZCOM	Physiology	The Role of Caveolin-1 in the Progression of Aortic Aneurysm in a Mouse Model of Marfan Syndrome

TOTAL AZCOM INTRAMURAL FUNDING: \$100,086

AZCOPT

Investigator/s	College	Department	Proposal Title
Gaib, S.; Vasudevan, B.	AZCOPT	Optometry	Low Toric Soft Contact Lens Acceptance Study - Phase II
Handford, P.	AZCOPT	Optometry	Use of a Modified CISS to Assess Symptoms in Patients with Accommodative Dysfunction
Harrison, W.; Yevseyenkov, V.	AZCOPT	Optometry	Short Term Changes in mfERG, Anterior Segment OCT, MOPP and Blood Glucose in Control Patients
Kozlowski, M.	AZCOPT	Optometry	Evaluation of New Classes of Compounds for the Treatment of Dry AMD
Osmotherly, K.; Harrison, W.	AZCOPT	Optometry	Therapeutic Effects of Increased Hydration for Tear Osmolarity
Putman, N.	AZCOPT	Optometry	A Dynamic Model Eye for Testing a Tracking Scanning Laser Ophthalmoscope (tSLO) at the Midwestern University Eye Institute
Vasudevan, B.; Gaib, S.	AZCOPT	Optometry	Visual and Optical Performance of Multifocal Contact Lenses

TOTAL AZCOPT INTRAMURAL FUNDING: \$34,541

CCOM

Investigator/s	College	Department	Proposal Title
Chandar, N.	CCOM	Biochemistry	P53 Gene in Cancer
Dineley, K.	CCOM	Pharmacology	Investigating Zinc Homeostasis in a Human Adrenocortical Cell Line
Edwards, J.	CCOM	Pharmacology	Cellular Mechanisms of Cadmium-Induced Hyperglycemia and Hypoinsulinemia
Green, J.	CCOM	Biochemistry	Folic Acid Metabolism
LePard, K.	CCOM	Physiology	Age-dependent Changes in Pancreatic Islet GLUT2 in T2DM Mice
Lynch, S.	CCOM	Biochemistry	Protection of HDL From Oxidative Modification by Vitamin C
Mayer, A.	CCOM	Pharmacology	Neuroinflammation, Microglia and Natural Products
McCulloch, P.	CCOM	Physiology	Brainstem Cardiorespiratory Control Mechanisms
O'Hagan, K.	CCOM	Physiology	Effects of Pregnancy on Voluntary Wheel Running Activity in Rats
Plotkin, B.	CCOM	Microbiology & Immunology	Effect of Insulin and Other Hormones on Bacterial Virulence

INTRAMURAL FUNDING

CCOM (Continued)

Investigator/s	College	Department	Proposal Title
Ramsey, K.	CCOM	Microbiology & Immunology	Using Chlamydial Variants to Determine Virulence in the Mouse
Van Winkle, L.	CCOM	Biochemistry	A Study of Certain Biochemicals and Related Biochemical Events Leading to Implantation of Mouse Blastocysts
Volin, M.	CCOM	Microbiology & Immunology	Lymphatic Pump Treatment of Rat Adjuvant-induced Arthritis

TOTAL CCOM INTRAMURAL FUNDING: \$59,600

CCP

Investigator/s	College	Department	Proposal Title
Bhalla, S.	CCP	Pharmaceutical Sciences	Involvement of Endothelin Receptors in Angiogenesis and Neurogenesis During Morphine and Oxycodone Withdrawal
Fusco, J.	CCP	Pharmacy Practice	Pharmacists' Perspectives on Elder Abuse Detection and Reporting in the Community Dwelling Setting
Gilchrist, A.	CCP	Pharmaceutical Sciences	Development of a FFAR2 Screening Platform
Joshi, M.	CCP	Pharmaceutical Sciences	Evaluation of Liposomal Nanocarriers Loaded with ETB Receptor Agonist, IRL-1620
O'Donnell, J.	CCP	Pharmacy Practice	Novel Urinary Biomarkers in the Detection of Vancomycin Associated Renal Injury
O'Driscoll, T.	CCP	Pharmacy Practice	Beta-lactamase Gene Types and the Inoculum Effect with Cefazolin Among Methicillin-susceptible <i>Staphylococcus aureus</i> Isolates in Chicago Medical Centers: A Multi-center Prevalence Study

TOTAL CCP INTRAMURAL FUNDING: \$33,349

CDMI

Investigator/s	College	Department	Proposal Title
Bjork, B. (CDMI Student: Emily Carley)	CDMI Joint Appointment	Dental	PRDM16 Function in Normal Palate Development in Mice and in the Potential Etiology of Human Non-syndromic Clefting
Ciancio, M.	CDMI Joint Appointment	Dental	Does Heat Shock Protein 70 Protect Against Oral Cancer Development and Radiation-induced xerostomia?
Ciancio, M. (CDMI Student: Andrew Fakhoury)	CDMI Joint Appointment	Dental	The Effects of 4-NQO on Oral Bacterial Balance
Ciancio, M. (CDMI Student: Brittany Howell)	CDMI Joint Appointment	Dental	Evaluation of Salivary Flow in Laboratory Mice: Effects of Radiotherapy on Resting and Stimulated Salivary Flow
Ciancio, M. (CDMI Student: Andrew Schwab)	CDMI Joint Appointment	Dental	Coconut Oil Pulling Effect on Tooth Shade, Plaque Index, and Oral pH
Ciancio, M. (CDMI Student: Samantha Sacchetti)	CDMI Joint Appointment	Dental	Induction of Oral Squamous Cell Carcinoma by 4-NQO Administered Via Gavage
Murthy, A. (CDMI Student: Kavita Patel)	CDMI Joint Appointment	Dental	The Role of CD8 ⁺ T cells and TNF-alpha in Chlamydia-induced Reactive Arthritis

INTRAMURAL FUNDING

CDMI (Continued)

Investigator/s	College	Department	Proposal Title
Plotkin, B.	CDMI Joint Appointment	Dental	Effect of Human Insulin on <i>Staphylococcus aureus</i> Biofilm Formation
Sigar, I. (CDMI Student: Ryan Baxter)	CDMI Joint Appointment	Dental	Graviola Extract Efficacy on Oral Microbes and Biofilm Formation
Williams, L.	CDMI	Dental	Coconut Oil Pulling Effect on Tooth Shade, Plaque Index, and Oral pH

TOTAL CDMI INTRAMURAL FUNDING: \$22,246

CHS

Investigator/s	College	Department	Proposal Title
Buhlman, L.	CHS	Biomedical Sciences	Characterizing the Nature of Motor Deficits in Parkin Loss-of-Function Drosophila
Ciancio, M.	CHS	Biomedical Sciences	Prevention of High Fat, Diet-induced Obesity and Metabolic Syndrome by Voluntary Exercise: Underlying Mechanisms and Mediators
Cuellar, M.	CHS	Speech Language Pathology	Using EEG to Map the Functional Dynamics of Sensorimotor Integration During Swallowing
del Toro, C.	CHS	Speech Language Pathology	Semantic Priming of Picture Naming in Adults with Aphasia
Egan, B.	CHS	Occupational Therapy	Using Photo-elicitation to Develop a Grounded Theory of Occupation-based Intervention Use
Evans, C.	CHS	Physical Therapy	Prevention of High Fat Diet-induced Obesity and Metabolic Syndrome by Voluntary Exercise: Underlying Mechanisms and Mediators
Bonin, K.	CHS	Physician Assistant Studies	Physician Assistant Academic Fellowships: An Outcomes Assessment
Gadagkar, S.	CHS	Biomedical Sciences	Understanding the Evolutionary History of the Plant Genus <i>Impatiens</i> (Balsaminaceae) - A Pilot Study
Gandhi, S.	CHS	Clinical Psychology	Attitudes Toward Prescription Authority in Arizona
Gunn, J.	CHS	Physician Assistant Studies	A Pilot Study Investigating the Factors that Applicants Consider when Choosing a Physician Assistant Program
Hull, E.	CHS	Biomedical Sciences	Epigenetic Regulation of Subtype Switching in Human Adrenal Adenocarcinoma
Hull, E.	CHS	Biomedical Sciences	Mechanisms and Control of Collective Cell Migration in Zebrafish Epithelial Explants
Imus, F.	CHS	Nurse Anesthesia	Learn How Your Brain Learns: Transition to Graduate Education
Jaskolski, J.	CHS	Speech Language Pathology	Retention of Early Childhood Educators' Phonological Awareness Knowledge and Classroom Implementation One Year After Training: A Follow-up Study
Jones, C.	CHS	Biomedical Sciences	Modulation of the Renin-angiotensin System in Spinal Cord Injury
Kristjansdottir, K.	CHS	Biomedical Sciences	NPM1 Localization and Oligomerization in Neuroblastoma

INTRAMURAL FUNDING

CHS (Continued)

Investigator/s	College	Department	Proposal Title
Prodoehl, J.; Hanke, T.	CHS	Physical Therapy	The Effect of Postural Support and Task on Manibular, Head and Spinal Posture During Sustained Dynamic Tasks
Roman, K.	CHS	Physician Assistant Studies	The Use of Virtual Patients (VP) in Multimedia Clinical Case Scenarios (MMCCS) to Improve OSCE Performance in the Second Year of Physician Assistant Training
Schofield, K.	CHS	Occupational Therapy	Anatomy Education in Occupational Therapy Curricula: Perspectives of Practitioners Across the United States
Soby, S.	CHS	Biomedical Sciences	Microbial Diversity in Dune Slack Soils of the Cape Cod National Seashore
Thompson, C.	CHS	Physician Assistant Studies	Practical Importance of Procedural Skills Taught to Physician Assistant Students
Violand, M.; Wissman, L.	CHS	Podiatric Medicine	Are Plantar Fascial Sleeves Effective in Relieving Symptoms of Plantar Fasciitis
Wilson, J.	CHS	Speech Language Pathology	An Electrophysiological Investigation of the Behavioral and Neurophysiological Effects of Dual-task Complexity Manipulations on Healthy Adults

TOTAL CHS INTRAMURAL FUNDING: \$90,534

CPG

Investigator/s	College	Department	Proposal Title
Buckley, K.	CPG	Pharmacy Practice	Impact of a Pharmacist-only Clinic Versus a Pharmacist-led Multidisciplinary Clinic on Tobacco Cessation Rates in a Homeless Population
Olsen, M.	CPG	Pharmaceutical Sciences	Synthesis and Evaluation of ASPH Inhibitors for the Treatment of Cancer
Tsu, L.	CPG	Pharmacy Practice	Pharmacist Impact on Medication Adherence in a Geriatric Cardiovascular Population
Yao, M.	CPG	Pharmaceutical Sciences	Thrombospondin 1-SIRP α -mediated Vascular Dysfunction Via Oxidative Stress to Endothelium

TOTAL CPG INTRAMURAL FUNDING: \$39,086

CVM

Investigator/s	College	Department	Proposal Title
*Englar, R.	CVM	Veterinary Medicine	Clinical Communication Skills Methods Development: The Value of the Calgary-Cambridge Model to Companion Animal Owners and its Applicability for Use in Training Veterinary Students
Jaffe, M.	CVM	Veterinary Medicine	Photothermal Nanocomposites for Tissue Repair
Noah, D. (CVM Students: Heather Cornell & Peter O'Neal)	CVM	Veterinary Medicine	Canine Intestinal Parasites - Phoenix, Arizona

TOTAL CVM INTRAMURAL FUNDING: \$28,294

TOTAL MWU INTRAMURAL FUNDING AWARDED BY ALL COLLEGES DURING THIS REPORTING PERIOD: \$407,736

*The asterisk denotes new material. All material in this report is cumulative from July 1, 2014 through June 30 2015.

FY15, QUARTER #4 REPORT

UNIVERSITY-FUNDED RESEARCH SUPPORT POSITIONS BY CAMPUS**

MWU "HARD MONEY" RESEARCH SUPPORT POSITIONS		
CAMPUS	FTE	TOTAL COMPENSATION FOR REPORTING PERIOD
DOWNERS GROVE, ILLINOIS	23.6	\$1,467,996
GLENDALE, ARIZONA	24.5	\$1,402,140
TOTAL	48.1	\$2,870,136

****THIS INCLUDES FUNDED OR FILLED, TEMPORARY OR PERMANENT POSITIONS. THIS DOES NOT INCLUDE "SOFT MONEY" RESEARCH POSITIONS FUNDED BY GRANTS OR CONTRACTS.**

TOTAL COMPENSATION TO ALL COLLEGES FOR RESEARCH SUPPORT POSITIONS IN THIS REPORTING PERIOD IS \$2,870,136.

UNIVERSITY-FUNDED CAPITAL RESEARCH EQUIPMENT

Another manner in which MWU supports research is through consideration and funding of capital research equipment requests submitted by faculty. For Fiscal Year 2014, MWU has spent \$950,602 on capital equipment purchases for research purposes across both campuses.

UNIVERSITY-FUNDED PER DIEM CHARGES

A way in which MWU supports research is through the waiving of animal per diem charges. During the current reporting period, MWU waived \$108,334 in animal per diem charges across both campuses.

UNIVERSITY-FUNDED RECAPTURED SALARIES AS "ADDITIONAL COMPENSATION"

Finally, another way that MWU supports research is through offering additional pay to faculty who receive grants which support "hard money" salary positions. When grant funds are exhausted the additional pay is eliminated. During Fiscal Year 2015, MWU paid out \$53,022*** as "Additional Compensation" to faculty Principal Investigators on grants. This payment is available to all faculty who receive extramural funding for their research, subject to the ORSP's *Recaptured Salaries on Grants* policy.

***This figure represents recaptured salary from July 1, 2014 through May 31, 2015.

FY15, QUARTER #4 REPORT

UNIVERSITY-FUNDED STUDENT SUPPORT BY CAMPUS DURING REPORTING PERIOD

RESEARCH SUPPORT AVAILABLE FOR STUDENTS IN DOWNERS GROVE, ILLINOIS		
ACTIVITY	NUMBER OF AWARDS	TOTAL FUNDING
RESEARCH POSTER PRINTING	164	\$8,116
TRAVEL TO PRESENT RESEARCH	28	\$12,690
FELLOWSHIPS	50	\$186,771
TOTAL FUNDING AVAILABLE IN SUPPORT OF STUDENT RESEARCH ACTIVITIES IN ILLINOIS		\$207,577

RESEARCH SUPPORT AVAILABLE FOR STUDENTS IN GLENDALE, ARIZONA		
ACTIVITY	NUMBER OF AWARDS	TOTAL FUNDING
RESEARCH POSTER PRINTING	118	\$6,607
TRAVEL TO PRESENT RESEARCH	15	\$7,329
FELLOWSHIPS	36	\$150,209
TOTAL FUNDING AVAILABLE IN SUPPORT OF STUDENT RESEARCH ACTIVITIES IN ARIZONA		\$164,145

**TOTAL FUNDING AVAILABLE IN SUPPORT OF STUDENT RESEARCH ACTIVITIES
ACROSS BOTH CAMPUSES IS \$371,722**

Congratulations to the Inaugural MWU Student One Health Research Award Recipients!

Downers Grove Campus

Title: Pharmacological Treatment to Re-network Neuronal Connection in the Spinal Cord After Traumatic Lesion by Endogenous Stem Cells Niche in Adult Mice

Students: Bradley Paus (CCOM) and Adam Zurney (CCOM); Mentor: Michele Fornaro (CCOM)

Glendale Campus

Title: Extemporaneous Compounding of Veterinary Drug Products in the State of Arizona: Practices and Beliefs of Veterinarians

Students: Jin Bae (CPG), Marcellia Dorman (CPG), Mercedes Hymes (CVM), Joseph Pennington (CPG) and Haleigh Slinker (CPG); Mentor: Melanie Jordon (CPG)

Title: The Epidemiology of *Giardia* Genotypes in Stray Dogs and Cats in the Greater Phoenix Area

Students: Miranda Frohlich (CVM); Mentor: Valerie Wong (CVM)

THE ORSP WEBSITE CAN BE FOUND AT: <http://www.midwestern.edu/orsp.html>