

# ANNUAL RESEARCH REPORT

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

OFFICE OF RESEARCH AND SPONSORED PROGRAMS

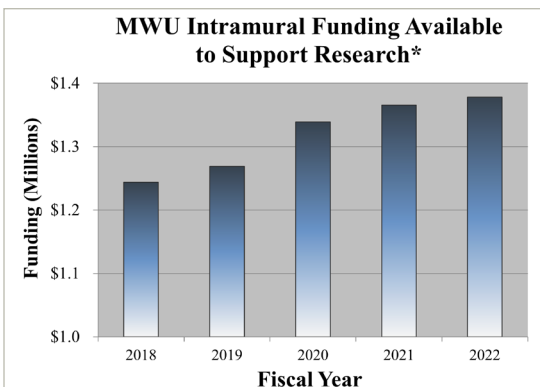
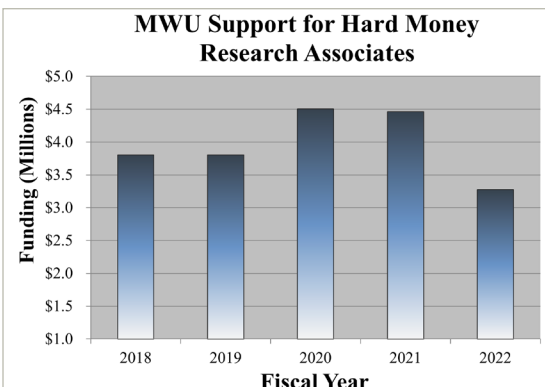
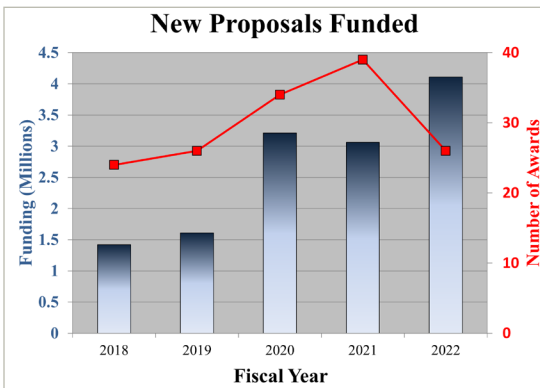
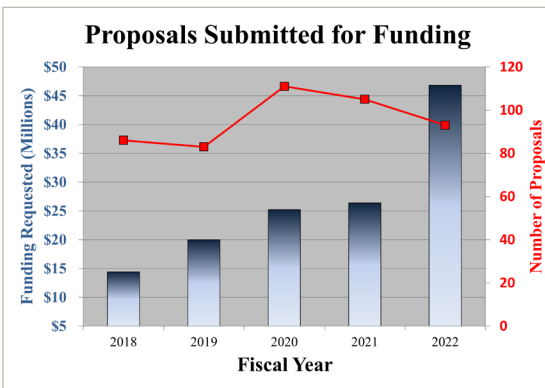
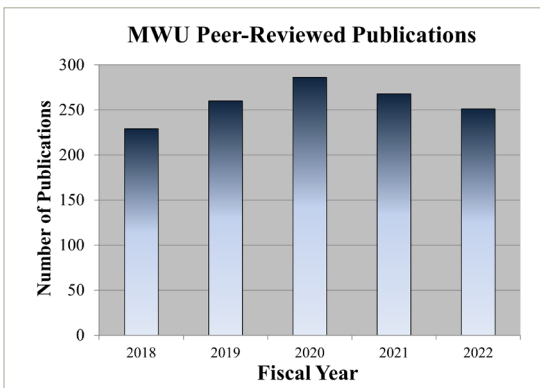
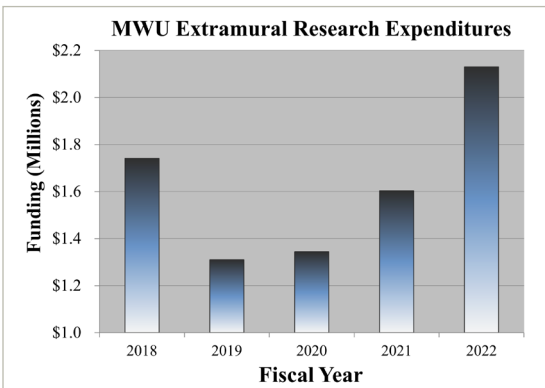
July 1, 2021 - June 30, 2022

## Historical Research Support and Activity Data

The Midwestern University (MWU) Annual Research Report demonstrates research achievements of which members of the MWU community should be proud. The graphs below show historical data over the last five years, highlighting the university'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.



James M. Woods, PhD  
Assistant Vice President of Research



\*Includes intramural funding (grants, fellowships, travel, etc) provided to all MWU colleges and available from the ORSP

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# Fast Research Facts 2021-2022

## 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 faculty received \$59,146 in such incentives for FY 2022;
- MWU provides “hard money” research technicians for faculty, including 54.25 Full Time Equivalents funded at \$3,275,204 for FY 2022;
- New faculty are provided start-up packages;
- Faculty can request capital research equipment through the university;
  - § MWU purchased \$874,595 in capital research equipment during FY 2022;
  - § The Downers Grove campus received a new confocal microscope in FY 2022;
- Intramural funding is available for faculty who actively seek extramural funding and for students applying for fellowships and travel, including \$1,377,945 awarded in FY 2022.

## Support for Student Research

- MWU makes a significant commitment to student research, demonstrated through the awarding of 107 fellowships at a total cost of \$541,500 for research stipends in FY 2022;
- MWU’s Research Days, held on each campus, had a total of 293 abstracts in 2022 where almost all of these were by students engaged in research;
- MWU pays for high-quality poster printing for its students and faculty, including a budget of \$8,633 for printing research posters through the ORSP in FY 2022;
- MWU supports students to travel and present their research data, including up to \$500 of support for first author students who have an abstract accepted at a national meeting.

## Funding Success

- MWU’s extramural research expenditures during FY 2022 totaled \$2,128,730;
- MWU faculty have received more than 50 NIH grants, the majority of which have been R15 awards, but also include several R01, R21 and R03 awards;
- MWU faculty have successfully obtained NSF & HRSA Grants;
- Foundation Grants: American Heart Association, American Optometric Foundation, HonorHealth, Leakey Foundation, Marfan Foundation, PhRMA Foundation, PetSmart Charities, Arizona Alzheimer’s Consortium, National Assoc. of Chain Drug Stores, Pharmaceutical Research & Manufacturers of America Foundation, Arizona Biomedical Research Commission, etc.;
- For-profit grants: Allegra Therapeutics, Boehringer Ingelheim, Eyenovia, Johnson & Johnson, Merck, Nevakar, Hiossen, Sangart, etc.;

## Office of Research & Sponsored Programs (ORSP)

- MWU's ORSP handles both pre-award and post-award grant and contract submissions, including 93 proposals submitted in FY 2022 requesting \$46,797,666;
- MWU's ORSP offers intramural funds to all colleges and the following full time positions to support faculty research:
  - § A Grants Specialist on each campus to assist faculty with grant and budget preparation and submission;
  - § Research Administrators on each campus to assist MWU's IACUC, IRB, Radiation Safety and Biosafety Committees;
  - § A Manager of Bio/Clinical Statistics and a Biostatistician to assist with data management and statistical needs;
  - § An ORSP Associate Director and a Research Compliance Specialist on both campuses 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 \$280,037 of waived charges in FY 2022;
- In FY 2022, MWU's ORSP offered \$5,950 to support a Research Seminar Series where faculty can bring in experts in their field (departments typically supplement the ORSP honorarium);

## Research Facilities

- In 2020 a new vivarium for animal research was opened on the Glendale campus which added 18,500 additional square feet of research space for studying rodents at a cost of \$9,250,000;
- In 2020, new "dry lab" research space was opened in Dr. Arthur G. Dobbelaere Science Hall at a cost of more than \$1,159,000
- In 2018 MWU opened a Core Facility on the Downers Grove campus that features:
  - § A dedicated 1,360 square foot laboratory;
  - § Over 30 pieces of high-end, specialized capital research equipment
  - § A full-time Core Facility Manager to maintain equipment and train and supervise faculty, staff, and student users;
  - § Collective strengths in histology, imaging, and molecular and analytical biology
  - § Shared equipment that is accessible to faculty, staff, and students free of charge (i.e. no hourly usage rates)

## 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.

### MULTIDISCIPLINARY SUBMITTED EXTRAMURAL PROPOSALS

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Fornaro, M. (CGS) & Ranjan, A. (COP)	CGS, COP	Anatomy & Pharmaceutical Sciences	Targeting Mitochondrial Health to Counteract Aging and Alzheimer's Related Dementia	11/1/2021	\$487,141	Impetus Grants	1/1/2022
Al-Nakkash, L. (CGS), Finch, C. (AZCOM) & Martini, W. (AZCOM)	CGS, AZCOM	Physiology, Integrated Medicine, Clinical Education	Early Medical School Integration of Point-of-Care Ultrasound (POCUS)	8/1/2021	\$10,000	Society for Academic Emergency Medicine Foundation	7/1/2022

**Total of Multidisciplinary Submitted Extramural Proposals: \$497,141**

### ARIZONA COLLEGE OF OPTOMETRY (AZCOPT): SUBMITTED EXTRAMURAL PROPOSALS

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Esposito, C. & Feis, A.	AZCOPT	Optometry	Home Visual Acuity Testing Study (X06)	8/6/2021	\$12,750	Jaeb Center for Health Research	8/1/2021
Kozlowski	AZCOPT	Optometry	The Role of Anti-Diabetic Medications in the Treatment of Age-Related Macular Degeneration (AMD)	6/13/2022	\$49,310	American Optometric Association	1/1/2023

**Total of AZCOPT Submitted Extramural Proposals: \$62,060**

### COLLEGE OF DENTAL MEDICINE-ARIZONA (CDMA): SUBMITTED EXTRAMURAL PROPOSALS

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Mitchell, J.	CDMA	Dental Medicine	Uniquely High Conversion and Mechanically Robust Composite Restorative Materials for Functionally Elevated Performance	6/15/2022	\$37,500	NIH R21 subcontract from University of Colorado	4/1/2023
Mitchell, J.	CDMA	Dental Medicine	New Materials and Process Approaches to Drive Critical Near and Longer-term Advancements in 3D Printing for Dentistry	6/28/2022	\$150,000	NIH R01 subcontract from University of Colorado	4/1/2023

**Total of CDMA Submitted Extramural Proposals: \$187,500**

### COLLEGE OF DENTAL MEDICINE-ILLINOIS (CDMI): SUBMITTED EXTRAMURAL PROPOSALS

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Rocha de Oliveira Carrilho, M.	CDMI	Dental Medicine	Blending Dentin to Dentin: Biomimetic Hydrogels for Dentin Tissue Engineering	6/25/2022	\$450,000	NIH R15	4/1/2023

**Total of CDMI Submitted Extramural Proposals: \$450,000**

**COLLEGE OF GRADUATE STUDIES (CGS): SUBMITTED EXTRAMURAL PROPOSALS**

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Al-Nakkash, L., Broderick, T., Shim, M. & Lee, S.	CGS	Physiology, Biochemistry & Molecular Genetics	Western Diet Induced Alzheimer's Pathology: Assessment of the Brain-Gut-Bone Axis	5/6/2022	\$28,250 (includes a \$11,408 match from MWU)	Arizona Alzheimer's Consortium	7/1/2022
Bussey, K.	CGS	Precision Medicine	The Physiological Effects of Stress Hormones on Cancer Phenotypes	7/22/2021	\$46,121	CAF Canada	9/1/2021
Bussey, K.	CGS	Precision Medicine	Investigating the Effects of Cortisol on Intratumor Heterogeneity in TNBC	2/16/2022	\$428,354	NIH R21	12/1/2022
Bussey, K.	CGS	Precision Medicine	Training in Genomics Research (TiGeR)	6/23/2022	\$27,500	NIH-R25 subcontract from Arizona State University	1/1/2023
Call, G. & Korch, S.	CGS	Pharmacology	Identifying Probiotics and the Bacterial Genes that Ameliorate Motor Dysfunction in a Drosophila Parkinson's Disease Model	5/6/2022	\$16,130 (includes a \$6,452 match from MWU)	Arizona Alzheimer's Consortium	7/1/2022
Carroll, D.	CGS	Biochemistry & Molecular Genetics	Signal Transduction During Fertilization	2/25/2022	\$432,165	NIH R15	12/1/2022
Ebeid, M.	CGS	Anatomy	PRDM16 Role in Mammalian Inner Ear Development and Function	6/25/2022	\$449,390	NIH R21	4/1/2023
Ellermeier, J.	CGS	Microbiology & Immunology	Regulation of tatABC in Response to Periplasmic Stress in Salmonella enterica serovar Typhimurium	6/23/2022	\$446,444	NIH R15	4/1/2023
Ellermeier, J.	CGS	Microbiology & Immunology	Fur1 and Fur2 Regulons in the Emerging Nosocomial Pathogen Ralstonia insidiosa	10/14/2021	\$150,000	NIH R03	9/1/2022
Esfandiarei, M.	CGS	Biomedical Sciences	Maintaining Body Homeostasis by Normalizing the Imbalanced Renin-Angiotensin System: Focused on the Immune, Cardiovascular, and Skeletal and Muscle Systems	4/30/2022	\$257,208	NASA Translational Research Institute for Space Health subcontract from Idaho State University	11/1/2022
Huynh, T.	CGS	Biochemistry & Molecular Genetics	Chronic Mild Stress Effects on Hippocampal Glucose Neuroenergetics and Antioxidant Capacity	1/31/2022	\$449,653	National Science Foundation	12/1/2022
Huynh, T.	CGS	Biochemistry & Molecular Genetics	BRC-BIO Chronic Mild Stress Effects on Hippocampal Glucose-Neuroenergetics and Antioxidant Capacity	6/30/22	\$489,979	National Science Foundation	6/1/2023
Hull, E. & Leyva, K.	CGS	Biomedical Sciences, Microbiology & Immunology	Progranulin & Lysosomal pH: Implications for Potential New Therapeutic Strategy for Neurodegenerative Diseases	5/6/2022	\$17,630 (includes a \$7,052 match from MWU)	Arizona Alzheimer's Consortium	7/1/2022
Jadavji, N.	CGS	Biomedical Sciences	Faculty Job Market Research	9/27/2021	\$43,750	Burroughs Wellcome Fund	11/15/2021
Jadavji, N.	CGS	Biomedical Sciences	The Long-term Impact of Maternal Dietary Deficiencies in One-carbon Metabolism on Hippocampal Function in Adult and Old Age Offspring	10/15/2021	\$568,133	National Science Foundation	6/1/2022
Jadavji, N.	CGS	Biomedical Sciences	The Impact of Maternal Dietary One-Carbon Metabolism Deficiencies and Hypoxia on Offspring Primary Neuronal and Astrocytic Function	12/1/2021	\$25,840	American Association of University Women	7/1/2022
Jadavji, N.	CGS	Biomedical Sciences	Identifying the Role of Maternal and Postnatal dietary Deficiencies in One-Carbon Metabolism on Vasculature and Outcome in Adult, Middle and Old-Age Male and Female Offspring After Ischemic Damage	6/22/2022	\$225,000	Arizona Biomedical Research Commission	1/1/2023
Kim, C.	CGS	Biochemistry & Molecular Genetics	Role of BMI1, a Prostate Cancer Therapeutic Target, in PRC1 Assembly and Function	9/22/2021	\$942,500	Department of Defense with a subcontract (\$390,000) to Montreal Clinical Research Institute	7/1/2022

**CGS: SUBMITTED EXTRAMURAL PROPOSALS (Continued)**

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Kim, C.	CGS	Biochemistry & Molecular Genetics	Molecular Basis of the Selective Assembly of Functionally Distinct PRC1s	10/25/2021	\$450,000	NIH R15	9/1/2022
Kim, C.	CGS	Biochemistry & Molecular Genetics	Determination of the Molecular Basis of cPRC1 Assembly and Function	6/23/2022	\$445,000	NIH R15	4/1/2023
Kim, J.E.	CGS	Anatomy	Age-at-death Estimation Using Cortical Bone Speed of Sound Values With Body Size as a Covariate	5/1/2022	\$20,000	Wenner-Gren Foundation for Anthropological Research	1/1/2023
Lee, S.	CGS	Physiology	Sensory Neuropathy in Age-associated Deficits in Bone Repair	2/28/2022	\$50,000	National Academy of Medicine	10/1/2022
Lynch, L.	CGS	Anatomy	Does diceCT Degrade DNA? A Test of Iodine-based Contrast-enhancement on Museum Wet Specimen Future Potential for Molecular Research	10/1/2021	\$6,000	American Philosophical Society	2/1/2022
Martinez-Guryn, K.	CGS	Biomedical Sciences	The Role of the Gut Mycobiota in Regulating Host Lipid Absorption and Obesity	7/16/2021	\$581,000	NIH R21 with a subcontract (\$231,000) to University of Tennessee Health Science Center	4/1/2022
Martinez-Guryn, K.	CGS	Biomedical Sciences	The Role of Western Diet-induced Small Intestinal Gut Microbiota in Initiation and Progression of Non-Alcoholic Fatty Liver Disease	10/16/2021	\$584,640	NIH R21 with a subcontract (\$272,517) to University of Wisconsin	9/1/2021
Martinez-Guryn, K.	CGS	Biomedical Sciences	The Role of Western Diet-induced Small Intestinal Gut Microbiota in Initiation and Progression of Non-alcoholic Fatty Liver Disease	6/5/2022	\$3,799,634	NIH R01 with a subcontract (\$1,865,459) to the University of Wisconsin	4/1/2023
Mejia-Alvarez, R.	CGS	Physiology	Calcium Signaling Ramifications of Human IP3 Receptor Mutations in Heart	2/5/2022	\$770,108	NIH-R01 subcontract from Rush University	9/1/2022
Pierce, M.	CGS	Pharmacology	Effect of Oxytocin Analogs on Social Behaviors, Pharmacological Signaling, and Neuronal Connectivity in a Mouse Model of Autism	10/25/2021	\$450,000	NIH R15	7/1/2022
Olson, C.	CGS	Physiology	Vitamin A Deficiency in a Songbird to Study Brain Mechanisms of Vocal Learning	10/22/2021	\$442,650	NIH R15	7/1/2022
Prakapenka, A.	CGS	Biomedical Sciences	Modulation of Neural Energy Substrate Availability by Progesterone Across Multiple Memory Systems Corresponds to the Hormone's Cognitive Effects in the Aging Female Rat	4/18/2022	\$115,732	American Federation for Aging Research	7/1/2022
Puthanveetil, P.	CGS	Pharmacology	Regulating Glutamine Metabolism as a Strategy to Treat DRPLA Disease	9/28/2021	\$2,128,296	NIH Katz R01	7/1/2022
Puthanveetil, P.	CGS	Pharmacology	Apigenin Mediated Protection Against Cholesterol Induced Inflammation	9/28/2021	\$2,100,172	NIH Katz R01	7/1/2022
Puthanveetil, P.	CGS	Pharmacology	Chrysin Mediated Cardioprotection in Cholesterol and Uric Acid Excess Induced Damage	1/12/2022	\$153,924	American Heart Association AIREA	4/1/2022
Puthanveetil, P.	CGS	Pharmacology	Glp 1 Receptor Activation as a Protective Signaling in Cushing's Syndrome Model	1/26/2022	\$1,936,832	NIH Katz R01	9/1/2022
Puthanveetil, P.	CGS	Pharmacology	Regulation of Cholesterol in Retinal Health and Metabolic Homeostasis	5/26/2022	\$2,373,196	NIH Katz R01	12/1/2022
Riede, T.	CGS	Physiology	The Influence of Vocal Loading Upon the Healing of Experimental Vocal Fold Injury	11/15/2021	\$404,500	NIH R21	7/1/2022
Shim, M., Al-Nakkash, L. & Broderick, T.	CGS	Biochemistry & Molecular Genetics, Physiology	Geroscience Approach to Alzheimer's Disease: Mitigation of Cellular Senescence by Intermittent Fasting	5/6/2022	\$51,640 (includes \$25,656 match from MWU)	Arizona Alzheimer's Consortium	7/1/2022

**CGS: SUBMITTED EXTRAMURAL PROPOSALS (Continued)**

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Smith, H.	CGS	Anatomy	A New Cenomanian Baenid Turtle Species from the Arlington Archosaur Site of Texas Reveals a Key Transition in Baenid Evolution	1/31/2022	\$1,000	Western Internal Paleontological Society	6/1/2022
Smith, H.	CGS	Anatomy	Evaluation of a New Campanian Fossil Turtle Assemblage from the Menefee Formation of New Mexico, USA	3/1/2022	\$5,096	Paleontology Association	6/1/2022
Stephenson, E.	CGS	Anatomy	Role of Primary Cilia in Maintaining the Regenerative Capacity of Skeletal Muscle During Aging	11/1/2021	\$377,461	Impetus Grants	1/1/2022
Stephenson, E.	CGS	Anatomy	Role of Primary Cilia in Skeletal Muscle Degeneration	2/16/2022	\$412,500	NIH R21	12/1/2022
Stephenson, E.	CGS	Anatomy	Role of IGF-1 Receptor Signaling in Diabetic Muscle Atrophy	5/6/2022	\$48,983	Diabetes Action Research and Education Foundation	1/1/2023
Swanson, M.	CGS	Biochemistry & Molecular Genetics	A Screen for Human Proteins that Affect Amyloid Beta Peptide Production by Gamma Secretase	4/16/2022	\$237,146	Arizona Biomedical Research Commission	9/1/2022
Swanson, M. & Bae, N.	CGS	Biochemistry & Molecular Genetics	The Telomere Protection Protein RAP1 and the Epsilon Isoform of Glial Fibrillary Acidic Protein Activate Gamma-Secretase Activity	5/6/2022	\$24,550 (includes a \$9,820 match from MWU)	Arizona Alzheimer's Consortium	7/1/2022
Swartzendruber, J.	CGS	Microbiology & Immunology	Impact of Histamine Receptor Expression on Th2-driven Immune Responses	10/25/2021	\$446,439	NIH R15	7/1/2022
Tiwari, V.	CGS	Microbiology & Immunology	Significance of Sulfated Heparan Sulfate in SARS CoV-2 Cell Entry	10/25/2021	\$449,911	NIH R15	7/1/2022
Tiwari, V.	CGS	Microbiology & Immunology	Screening of symbiotic bacteria to identify small molecules that target SARS-CoV-2 entry	2/16/2022	\$436,000	NIH R01 with a subcontract (\$176,000) to Virginia Tech	12/1/2022
Tiwari, V.	CGS	Microbiology & Immunology	Development of Mucoadhesive Nanogel Containing Neem Compounds to Target SARS-CoV-2 in the Oral Cavity	6/16/2022	\$412,500	NIH R21	4/1/2023
Vander Wyst, K.	CGS	Public Health	Effect of Whole-food, Single-Ingredient Purees on Gut Microbiome Development and Emerging Neurocognitive Skills During Infancy: A Randomized Controlled Trial	1/18/2022	\$2,546,063	NIH Katz R01	12/1/2022
Vander Wyst, K.	CGS	Public Health	Influence of Type, Amount, and Diversity of Complementary Foods on Infant Gut Microbiome and Emerging Neurocognition	6/5/2022	\$2,521,994	NIH R01 with subcontracts (\$1,236,620) to Phoenix Children's Hospital and Arizona State University	4/1/2023
Vélez-Cruz, R.	CGS	Biochemistry & Molecular Genetics	The Role of SWI/SNF Chromatin Remodelers in Homologous Recombination and Genome Stability	10/25/2021	\$449,330	NIH R15	7/1/2022
Vélez-Cruz, R.	CGS	Biochemistry & Molecular Genetics	The Role of SWI/SNF Chromatin Remodelers in Homologous Recombination and Genome Stability	6/25/2022	\$449,330	NIH R15	4/1/2023
Veilleux, C.	CGS	Anatomy	Grasping our Evolutionary Origins: Unraveling the Anatomical and Molecular Adaptations of Primate Touch	1/31/2022	\$625,000	National Science Foundation with a subcontract (\$146,868) to University of Calgary	9/1/2022
Wellensiek, B.	CGS	Biochemistry & Molecular Genetics	Enhancement of SARS-CoV2 Spike Expression from Recombinant Vaccinia Viruses	2/16/2022	\$165,300	NIH R03 with a subcontract (\$62,800) to Arizona State University	9/1/2022

**Total of CGS Submitted Extramural Proposals: \$31,515,974**

**COLLEGE OF HEALTH SCIENCES-DOWNERS GROVE (CHS-DG):  
SUBMITTED EXTRAMURAL PROPOSALS**

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Prodoehl, J.	CHS-DG	Physical Therapy	Diagnosis and Management of Temporomandibular Disorders: a Clinical Practice Guideline	10/11/2021	\$9,000	American Physical Therapy Association	12/13/2021
Zera, S.	CHS-DG	Occupational Therapy	Implementation into Day Rehabilitation of a Co-Op Group Intervention for Adults with Stroke	12/15/2021	\$26,029	American Occupational Therapy Foundation	4/1/2022

**Total of CHS-DG Submitted Extramural Proposals: \$35,029**

**COLLEGE OF HEALTH SCIENCES-GLENDALE (CHS-GD):  
SUBMITTED EXTRAMURAL PROPOSALS**

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
de Diego-Lazaro, B.	CHS-GD	Speech-Language Pathology	Audiovisual Integration and Word Learning in Children with Hearing Loss	1/21/2022	\$470,288	NIH R21	1/1/2023
Eikenberry, M. & O'Neal, S.	CHS-GD	Physical Therapy	The AMPED Project: Alumni Mentorship for Professional and Educational Development - A Program to Support the First-Generation College Student	10/1/2021	\$12,550	American Physical Therapy Association	1/1/2022
O'Neal, S.	CHS-GD	Physical Therapy	Therapy Student Community Outreach Program for People Living with Parkinson's Disease	1/28/2022	\$13,071	Parkinson's Foundation	7/1/2022
Turner, T. & Ayala, P.	CHS-GD	Occupational Therapy, Physical Therapy	Preparedness of Arizona Physical, Occupational, and Speech Therapy Practitioners for working with clients with Alzheimer's Disease and Related Dementias: A Pilot Study	5/6/2022	\$11,530 (includes a \$4,612 match from MWU)	Arizona Alzheimer's Consortium	7/1/2022

**Total of CHS-GD Submitted Extramural Proposals: \$507,439**

**COLLEGE OF PHARMACY (COP): SUBMITTED EXTRAMURAL PROPOSALS**

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Briyal, S.	COP	Pharmaceutical Sciences	Study of the Therapeutic Potential of Endothelin B Receptors Agonism on Neural Plasticity, and Functional Recovery in Alzheimer's Disease	10/16/2021	\$412,500	NIH R21	7/1/2022
Chang, J.	COP	Pharmacy Practice	Assessment of MODS and Personalized Exposures of Antibiotics (AMPLE)	12/1/2021	\$133,639	Dr. John G. Bartlett ARLG Fellowship - supported by NIH/NIAID award	1/1/2022
Huang, V.	COP	Pharmacy Practice	Virulence-associated Gene Profiling of Human and Companion Animal Isolates of Staphylococcus aureus and Pseudomonas aeruginosa by Polymerase Chain Reaction (PCR) and Draft Genome Sequence Analysis of Related and Non-related Isolates	9/1/2021	\$18,400	American Association of Colleges of Pharmacy	12/1/2021
Huang, V.	COP	Pharmacy Practice	Development of Risk Score to Guide Therapy for Carbapenem-resistant Pathogens	6/15/2022	\$23,738	Merck & Co: Syndromic & Risk Score CRE	9/1/2022
Huang, V.	COP	Pharmacy Practice	Utilizing Weight-Incidence Syndromic Antibiogram to Evaluate Institution-Specific Antibiotic Therapies and Antimicrobial Resistance Trends in Community Acquired Infections Across a Community Teaching System	6/15/2022	\$24,888	Merck & Co: Syndromic & Risk Score CRE	9/1/2022



**COP: SUBMITTED EXTRAMURAL PROPOSALS (Continued)**

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Ranjan, A.	COP	Pharmaceutical Sciences	Exploring the Role of Endothelin B Receptors on the Fate of Neural Progenitors in the Adult Brain	2/16/2022	\$1,499,999	New York Stem Cell Foundation	1/5/2023
Rhodes, N.J.	COP	Pharmacy Practice	Development and evaluation of CRRT-specific Dosing Models to Optimize Beta-Lactam treatment for patients with Hospital-acquired pneumonia	2/16/2022	\$435,625	NIH R21 with a subcontract (\$169,989) to Northwestern U	9/1/2022
Rhodes, N.J.	COP	Pharmacy Practice	Systems-based Pharmacologic Modelling to Elucidate Beta-lactam Clinical Pharmacodynamics and Define Optimal Dosing Regimens in Severe Pneumonia	11/5/2021	\$3,535,932	NIH R01 with subawards (\$1,497,336) to Northwestern U and Children's Hospital, LA	7/1/2022
Rhodes, N.J.	COP	Pharmacy Practice	Development and validation of CRRT-specific beta-lactam population pharmacokinetic models to guide treatment for patients with Hospital-acquired pneumonia	5/23/2022	\$399,648	U.S. Food and Drug Administration with a subaward (\$169,984) to Northwestern U	9/30/2022
Rupp, M.	COP	Pharmacy Practice	Diagnosis on the Prescription: Is the Technology Ready?	6/10/2022	\$5,000	National Council for Prescription Drug Programs	6/15/2022
Scheetz, M.	COP	Pharmacy Practice	Nano Antibiotic Delivery for Treating MRSA Infections	7/6/2021	\$300,258	NIH R01 subcontract from Wayne State University	4/1/2022
Scheetz, M.	COP	Pharmacy Practice	Quantifying Antibiotic Induced Kidney Injury to Define Precision Dosing Strategies	7/6/2021	\$2,707,591	NIH R01 with subcontracts (\$757,734) to Northwestern U, Euro Univ of Cyprus, Universita degli Studi di Cagliari	4/1/2022
Scheetz, M.	COP	Pharmacy Practice	Assessing the kidney protection of minocycline for polymyxins in a validated rat model	10/31/2021	\$197,000	Melinta Therapeutics	1/1/2022
Scheetz, M.	COP	Pharmacy Practice	The Pediatric Sepsis Induced Model MODS: Relationship of Immune Phenotypes and Antibiotic Exposures (PER-SCRIBE) Study	2/5/2022	\$76,165	NIH R01 with Children's Hospital of Philadelphia	9/1/2022
Scheetz, M.	COP	Pharmacy Practice	Developing the Dynamic Therapeutic Window to Avoid Drug Induced Kidney Injury	2/16/2022	\$412,500	NIH R21	9/1/2022
Scheetz, M.	COP	Pharmacy Practice	A Randomized Clinical Trial of Continuous vs. Intermittent Infusion Vancomycin: Effects on Measured GFR and Kidney Injury Biomarkers	6/16/2022	\$119,604	NIH R21 subaward from the University of Kentucky	4/1/2023
Veltri, C.	COP	Pharmaceutical Sciences	Identification and Characterization of Immunomodulatory Phytochemicals from <i>Mitrogyyna speciosa</i>	7/7/2021	\$30,000	Kumuola, Inc.	3/3/2022
Weissig, V.	COP	Pharmaceutical Sciences	Validation & Development of Nanoliposomes for Neuroprotection in Stroke	6/9/2022	\$49,602	Arizona Biomedical Research Commission subcontract from Arizona Veterans Research and Education Foundation	9/1/2022
Yao, M. & Elbayoumi, T.	COP	Pharmaceutical Sciences	Soluble Decoy CD47 Receptor as Novel Therapeutic Approach for Mitigation of Thrombospondin 1-induced Vascular Pathologies	7/14/2021	\$412,500	NIH R21	4/1/2022
Yao, M. & Elbayoumi, T.	COP	Pharmaceutical Sciences	Validation of Therapeutic CD47-nanomedicine to Neutralize Pathological Thrombospondin 1 Levels Underlying Acute and Chronic Vascular Damages Following Renal Ischemia-Reperfusion Injury	11/12/2021	\$1,887,668	NIH R01	7/1/2022

**Total of COP Submitted Extramural Proposals: \$12,682,257**

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

Investigator/s	College	Department	Proposal Title	Submitted	Total	Agency	Start Date
Lopez, B.	CVM	Veterinary Medicine	Impact of a Commercially Available Immunostimulant on Immune Function and Antibody Titers to Respiratory Pathogens in Cattle	12/30/2021	\$8,000	American Association of Bovine Practitioners subcontract from University of Georgia	7/1/2022
Lopez, B.	CVM	Veterinary Medicine	Controlling Bovine Respiratory Disease: The Best Offense May Be a Good Defense	4/27/2022	\$442,592	Foundation for Food & Agr. Res with a subcontract (\$83,334) to the University of Georgia	1/1/2023
Murthy, A.	CVM	Veterinary Medicine	Animal Health and Disease Research	9/13/2021	\$11,375	USDA National Institute of Food and Agriculture	10/1/2022
Murthy, A.	CVM	Veterinary Medicine	Synthesis of Potential Activators of Cylindrical Proteases as Novel Anti-Chlamydia Treatments	7/5/2021	\$328,721	NIH R01 subaward from the University of Nebraska Medical Center	4/1/2022
Murthy, A. & Wycislo, K.	CVM	Veterinary Medicine	Boehringer Ingelheim Veterinary Scholars Program	10/31/2021	\$40,000	Boehringer Ingelheim	1/1/2022
Waitt Wolker, L. & Wycislo, K.	CVM	Veterinary Medicine	Ciclesonide Use in Equine Asthma	9/15/2021	\$29,578	American Veterinary Medical Association	1/1/2022

**Total of CVM Submitted Extramural Proposals: \$860,266**

**MWU SUBMITTED 93 EXTRAMURAL PROPOSALS FROM ALL COLLEGES THROUGH Q4 OF FISCAL YEAR 2022 TOTALING \$46,797,666**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Eckman, D. (CGS), Jones, C. (CGS), Jones, T.B. (CGS), Vallejo-Elias, J. (CGS) Virden, T. (CHS-GD) & Powell, J. (CHS-GD)	CGS & CHS-GD	Multidisciplinary	Cerebrovascular Dysfunction and Cognitive Decline in Aging APOE2, APOE3 and APOE4 Targeted-Replacement Mice	\$225,000	Arizona Department of Health Services through the Arizona Biomedical Research Commission	4/1/2018	3/31/2022
Mitchell, J., Fitzgerald, N., Chen, G. & Wooden, E.	CDMA, AZCOM	Multidisciplinary	An Inch-loss Study Using the NovoPod Photomodulation Bed	\$150,000 (Value of)	Thor Photomedicine	6/1/2018	Open
VandenBrooks, J. (CGS), Quinlan, M. (CGS), Hernandez, J. (CGS), Kreisler, R. (CVM), & Lee, J.K. (CVM)	CGS, CVM	Multidisciplinary	Elucidating the Role of Rhipicephalus sanguineus (the Brown Dog Tick) as a Vector for Rocky Mountain Spotted Fever Transmission in Arizona	\$446,495	Arizona Department of Health Services through the Arizona Biomedical Research Commission	7/1/2021	6/30/2024
Turner, T. (CHS-GD), Anderson, S. (CHS-GD) & Jentarra, G. (CGS)	CHS-GD, CGS	Multidisciplinary	Music and Dementia: A Manualized Intervention Incorporating Music in Occupational Therapy Intervention for Persons Living with Dementia	\$3,700	Arizona Alzheimer's Consortium	7/1/2021	6/30/2022

**Total of Multidisciplinary Active Extramurally-funded Research Awards: \$825,195**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Esposito, C & Feis, A.	AZCOPT	Optometry	Home Visual Acuity Testing Study (X06)	\$12,750	National Eye Institute Cooperative Agreement with Jaeb Center for Health Research, Inc.	8/1/2021	9/30/2022
Feis, A.	AZCOPT	Optometry	A Randomized Clinical Trial of Overminus Spectacle Therapy for Intermittent Exotropia (IXT5)	\$14,625	National Eye Institute Cooperative Agreement with Jaeb Center for Health Research, Inc.	6/12/2017	12/31/2021
Feis, A.	AZCOPT	Optometry	A Randomized Trial to Evaluate Sequential vs Simultaneous Spectacles plus Patching for Amblyopia in Children 3 to <13 Years Old (ATS22)	\$17,400	National Eye Institute Cooperative Agreement with Jaeb Center for Health Research, Inc.	2/26/2021	12/31/2022
Vasudevan, B.	AZCOPT	Optometry	A Multi-center, Double-masked, Randomized, Placebo-controlled, Phase 3 Study of the Safety and Efficacy of Atropine 0.1% and 0.01% Ophthalmic Solutions Administered with a Microdose Dispenser for the Reduction of Pediatric Myopia Progression (The CHAPERONE Study)	\$313,000	Eyenovia	9/1/2019	8/31/2023

**Total of AZCOPT Active Extramurally-funded Research Awards: \$357,775**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Deligio, D.	CCO	Optometry	Clinical Evaluation for a Silicone Hydrogel Daily Wear Monthly Replacement Contact Lens	\$59,638	Alcon	11/16/2022	12/31/2022
Prestwich, C.	CCO	Optometry	A Randomized Trial to Evaluate Sequential vs Simultaneous Spectacles plus Patching for Amblyopia in Children 3 to <13 Years Old (ATS22)	\$23,350	National Eye Institute Cooperative Agreement with JAEB Center for Health Research, Inc.	4/13/2021	12/31/2022
Rice, S.	CCO	Optometry	A Multi-center, Double-masked, Randomized, Placebo-controlled, Phase 3 Study of the Safety and Efficacy of Atropine 0.1% and 0.01% Ophthalmic Solutions Administered with a Microdose Dispenser for the Reduction of Pediatric Myopia Progression (The CHAPERONE Study)	\$313,000	Eyenovia	2/1/2020	1/31/2024

**Total of CCO Active Extramurally-funded Research Awards: \$395,988**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Mitchell, J., Haering H., Carroll, A., Beals, D., & Carpenter, R.	CDMA	Dental Medicine, Dental Institute	Bicon SHORT® Implants: A Preclinical and Clinical Research Study	\$949,363 (Value of)	Bicon Dental Implants	5/6/2016	5/5/2022
Mitchell, J., Schuster, G., Brannock, M. Cohn, M., Carroll, A. & Brachvogel, W.	CDMA	Dental Institute	Anesthesia-free Dentistry?	\$840,000 (Value of)	Convergent Dental	9/30/2017	Open
Mitchell, J.	CDMA	Dental Institute	The Effects of a One-step Oxidative Etching Process on Cell Differentiation, Proliferation and Attachment Compared to Conventional Micro- and Nano-scale Topography of Titanium Implants	\$5,000	Straumann Holding	12/14/2018	8/31/2022
Mitchell, J.	CDMA	Dental Institute	Comparison Wear Study of Plaque-Buster Toothbrush with Flossing Bristles	\$1,125 (Value of)	TiFinity, LLC	7/6/2021	7/5/2022
Smith, B. & Beals, D.	CDMA	Dental Medicine	A Partnership Protocol for Treatment of Oral Mucositis Using LLLT	\$25,000	Dental Trade Alliance Foundation	10/1/2018	12/31/2021

**Total of CDMA Active Extramurally-funded Research Awards: \$1,820,488**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Al-Nakkash, L.	CGS	Physiology	Ability of 12 Weeks Moderate Exercise and/or Genistein (Soy) to Reverse Hyperglycemia, Hyperinsulinemia, Fatty Liver Disease and Microbiome Changes Induced by Chronic Consumption of High Fat High Sugar Diet	\$10,000	Diabetes Action and Research Education Foundation (DAREF)	1/1/2021	12/31/2021
Al-Nakkash, L., Broderick, T. & Shim, M.	CGS	Physiology, Biochemistry & Molecular Genetics	Reversal of Western Diet-induced Alzheimer's-like Pathology with Genistein and/or Exercise	\$27,000 (includes a \$13,500 match from MWU)	Arizona Alzheimer's Consortium	7/1/2021	6/30/2022

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Bae, N. & Swanson, M.	CGS	Biochemistry & Molecular Genetics	Regulation of Neuronal Gene Expression by the Telomere Protection Protein RAP1 and the Demethylase TET3	\$18,000 (includes a \$9,000 match from MWU)	Arizona Alzheimer's Consortium	7/1/2021	6/30/2022
Baab, K.	CGS	Anatomy	Testing Adaptive Hypotheses of Plio-Pleistocene Hominin Craniofacial Evolution	\$330,021	National Science Foundation	2/15/2021	1/31/2024
Broderick, T.	CGS	Physiology	Mechanistic Role of Vascular Dysfunction in TBI-mediated Cognitive Dysfunction	\$28,760	Phoenix VA Health Care System	4/15/2021	4/14/2023
Bussey, K.	CGS	Precision Medicine	The Physiological Effects of Stress Hormones on Cancer Phenotypes	\$46,121	Charities Aid Foundation Canada	9/1/2021	9/30/2022
Edwards, J.	CGS	Pharmacology	Mechanisms of Cadmium-induced Dysglycemia	\$446,697	NIH R15	8/15/2017	7/31/2021
Ellermeier, J.	CGS	Microbiology & Immunology	Genetic Regulation of the Twin Arginine Translocation System in <i>Salmonella enterica</i> serovar Typhimurium	\$150,000	NIH R03	6/17/2019	12/31/2021
Esfandiarei, M.	CGS	Biomedical Sciences	Targeting Endothelial Dysfunction in a Genetic Mouse Model of Aortic Aneurysm: Implications for Prevention and Therapy	\$441,048	NIH R15 with subcontracts to the University of British Columbia (\$54,497) and the University of Arizona (\$27,286)	1/15/2019	12/31/2022
Hernandez, J.	CGS	Biochemistry & Molecular Genetics	Structural Elucidation of a Small Molecular Chelator to Combat Bacterial Infections in Dogs	\$10,800	Morris Animal Foundation	3/1/2022	2/28/2023
Jadavji, N.	CGS	Biomedical Sciences	Faculty Job Market Research	\$43,750	Burroughs Weclome Fund	10/15/2021	12/31/2022
Jadavji, N.	CGS	Biomedical Sciences	Identification of Developmental Factors Involved in Ischemic Stroke Outcomes in Adulthood and Old Age	\$152,735	American Heart Association	1/1/2020	12/31/2022
Jadavji, N.	CGS	Biomedical Sciences	Identification of Developmental Factors Involved in Ischemic Stroke Outcomes in Adulthood and Old Age	\$31,268	American Heart Association (supplement)	7/1/2021	12/31/2022
Jentarra, G.	CGS	Precision Medicine	Targeting Fatty Acid Metabolism in Alzheimer's Disease: A Special Interest in Lauric Acid	\$98,252	NIH R21 subcontract from Arizona State University	6/1/2021	5/31/2023
Jentarra, G., Jones, T.B. & Gonzalez, F.	CGS	Precision Medicine, Anatomy, Biochemistry & Molecular Genetics	Exploring Intestinal Microbiota Dysbiosis in Transgenic Alzheimer's Disease Mouse Models	\$60,000 (includes a \$30,000 match from MWU)	Arizona Alzheimer's Consortium	7/1/2021	6/30/2022
Muldoon, K.	CGS	Anatomy	Collaborative Research: Human and Non-human Influences on Species Biodiversity in an Island Ecosystem	\$44,114	National Science Foundation	3/1/2018	2/28/2023
Olson, C.	CGS	Physiology	Vocalizing in a Complex and Crowded Forest: An Investigation of a Unique Hummingbird Solution	\$30,000	National Geographic Society	10/4/2018	12/31/2022
Olson, C.	CGS	Physiology	Supplement: Vocalizing in a Complex and Crowded Forest: An Investigation of a Unique Hummingbird Solution	\$3,501	National Geographic Society	11/1/2020	12/31/2022
O'Neill, M.	CGS	Anatomy	Collaborative Research: The Effects of Musculoskeletal Design on Bipedal Walking and Running Performance in Humans, Chimpanzees and Early Hominims	\$239,935	National Science Foundation	3/1/2021	2/29/2024

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Revoll, A.	CGS	Physiology	Cholinergic Modulation of XII Motoneurons and XII Premotoneurons	\$447,700	NIH R15	7/20/2020	6/30/2023
Revoll, A.	CGS	Physiology	Effects of Chronic Intermittent Hypoxia on Cholinergic Modulation of Hypoglossal Motoneurons	\$23,000	NIH PRIDE AiRE	1/1/2021	12/31/2022
Riede, T.	CGS	Physiology	Collaborative Research: Evolution of Long-distance Communication in Vocal Rodents	\$193,774	National Science Foundation	8/1/2018	7/31/2023
Riede, T.	CGS	Physiology	The Role of Vocal Ligament in Fundamental Frequency and Adduction Control	\$236,535	NIH R01 subcontract from the University of Utah	1/1/2020	12/31/2024
Riede, T.	CGS	Physiology	The Effect of Obesity on the Form and Function of the Upper Respiratory Airways in the Mouse Model	\$75,000	NIH U24 subcontract from the National Mouse Metabolic Phenotyping Center, MICROMouse Program at Augusta University	1/1/2020	6/30/2022
Shim, M., Broderick, T., & Al-Nakkash, L.	CGS	Biochemistry & Molecular Genetics, Physiology	Geroscience Approach to Alzheimer's Disease: Mitigation of Cellular Senescence by Intermittent Fasting	\$21,260 (includes a \$10,630 match from MWU)	Arizona Alzheimer's Consortium	7/1/2021	6/30/2022
Shim, M.	CGS	Biochemistry & Molecular Genetics	Cyclooxygenase-2 Signaling in Cell Senescence and its Role in Chemotherapy-induced Long-term Adverse Sequelae	\$450,000	NIH R15	12/1/2019	11/30/2022
Swanson, M. & Bae, N.	CGS	Biochemistry & Molecular Genetics	A Genome-wide Screen for Human Proteins that Affect Amyloid Beta Peptide Production by Gamma Secretase Using a Yeast Genetic System	\$20,040 (includes a \$10,020 match from MWU)	Arizona Alzheimer's Consortium	7/1/2021	6/30/2022
Townsend, K.E.B.	CGS	Anatomy	Collaborative Research: After the Bridgerian Crash - An Integrated Analysis of Mammalian Paleocommunities and Paleoecologies During the Middle Eocene	\$239,596	National Science Foundation with a subcontract (\$20,000) to the Rochester Museum and Science Center	5/15/2020	4/30/2024

**Total of CGS Active Extramurally-funded Research Awards: \$3,918,907**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Evans, C.	CHS-DG	Physical Therapy	Patterns and Sources for Contamination and Effectiveness of Cleaning Strategies in an Outpatient Physical Therapy Clinic	\$990	Illinois Physical Therapy Association Foundation	1/1/2020	12/31/2021
Helminski, J.	CHS-DG	Physical Therapy	Vestibular Function in Balance in People with Diabetes Mellitus	\$22,912	Department of Veterans Affairs, Office of Research & Development, Small Projects in Rehabilitation Research (SPIRE)	5/3/2021	5/1/2023
Mahaffey, L.	CHS-DG	Occupational Therapy	Tiered Occupational Therapy (TOT): Preparing Scholars to Work in School Mental Health	\$1,157,279	U.S. Department of Education	12/1/2015	11/30/2021

**Total of CHS-DG Active Extramurally-funded Research Awards: \$1,181,181**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Eikenberry, M.	CHS-GD	Physical Therapy	Patient-adaptive Robotic Balance Training for Lower-extremity Stroke Rehabilitation	\$10,128	Arizona Biomedical Research Center	7/1/2021	6/30/2024
Eikenberry, M.	CHS-GD	Physical Therapy	CAREER: Transparent Robot-aided Rehabilitation (TRAIN)	\$10,221	National Science Foundation Subcontract from Arizona State University	1/1/2021	12/31/2024
O'Neal, S. & Eikenberry, M.	CHS-GD	Physical Therapy	The AMPED Project: Alumni Mentorship for Professional and Educational Development - A Program to Support the First-generation College Student	\$12,550	American Physical Therapy Association	1/1/2022	12/31/2022
Ratiu, I.	CHS-GD	Speech-Language Pathology	The Impact of Auditory Distraction on Executive Function and Reading Comprehension in Individuals With and Without Mild Traumatic Brain Injury: An Eye-Tracking Study	\$10,000	American Speech-Language-Hearing Foundation	11/21/2020	12/31/2021
Turner, T.	CHS-GD	Occupational Therapy	Music and Dementia: A Manualized Intervention Incorporating Music in Occupational Therapy for Persons Living with Dementia	\$3,700 (includes a \$1,850 match from MWU)	Arizona Alzheimer's Consortium	7/1/2021	6/30/2022

**Total of CHS-GD Active Extramurally-funded Proposals: \$46,599**

**COP: ALL ACTIVE EXTRAMURALLY-FUNDED RESEARCH AWARDS**

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Huang, V.	COP	Pharmacy Practice	A Multicenter Evaluation of Vancomycin-associated Nephrotoxicity in Hospitalized Patients with Acute Bacterial Skin and Skin Structure Infections	\$4,500	Motif BioSciences, Inc	6/1/2018	Open
Huang, V.	COP	Pharmacy Practice	In vitro Activity of Ceftaroline Alone and in Combination with Daptomycin at High and Low Doses Against Methicillin-resistant Staphylococcus aureus in an in vitro Pharmacodynamic Model	\$164,208 (Value of)	Allergan	10/19/2020	6/30/2022
Huang, V.	COP	Pharmacy Practice	Shionogi BMD US Surveillance Program	\$6,000	Shionogi & Co, Ltd. through International Health Management Associates	10/20/2020	6/30/2023
Gulati, A.	COP	Administration	Mentor and Train PCCM and NPM Fellows for Scholarly Activity	\$170,000	Advocate Health and Hospitals Corporation	1/1/2020	12/31/2021
Komperda, K.E., & Harpe, S.	COP	Pharmacy Practice	The Effect of Daily Meditation on Stress, Mindfulness, Well-being, and Resilience in the Second Year Student Pharmacists	\$1,430	Headspace, Inc	10/1/2021	5/31/2022
Merker, A.	COP	Pharmacy Practice	Midwest Integration of the National HIV Curriculum - Year 3	\$10,000	HRSA, HIV/AIDS Bureau, subcontract from the University of Illinois Chicago	9/1/2020	8/31/2021
Merker, A.	COP	Pharmacy Practice	AIDS Education and Training Centers Program	\$10,000	DHHD HRSA, HIV/AIDS Bureau Office of Training & Capacity Development	9/1/2021	8/30/2022
Olsen, M.	COP	Pharmaceutical Sciences	Developing a Safe and Effective Anticoronaviral Therapy for Client-owned Cats with FIP	\$7,000	Winn Feline Foundation subcontract from the University of California-Davis	4/1/2020	12/31/2021
Rhodes, N.J.	COP	Pharmacy Practice	Development of a Clinical Decision Algorithm for Adults Hospitalized with Pneumonia	\$9,999	American Association of Colleges of Pharmacy	3/1/2020	8/31/2021

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

Scheetz, M.	COP	Pharmacy Practice	Nanoparticle-Polymyxin B Conjugates for Treating Infections in CF Patients	\$70,403	Cystic Fibrosis Foundation subcontract from Northwestern University	11/1/2017	10/31/2021
Scheetz, M.	COP	Pharmacy Practice	Assessment of MODS and Personalized Exposure of Antibiotics (AMPLE)	\$897,451	NIH R01 Multi-PI with Children's Hospital of Philadelphia	9/22/2021	8/31/2026
Scheetz, M.	COP	Pharmacy Practice	Evaluation of Lipid Nanoparticles of Potent Antibiotics for Reversal of Drug Resistance of Superbug Infections	\$15,000	Wayne State University	8/21/2019	8/20/2021
Scheetz, M.	COP	Pharmacy Practice	Quantifying Renal Injury Among the Most Commonly Used Antibiotic Combinations	\$412,500	NIH R21	1/16/2020	12/31/2022
Scheetz, M.	COP	Pharmacy Practice	Patient-oriented Research on <i>Pseudomonas aeruginosa</i>	\$39,760	NIH K24 subcontract from Northwestern University	2/22/2020	1/31/2025
Scheetz, M.	COP	Pharmacy Practice	Evaluation of Vancomycin-Arginine	\$93,250	SuperTrans Medical, LTD	9/3/2020	9/2/2021
Scheetz, M.	COP	Pharmacy Practice	Nevakar Compound Analysis	\$140,734	Nevakar	9/9/2020	Open
Scheetz, M.	COP	Pharmacy Practice	Evaluation of Vancomycin-Arginine	\$32,188	SuperTrans Medical, Ltd.	5/17/2021	5/16/2022
Tran, T.	COP	Pharmacy Practice	Bedside Delivery of Discharge Medications to Treat Opioid Use Disorder During Hospitalization	\$30,000	The Portes Foundation	8/1/2021	12/31/2022
Tran, T.	COP	Pharmacy Practice	Illinois SPF Rx Project	\$1,374,677	IL Dept of Health and Human Services, Substance Abuse and Mental Health Administration, Center for Substance Abuse Prevention	9/22/2021	8/31/2026
Rupp, M.T.	COP	Pharmacy Practice	Diagnosis on the Prescription: Is the Technology Ready?	\$5,000	National Council for Prescription Drug Programs	6/15/2022	12/15/2022
Veltri, C.	COP	Pharmaceutical Sciences	Identification and Characterization of Immunomodulatory Phytochemicals from <i>Mitragyna speciosa</i>	\$30,000	Kumuola, Inc	3/3/2022	3/2/2023
Weissig, V.	COP	Pharmaceutical Sciences	Development Supplement Request: Testing and Development of Monosialoganglioside-containing Nanoliposomes to Mitigate Damage	\$14,000	Phoenix VA Health Care System	6/1/2020	5/31/2022
Yao, M. & Elbayoumi, T.	COP	Pharmaceutical Sciences	Novel Therapeutic Strategy for Pulmonary Arterial Hypertension: Abrogation of Excess Thrombospondin 1 by Pharmaceutical Formula of CD47 Peptide	\$96,670	Cardiovascular Medical Research and Education Fund	11/1/2017	12/31/2021
Yao, M. & Elbayoumi, T.	COP	Pharmaceutical Sciences	Atrial Fibrillation Strategically Focused Research Network: Atrial Substrate in Atrial Fibrillation and AF-associated Brain Disease	\$126,979	American Heart Association subcontract from Northwestern U	7/1/2018	6/30/2023

**Total of COP Active Extramurally-funded Research Awards: \$3,761,749**



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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Costa, R.	CVM	Veterinary Medicine	Gabapentin, Melatonin and Acepromazine Combined Prior to Hospital Visits for Aggressive and Anxious Dogs	\$2,000	FearFree	11/1/2020	10/31/2021
Gartrell, C. & Ghasemi, A.	CVM	Veterinary Medicine	Longitudinal Tracking of Outcomes Assessment: Growth Trajectories of Student Academic Success	\$10,000	International Council for Veterinary Assessment	2/1/2021	1/31/2023
Kreisler, R.	CVM	Veterinary Medicine	Shelter Veterinarian Survey Publications	\$3,840	PetSmart Charities	12/22/2020	11/30/2021
Lopez, B.	CVM	Veterinary Medicine	Host-Pathogen Interaction During Cryptosporidiosis - A Model for Disease Pathogenesis and Discovery of Effective Therapeutics	\$454,012	USDA National Institute of Food and Agriculture with a subcontract (\$27,871) to the University of Georgia	7/1/2021	6/30/2024
Lopez, B., Siler, A. & Starks, D.	CVM	Veterinary Medicine	League of VetaHumanz MWU Chapter: This is How We 'Role'	\$3,000	NIH R25 subcontract from Purdue University	1/1/2021	7/31/2022
Murthy, A.	CVM	Veterinary Medicine	USDA Animal Health and Disease Research Grant	\$22,902	USDA National Institute of Food and Agriculture	10/1/2018	9/30/2021
Murthy, A. & Li, W.	CVM	Veterinary Medicine	Mechanism(s) of CD8 <sup>+</sup> T Cell-mediated Chlamydia-induced Reproductive Pathology	\$450,000	NIH R15	7/1/2019	6/30/2023
Murthy, A. & Lopez, B.	CVM	Veterinary Medicine	USDA Animal Health and Disease Research Grant	\$13,728	USDA National Institute of Food and Agriculture	10/1/2019	9/30/2022
Murthy, A. & Okwumabua, O.	CVM	Veterinary Medicine	USDA Animal Health and Disease Research Grant	\$11,375	USDA National Institute of Food and Agriculture	10/1/2021	9/30/2022
Struthers, J.	CVM	Veterinary Medicine	Optimizing a Patient-specific Larynx Implant for Functional Restoration after Cancer Surgery	\$58,112	NIH R01 subcontract from the Mayo Clinic	9/1/2021	8/31/2026

**Total of CVM Active Extramurally-funded Proposals: \$1,028,969**

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

Investigator/s	College	Department	Proposal Title	Total	Agency	Start Date	End Date
Impens, A.	n/a	Institute for Healthcare Innovation	Electronic Course: Making Medicines: The Process of Drug Development	\$4,200 (In-Kind)	Lilly USA, LLC	9/1/2019	8/31/2021
Lipinski, C.	n/a	Institute for Healthcare Innovation	COVID Interventional Drug Study	\$196,850	Pharmaceutical Sponsor with a subcontract (\$81,868) to Abrazo Hospitals and Consultant Costs of \$54,000	12/15/2020	7/1/2021
Woods, C. & VanDenBerg, C.	n/a	Animal Health Institute	Evaluation of an Immune Support Formula in Dogs with Valley Fever	\$18,250	Pharmaceutical Sponsor	10/9/2019	Open
Woods, C. & VanDenBerg, C.	n/a	Abrazo Arizona Heart Hospital	Medical Device Study in Patients with Cardiovascular Disease	\$177,116	Medical Device Sponsor with a subcontract (\$23,355) to Abrazo Hospitals and Consultant Costs of \$21,000	11/1/2018	Open
Woods, C. & VanDenBerg, C.	n/a	Institute for Healthcare Innovation	Multiplexed In-solution Serological Test for SARS-CoV-2, Human Coronaviruses and Other Respiratory Pathogens	\$703,771	Leidos Biomedical Research, LLC (NIH) subcontract from Arizona State University	10/01/2020	09/30/2025

**Total of CRS Active Extramurally-funded Research Awards: \$1,100,187**

**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.**

**Total MWU Active Extramurally-funded Research Awards: \$14,437,038**

- Aburas J** (CGS), **Aziz A** (CCOM), **Butt M** (CCOM), **Leschinsky A** (CCOM) & **Pierce ML** (CGS). (2021) Treating traumatic brain injuries with electroceuticals: Implications for the neuroanatomy of consciousness. *NeuroSci* 2:254-265.
- Arnouk H** (CGS), **Yum G** (CCO) & **Shah D** (CCOM). (2021) Cripto-1 as a key factor in tumor progression, epithelial to mesenchymal transition and cancer stem cells. *International Journal of Molecular Sciences* 22:9280.
- Bhalla S** (COP), **Lyne J** (CCOM), **Gulati A** (COP), & **Andurkar SV** (COP). (2022) Attenuation of opioid tolerance by ETA receptor antagonist, BQ123, administered intravenously in mice. *Journal of Pharmacy and Pharmacology* 74(5):769–778.
- Buhlman LM** (CGS), **Keoseyan PP** (AZCOM), **Houlihan K** (CGS) & **Juba AN** (CGS). (2021) Measuring mitochondrial hydrogen peroxide levels and glutathione redox equilibrium in *Drosophila* neuron subtypes using redox-sensitive fluorophores and 3D imaging. In V Weissig & M Edeas (Eds.) *Mitochondrial Medicine, Volume 2: Assessing Mitochondria, 2<sup>nd</sup> Edition*. (pp.113-127). New York, NY: Humana Press.
- Chang S** (AZCOM), **Maddox J** (AZCOM), **Berg E** (AZCOM), **Kim K** (AZCOM), **Messier S** (AZCOM), **Swanson L** (AZCOM), **Dobrusin R** (AZCOM), **Stein AB** (ORSP), **Nakken GN** (AZCOM), **Noble J** (CGS) & **Nydam R** (AZCOM). (2021) Evaluating for a correlation between osteopathic examination and ultrasonography on thoracic spine asymmetry. *Journal of Osteopathic Medicine* October 12:epub ahead of print.
- Chang K** (CCOM), **Majmudar H** (CGS), **Tandon R**, **Volin MV** (CGS), & **Tiwari V** (CGS). (2022) Induction of filopodia during cytomegalovirus entry into human iris stromal cells. *Frontiers in Microbiology* 13:834927.
- Chapman RL** & **Andurkar SV**. (2021) A review of natural products, their effects on SARS-CoV-2 and their utility as lead compounds in the discovery of drugs for the treatment of COVID-19. *Medicinal Chemistry Research* December 2:epub ahead of print.
- Costa RS** (CVM), **Wetmore LA** & **Stein A** (ORSP). (2021) Gastroesophageal reflux and regurgitation in isoflurane anesthetized dogs after premedication with hydromorphone, hydromorphone with acepromazine, or hydromorphone with dexmedetomidine. *American Journal of Veterinary Research* 82(9):695-700.
- Cryder BT** (CCP), **Lee MM** (CHS-DG), **Workman GM** & **Krumdick N** (CHS-DG). (2021) Interventions involving spiritual and religious themes in pharmacy student patient encounters during advanced practice rotations. *Currents in Pharmacy Teaching and Learning* 13:1445-1450.
- Dungar BM** (CGS), **Schupbach CD** (CGS), **Jacobson JR** (CCOM) & **Kopf PG** (CGS). (2021) Adrenal corticosteroid perturbation by the endocrine disruptor BDE-47 in a human adrenocortical cell line and male rats. *Endocrinology* 162(11):1-13.
- Ebeid M** (CGS), **Barnas K** (CGS), **Zhang H** (CGS), **Yaghmour A** (CGS), **Noreikaite G** (CCOM), & **Bjork BC** (CGS). (2022) PRDM16 expression and function in mammalian cochlear development. *Developmental Dynamics* April 22:epub ahead of print.
- Gilchrist A** (COP) & **Echeverria SL** (AZCOM). (2022) Targeting Chemokine Receptor CCR1 as a Potential Therapeutic Approach for Multiple Myeloma. *Frontiers in Endocrinology* 13:846310.
- Helminski JO** (CHS-DG), **Keller S** (CHS-DG), **Suckow M** (CCO), **Stein A** (ORSP), **Grieco L** (CHS-DG), **Lintakas R** (CHS-DG) & **Reinders C** (CHS-DG). (2021) Reliability of two dissociating tests of phoria in artificially created phoria in normal adults. *Laryngoscope Investigative Otolaryngology* September 8:epub ahead of print.
- Herrick Kays S** (CHS-GD) & **Wodiuk G** (AZCOM). (2022) Formative Learning for Nurse Practitioner Students in Pre-Clinical Simulation. *The Journal for Nurse Practitioners* 18(6): 677-678.
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- Kreisler RE** (CVM), **Harder KN** (CVM), **Douglas ML** (CVM) & **Norris JW** (CGS). (2021) Assessment of dilute epinephrine and mechanical pressure for prevention of feline postoperative scrotal hematoma: A randomized controlled trial. *Topics in Companion Animal Medicine* 46:100609.
- Li J** (CCOM), **Moten S** (CGS), Rauf AA. (2022) The role of nephrologists in management of hypokalemic periodic paralysis: a case report. *Journal of Medical Case Reports* 16(65).
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- Mirande MH** (AZCOM) & **Smith HF** (CGS). (2022) The Potential Roles of Cervical Plexus Abnormalities in Occipital Neuralgia: An Anatomic Variant Explored. *Diagnostics* 12:139.
- Morrow M** (CHS-GD), **Gibson A** (CHS-GD), **Stein A** (ORSP), & **Burns S** (CHS-GD). (2022) Opioid-Free Anesthesia and Certified Registered Nurse Anesthetists: Barriers to Implementation. *American Association of Nurse Anesthetists Journal* 90(2):127-132.
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- Nimer S** (CCP), **Schumacher C** (CCP) & **Bolch C** (ORSP). (2021) Describing the application and barriers of pharmacist-led professional continuous glucose monitoring in the ambulatory care setting. *Journal of the American College of Clinical Pharmacy* September 22:epub ahead of print.
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- Richard Jr HB** (CGS), **Minder S** (CGS), **Sidhu A** (AZCOM), **Juba AN** (CGS), Jancovich JK, Jacobs BL & **Wellensiek BP** (CGS). (2021) Optimization of translation enhancing element use to increase protein expression in a vaccinia virus system. *Journal of General Virology* 102(8):001624
- Scheetz MH** (CCP), **Pais GM** (CCP), Lodise TP, Tong SYC, Davis JS, O'Donnell JN, Liu J, Neely M, **Prozialeck WC** (CGS), **Lamar PC** (CGS), **Rhodes NJ** (CCP), Holland T & Avedissian SN. (2021) Of rats and men: A translational model to understand vancomycin pharmacokinetic/toxicodynamic relationships. *Antimicrobial Agents and Chemotherapy* 65(10):e01060-21.

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**Untiveros G** (CGS), **Dezi L** (CGS), **Gillette M** (CCOM), **Sidor J** (CCOM) & **Strizzi L** (CGS). (2021) Normal skin cells increase aggressiveness of cutaneous melanoma by promoting epithelial-to-mesenchymal transition via nodal and Wnt activity. *International Journal of Molecular Sciences* 22:11719.

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**Desai S**, **Dombrowski J**, & **Klag J**. (2022) Coronary Artery Ectasia and Oral Anticoagulation: A Case Report. *International Journal of Clinical Cardiology* 9(2):254.

Gandhi SV, **Dugan R**, Farber SH, Godzik J, Alhilali L, Uribe JS. (2022) Anatomical positional changes in the lateral lumbar interbody fusion. *European Spine Journal* April 15: epub ahead of print.

**Gerry AS**, Christopher ZK, Patel K, Kile TA, Bingham JS. (2022) Compartment Syndrome following Below-Knee Amputation. *Case Reports in Orthopedics* 2022:1256823.

Suarez CA, Frederickson J, Cifelli RL, Pittman JG, **Nydam RL**, Hunt-Foster RK & Morgan K. (2021) A new vertebrate fauna from the Lower Cretaceous Holly Creek Formation of the Trinity Group, southwest Arkansas, USA. *PeerJ* 9:e12242.

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**Roe M, Varney K, Miller C, Bland T, Roe ER, & Esposito C.** (2022) Telehealth vision therapy: reflections after one year of implementation. *Optometry & Visual Performance* 10(COVID):15-18.

**Vasudevan B, Baker J, Miller C, & Feis A.** (2022) Analysis of the Reliability and Repeatability of Distance Visual Acuity Measurement with EyeSpy 20/20. *Clinical Ophthalmology* 2022(16):1099-1108.

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Ruiz-Alcocer J, Martínez-Alberquilla I, Rementería-Capelo LA, **De Gracia P** & Velázquez AL. (2021) Changes in optical quality induced by tilt and decentration of a trifocal IOL and a novel extended depth of focus IOL in eyes with corneal myopic ablations. *Journal of Refractive Surgery* 37(8):532-537.

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- Gueguen N, Lenaers G, Reynier P, **Weissig V** & Edeas M. (2021) Mitochondrial dysfunction in mitochondrial medicine: Current limitations, pitfalls, and tomorrow. In V Weissig & M Edeas (Eds.) *Mitochondrial Medicine, Volume 2: Assessing Mitochondria, 2<sup>nd</sup> Edition*. (pp.1-29). New York, NY: Humana Press.
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## PEER-REVIEWED PUBLICATIONS - COP (Continued)

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- Krapfl A, McLeod C, Myers R, Venugopal P, & **Seddon A**. (2022) Venetoclax ramp-up with concurrent voriconazole in a patient with chronic lymphocytic leukemia. *Journal of Oncology Pharmacy Practice* February 18: epub ahead of print.
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## PEER-REVIEWED PUBLICATIONS - COP (Continued)

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**Weissig V** & Edeas M (Eds.). (2021) *Mitochondrial Medicine, Volume 2: Assessing Mitochondria, 2<sup>nd</sup> Edition*. (pp.1-459). New York, NY: Humana Press.

**Weissig V** & Edeas M (Eds.). (2021) *Mitochondrial Medicine, Volume 3: Manipulating Mitochondria and Disease-Specific Approaches, 2<sup>nd</sup> Edition*. (pp.1-468). New York, NY: Humana Press.

**Weissig V** & Edeas M. (2022) Recent developments in mitochondrial medicine (part 2): Aging, longevity and microbiota. *4open* 5(5).

**Weissig V**, **Elbayoumi T**, Flühmann B & Barton A. (2021) The growing field of nanomedicine and its relevance to pharmacy curricula. *American Journal of Pharmaceutical Education* 85(8):8331.

Wesling M & **D'Souza JJ**. (2022) Diabetes: how to manage overweight and obesity in type 2 diabetes mellitus. *Drugs In Context* 2022;11:2021-11-7.

Zasowski EJ, Trinh TD, Claeys KC, Lagnf AM, Bhatia S, Klinker KP, Veve MP, Estrada SJ, Johns ST, Sawyer AJ, **Huang V**, LaFrance B, Levine DP, Kaye KS, Davis SL, Rybak MJ. (2022) Multicenter Cohort Study of Ceftaroline Versus Daptomycin for Treatment of Methicillin-Resistant *Staphylococcus aureus* Bloodstream Infection. *Open Forum Infectious Diseases* 9(3):ofab606.

## PEER-REVIEWED PUBLICATIONS - CVM

**Brosnahan M**. (2022) Molecular immunology and genomics: The future of multisystemic eosinophilic epitheliotropic disease. *Equine Veterinary Education* January 10:epub ahead of print.

**Costa R**. (2021) Nasal oxygen insufflation: Limitations & clinical applicability. *Clinician's Brief* July/August.

**Dowdy H**, **Evans JE**, **Jaffey JA**, **Wycislo KL**, **Struthers JD** & Hostnick ET. (2022) Case report: Successful management of a compressive intraspinal *Coccidioides* species granuloma in a cat. *Frontiers in Veterinary Science* 8:801885.

**Gunther M**, **Jaffey JA**, **Evans J** & **Paige C**. (2021) Case report: Persistent moderate-to-severe creatine kinase enzyme activity elevation in a subclinical dog. *Frontiers in Veterinary Science* 8:757294.

**Jaffey JA**. (2021) Canine extrahepatic biliary disease: What have we learned? *Journal of Small Animal Practice* December 22:epub ahead of print.

**Jaffey JA**. (2021) Canine hepatobiliary anatomy, physiology and congenital disorders. *Journal of Small Animal Practice* August 18:epub ahead of print.

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## PEER-REVIEWED PUBLICATIONS - CVM (Continued)

- Jaffey JA.** (2022) Feline cholangitis/cholangiohepatitis complex – what have we learned? *Journal of Small Animal Practice* May 6: epub ahead of print.
- Jaffey JA, Kreisler R,** Shumway K, Lee Y-J, Lin C-H, Durocher-Baker LL, Seo K-W, Choi H, Nakashima K, Harada H, Kanemoto H, & Lin L-S. (2022) Ultrasonographic patterns, clinical findings, and prognostic variables in dogs from Asia with gallbladder mucocele. *Journal of Veterinary Internal Medicine.* 2022:1- 11.
- Jaffey JA, Struthers JD,** Yuh EL, Hostnik ET, Runyan RA, & Reading NS. (2022) Oral Methylene Blue Treatment in A Dog with Cytochrome B5 Reductase Deficiency And 78, XX Testicular Disorder of Sex Development. *Topics in Companion Animal Medicine* 49: 100649.
- Lott DG, Shah M, Myers C, McPhail M, Neubauer J, **Struthers JD,** Madsen CS, Grandjean D, Zacharias SRC, & Tchoukalova YD. (2022) A Tissue Engineered Construct for Laryngeal Regeneration: A Proof-of-Concept Device Design Study. *Laryngoscope* January 27: epub ahead of print.
- Ruppert SL, Ferguson SH, Struthers JD & Jones TL.** (2021) Oral histiocytic sarcoma in a cat with mandibular invasion and regional lymph node metastasis. *Journal of Feline Medicine and Surgery* November 9: epub ahead of print.
- Schaff AR, Ferguson S,** Phair K, Ferris R & **Goe A.** (2021) Eumycetoma and disseminated phaeohyphomycosis in a Sumatran tiger. *Journal of Veterinary Diagnostic Investigation* August 12: epub ahead of print.
- Schock S, Shaver SL, Craigen B & Hofmeister EH.** (2021) Correlation between student self-assessment and proctor evaluation in a veterinary surgical laboratory. *Journal of Veterinary Medical Education* 48(5):584-591.
- Shaver SL, Foy DS & Carter TD.** (2022) Clinical features, treatment, and outcome of dogs with *Coccidioides* osteomyelitis. *Journal of the American Veterinary Medical Association* 260(1):63-70.
- Shaver SL, Foy DS, & Gartrell CL.** Attitudes toward Virtual Admissions Interviews among Applicants to a Veterinary School. *Journal of Veterinary Medical Education* Jan 23: epub ahead of print.
- Struthers JD, Chako C, Ruppert S,** Jackson K & Pesavento PA. (2021) Diagnostic challenge in veterinary pathology: Alopecic crusting dermatitis in a goat. *Veterinary Pathology* December 6: epub ahead of print.
- Struthers JD,** Kucerova, Z, **Finley A, Goe A,** Huffman J, and Phair K. (2022) Septicaemic Listeriosis in a White-Faced Saki (*Pithecia pithecia*). *Journal of Comparative Pathology* 194:7-13.

## INTRAMURAL FUNDING

### AZCOPT

Investigator/s	College	Department	Proposal Title
Baker, J., Putnam, N. & Kozlowski, M.	AZCOPT	Optometry	Pharmaceutical Agents that Reduce Blue Light Damage to RPE Cells
Esposito, C., Sveinson, E., Wilson, J. & Carroll, L.	AZCOPT	Optometry	Deposition of Tau and Amyloid-Beta in the Tear Film of Acquired and Traumatic Brain Injury Patients
Fintelmann, R. & Jansen, K.	AZCOPT	Optometry	Acceptance of Finger-prick Autologous Blood Based on the Initial Physician-Patient Interaction
Kozlowski, M.	AZCOPT	Optometry	<i>In Vivo</i> Evaluation of Drug Candidates for the Treatment of Dry AMD
Kozlowski, M.	AZCOPT	Optometry	Evaluation of Safety of Using Violet Light in Myopia Treatment
Kozlowski, M.	AZCOPT	Optometry	Preparation of Differentiated RPE Cells from iPSC Cells for Departmental Research Use
Putnam, N.	AZCOPT	Optometry	Clinical Imaging and Eye Tracking Utilizing Tracking Scanning Laser Ophthalmoscopy (TSLO) at the Arizona College of Optometry
Roe, M.	AZCOPT	Optometry	Impact of Time of Day on Binocular Vision
Thomas, S. & Cusimano, F.	AZCOPT	Optometry	The Effect of Vaping on Macular Pigment Optical Density (MOPD)
Vasudevan, B.	AZCOPT	Optometry	Repeatability and Accuracy of Neurolens in the Assessment of Binocular Vision Disorders
Yeh, F.	AZCOPT	Optometry	The Effect of Corneal Crosslinking on Keratoconic Eyes
Yevseyenkov, V.	AZCOPT	Optometry	Systematic Evaluation of an Effect of Yoked Prism on Gait Utilizing Computer Assisted Rehabilitation Environment (CAREN) in a Young Healthy Adult Population with Normal Gait

Total AZCOPT Intramural Funding: \$49,314

### CCO

Investigator/s	College	Department	Proposal Title
Rice, S.	CCO	Optometry	Contact Lenses Compared to Glasses: Applying Optical Principles

Total CCO Intramural Funding: \$300

### CGS

Investigator/s	College	Department	Proposal Title
Al-Nakkash, L.	CGS	Physiology	Assessment of TLR Signaling in Murine Colon
Bjork, B.	CGS	Biochemistry & Molecular Genetics	Validation of Differential Gene/Protein Expression in Prdm16 and Mecom Mutant Mouse Orofacial Tissues
Bodenstine, T.	CGS	Biochemistry & Molecular Genetics	Evaluating Metabolic Flexibility of Fatty Acid Oxidation in Breast Cancer Cells
Broderick, T.	CGS	Physiology	Impact of Type1 Diabetes on the Expression of High Affinity Intestinal Carnitine Carriers
Call, G.	CGS	Pharmacology	Microbiome Effects in Parkinson's Disease Model Flies
Chandar, N.	CGS	Biochemistry & Molecular Genetics	Retinoblastoma Binding Protein 5 in the Conversion of Progenitors to Preosteoblasts
Ciancio, M.	CGS	Biomedical Sciences	Use of Murine Oviduct Organoids to Study HSP70-mediated Protection from <i>Chlamydia muridarum</i> Pathology
Edwards, J.	CGS	Pharmacology	Effects of the Diabetogenic Environmental Toxicant Cadmium on Pancreatic $\beta$ -cell Function
Fay, M.	CGS	Pharmacology	<i>In vitro</i> Evaluation of miR-126a-5p Function in Cadmium-induced Kidney Injury

## INTRAMURAL FUNDING

### CGS (Continued)

Investigator/s	College	Department	Proposal Title
Fornaro, M.	CGS	Anatomy	Effect of Mild Hypothermia on Axonal Growth After Peripheral Nerve Lesion
Gonzalez, F.	CGS	Microbiology & Immunology	Biological Regulation of the 26S Proteasome in <i>Candida albicans</i>
Goral, J.	CGS	Anatomy	Characterization of Histopathological Changes in Lung and Liver of Mice Exposed to 4NQO, Effects of Diet and Sex
Green, J.	CGS	Biochemistry & Molecular Genetics	Characterization of the Histopathological Changes Caused in Livers, Kidneys and Tongues in Mice Treated by 4-Nitroquinoline-1-Oxide and on a Folate-deficient or Folate-sufficient Diet
Grossman, A.	CGS	Anatomy	Paleontology of Fossil Vertebrates from Two Early Miocene Formations in Israel
Hall, M.	CGS	Anatomy	Evolution of the Mammalian Ventral Body Wall, Pelvis, and Perineum
Hnida, J.	CGS	Microbiology & Immunology	Coccidia of White-tailed Antelope Squirrel, and Gray-collared Chipmunk, and Golden-mantled Ground Squirrel Populations in Northern Arizona
Hull, E.	CGS	Biomedical Sciences	Identification of Epigenetic Factors in Tumor Cell Plasticity
Kaufman, J. A.	CGS	Anatomy	Molecular and Behavioral Effects of Sonically-induced Mild Traumatic Brain Injury (mTBI) in Zebrafish
Kopf, P.	CGS	Pharmacology	Endocrine Disruptors and Adrenal Steroidogenesis
Korch, S.	CGS	Pharmacology	Analysis of Metabolic Adaptations in HeLa Cancer Cells as a Function of Energy Status Using a Novel, Direct ATP Chelation Methodology
Kristjansdottir, K.	CGS	Biomedical Sciences	Elucidating the Mechanism of Directed Cell Growth of Peripheral Nerves on Nanoscale Topography
Lawson, K.	CGS	Biochemistry & Molecular Genetics	Cadherin-dependent Signaling in Oral Tumor Development
Lee, A. H.	CGS	Anatomy	Limb Bone Structure in the North American River Otter Across Environmental Gradients
LePard, K. J.	CGS	Physiology	Regulation of Glucose Uptake by Pancreatic Islets
Leyva, K. J.	CGS	Microbiology & Immunology	Regulation of EMT in Cutaneous Squamous Cell Carcinoma
Martinez-Guryn, K.	CGS	Biomedical Sciences	Fatty Acid Oxidation as a Mechanism of Protection Against Diet-induced Obesity in HSP70 Transgenic Mice
Mayer, A. M. S.	CGS	Pharmacology	Effect of Cyanobacterial LPS on Immune Activation of Human De-identified Brain Cultures and Microglia
McCulloch, P.	CGS	Physiology	Brainstem Cardiorespiratory Control Mechanisms
Norris, J.	CGS	Pharmacology	Evaluation of PD-1 Expression in Pulmonary T-lymphocytes from Mice Fed Cereal and Western Diets
Olson, C.	CGS	Physiology	Neuromodulation of the Vocal Circuit by Vitamin A Deficiency
Pierce, M.	CGS	Pharmacology	Identification of Natural Neuroactive Compounds for Neuroscience Drug Development
Plotkin, B. J.	CGS	Microbiology & Immunology	Anaerobic Metabolic Rewiring and Cancer Cell Metabolism
Porta, M.	CGS	Physiology	The Memory of Pregnancy in the Uterus: Contractility
Rodriguez Sosa, J.	CGS	Anatomy	Xenogenic Transplantation of Spermatogonial Stem Cells and Sertoli Cells into the Testes of Immunodeficient Mice to Study Spermatogenesis and Preserve Fertility in Non-rodent Mammals
Simons, E.	CGS	Anatomy	The Development of Bone Laminarity in Glaucous-winged Gulls
Smith, H. F.	CGS	Anatomy	Improving the Diagnosis of Orthopedic, Shell, and Respiratory Tract Diseases, and Mapping Vascular Anatomy in Captive Tortoises Using CT Scans and Radiography
Soby, S.	CGS	Biomedical Sciences	Genomic Taxonomy of <i>Pseudomonas</i> spp. Isolated from Wetlands Bogs of the Cape Cod National Seashore

## INTRAMURAL FUNDING

### CGS (Continued)

Investigator/s	College	Department	Proposal Title
Swanson-Mungerson, M.	CGS	Microbiology & Immunology	Role of mTOR in Mediating Increased ATP Production in B Cell Tumors Expressing the Epstein-Barr Virus Latency Protein, LMP2A
Vallejo-Elias, J.	CGS	Physiology	Understanding the Role of Inducible Nitric Oxide Synthase (iNOS) in the Progression of Marfan Syndrome Associated Aortic Aneurysm
Velez-Cruz, R.	CGS	Biochemistry & Molecular Genetics	The Role of SWI/SNF Chromatin Remodelers in Homologous Recombination and Genome Stability

Total CGS Intramural Funding: \$205,019

### CHS-DG

Investigator/s	College	Department	Proposal Title
Anderson, D.	CHS-DG	Physical Therapy	Using Informatics to Describe Physical Therapy for Congenital Muscular Torticollis: A Retrospective Study
Campione, E.	CHS-DG	Physical Therapy	Implementation of Breast Cancer-related Lymphedema Clinical Practice Guidelines Among Physical Therapists: A Mixed-Methods Study
del Toro, C.	CHS-DG	Speech Language Pathology	Validation of Video and Picture Stimuli of Action Verbs
Hess, J.	CHS-DG	Physical Therapy	Plantar Pressure Distributions During Different Versions of the Weight Bearing Lunge Test
Hess, J.	CHS-DG	Physical Therapy	Intrinsic Foot Muscle Activation
Dillon, T.	CHS-DG	Physical Therapy	Inter-rater Reliability of Hand-held Rehabilitative Ultrasound Imaging Between Novice Student Physical Therapists and Experienced Physical Therapists
Helminski, J.	CHS-DG	Physical Therapy	Factors Contributing to Success in Entry-Level Physical Therapy Program and on the National Physical Therapy Examination
Simpson, E.	CHS-DG	Occupational Therapy	The Effectiveness of an Occupational Therapy Self-Management Intervention for People Experiencing Chronic Pain
Sood, D.	CHS-DG	Occupational Therapy	Reducing the Stress of Parents of Preschool-aged Children Diagnosed with Autism: Does Routine-based Coaching Intervention Work?

Total CHS-DG Intramural Funding: \$19,337

### CHS-GD

Investigator/s	College	Department	Proposal Title
Burns, S.	CHS-GD	Nurse Anesthesia	Perception of the Scholarly Work Project by Nurse Anesthesia Doctoral Graduates: A Pilot Study
Darban, N.	CHS-GD	Cardiovascular Science	Evaluation of Two Different Types of Blood Transfusion Systems and Impact of Processing in the Blood Components During Cardiac Surgery
Evans, E.	CHS-GD	Cardiovascular Science	Pulsatile Perfusion and Oxygenation Compliance
O'Neal, S.	CHS-GD	Physical Therapy	Comparison of the Effects of a Low Drop Shoe Versus a Conventional Athletic Shoe on Joint Angles and Muscle Activity in People with Parkinson's Disease
Rath, T.	CHS-GD	Cardiovascular Science	The Effect of Reservoir Level on Gaseous Micro-Emboli Transmission Through the Cardiopulmonary Bypass Circuit with Cardiomy Sucker Air Return
Russell, B.	CHS-GD	Physical Therapy	Evaluation of Hip Joint Stretching in Dogs with Hip Osteoarthritis
Scott, K.	CHS-GD	Physical Therapy	Effect of Anthropometric Characteristics, Electrical Device Use, and Keyboard Use on Median Nerve Cross-Sectional Area

Total CHS-GD Intramural Funding: \$22,644

## INTRAMURAL FUNDING

### COP

Investigator/s	College	Department	Proposal Title
Arif, S. & Gurney, M.	COP	Pharmacy Practice	Qualitative Evaluation First Year Pharmacy Students' Perceptions of Health Equity and Cultural Competence Across Two Campus Programs
Briyal, S.	COP	Pharmaceutical Sciences	Defining the Role of Endothelin B Receptors Agonism on Neuronal Regeneration and a Functional Outcome Following Hypoxic-ischemic Encephalopathy in Neonatal Rats
Chang, J.	COP	Pharmacy Practice	Investigation of Vancomycin Nephrotoxicity with an In Vitro and Rat Model
Davis, L., Pogge, E., Storjohann, T., Early, N., Jones, M., El-Ibiary, S., Raney, E., Afolabi, T. & Larson S.	COP	Pharmacy Practice	Assessing the Impact of Digital Behavior Change Interventions on Engagement Culminating in Advancement of Precepting Capabilities as Measured by the Habits of Preceptors-Rubric (Part 2)
Elbayoumi, T.	COP	Pharmaceutical Sciences	Efficient Cutaneous Delivery of Berberine via TPGS-mixed Lipidic Nanocarriers for Enhanced Efficacy Against Malignant Skin Cancers
Huang, V., Okwumabua, O. & Pham, T.	COP	Pharmacy Practice	Detection of Virulent Factors and Comparative Genomic Analysis of Genetically Related Companion Animal and Human Strains of <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i> Utilizing Whole Genome Sequencing
Joshi, M.	COP	Pharmaceutical Sciences	Pharmacokinetics and Biodistribution of PEGylated Liposomal Vancomycin Formulation in Pregnant Rats
Olsen, M.	COP	Pharmaceutical Sciences	Directed Evolution of a Novel Human Gene Therapy Technology
Pais, G.	COP	Pharmaceutical Sciences	Defining Neurotoxicity to Restore Susceptibility for Cefepime, a Prototype Beta-Lactam Antibiotic
Ranjan, A.	COP	Pharmaceutical Sciences	Study of the Effect of Centhaquine on Survival and Proliferation of Adult Mammalian Cardiomyocytes
Rohani, R.	COP	Pharmacy Practice	Identifying Optimized Dosing Regimens to Enhance Treatment Success in Critically Ill Patients with Hospital-acquired Pneumonia

Total COP Intramural Funding: \$85,505

### CVM

Investigator/s	College	Department	Proposal Title
Lopez, B.	CVM	Veterinary Medicine	Local and Systemic Immune Responses in High-Risk Stocker Calves Diagnosed with Bovine Respiratory Disease
Okwumabua, O.	CVM	Veterinary Medicine	Biological Significance of <i>Streptococcus suis</i> Strain 10-36905 Hemolysin III

Total CVM Intramural Funding: \$25,000

### FACULTY SEED GRANT AWARDS

Investigator/s	Campus	Award	Proposal Title
Lopez, B. & Kronstad, L.	Glendale	Seed Grant	Molecular and Cellular Mechanisms of Influenza Viral Innate Immune Evasion
Mejía-Alvarez, R.	Downers Grove	Seed Grant	Functional Role of Inositol 1,4,5-triphosphate Receptor in the Pacemaker Activity of Mouse Sinoatrial Node
Stephenson, E.	Downers Grove	Seed Grant	Role of Primary Cilia in the Maintenance of Skeletal Muscle

Total Faculty Seed Grant Funding: \$32,283

## INTRAMURAL FUNDING

### ONE HEALTH RESEARCH AWARDS

<b>Investigator/s</b>	<b>Campus</b>	<b>Award</b>	<b>Proposal Title</b>
Tiwari, V. & Swanson-Mungerson, M.	Downers Grove	One Health	Molecular Diversity of Heparan Sulfate in the Zoonotic Transition of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2)
Veltri, C. & Soby, S.	Glendale	One Health	Soluble and Volatile Antidermatophyte Compounds Produced by <i>Chromobacterium vaccinii</i>

Total One Health Research Funding: \$20,000

**TOTAL MWU INTRAMURAL FUNDING AWARDED BY ALL COLLEGES  
DURING THIS REPORTING PERIOD: \$459,402**

# FY22 ANNUAL REPORT

## UNIVERSITY-FUNDED RESEARCH SUPPORT POSITIONS BY CAMPUS\*

MWU "HARD MONEY" RESEARCH SUPPORT POSITIONS		
CAMPUS	FTE	TOTAL COMPENSATION FOR REPORTING PERIOD
DOWNERS GROVE, ILLINOIS	25.25	\$1,624,196
GLENDALE, ARIZONA	29.00	\$1,651,008
<b>TOTAL</b>	<b>54.25</b>	<b>\$3,275,204</b>

\*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 \$3,275,204**

## UNIVERSITY-FUNDED CAPITAL RESEARCH EQUIPMENT

Another manner in which MWU supports research is through consideration and funding of capital research equipment requests submitted by departments. In FY 2022, MWU spent \$874,595 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 for those seeking extramural funding. During FY2022, MWU waived \$280,037 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 FY2022, MWU paid out \$59,147 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.



# FY22 ANNUAL REPORT

## UNIVERSITY-FUNDED STUDENT SUPPORT POSITIONS BY CAMPUS

RESEARCH SUPPORT FOR STUDENTS IN DOWNERS GROVE, ILLINOIS		
ACTIVITY	NUMBER OF AWARDS	TOTAL FUNDING
RESEARCH POSTER PRINTING	164	\$5,002
TRAVEL TO PRESENT RESEARCH	15	\$5,283
FELLOWSHIPS#	47	\$208,250
TOTAL FUNDING IN SUPPORT OF STUDENT RESEARCH ACTIVITIES IN ILLINOIS		\$218,535

RESEARCH SUPPORT FOR STUDENTS IN GLENDALE, ARIZONA		
ACTIVITY	NUMBER OF AWARDS	TOTAL FUNDING
RESEARCH POSTER PRINTING	137	\$3,631
TRAVEL TO PRESENT RESEARCH	24	\$9,851
FELLOWSHIPS#	60	\$333,250
TOTAL FUNDING IN SUPPORT OF STUDENT RESEARCH ACTIVITIES IN ARIZONA		\$346,732

#Includes fellowships awarded in FY22, even though some payments are made in FY23.

### ONE HEALTH STUDENT RESEARCH AWARDS

Investigator/s	Campus	Award	Proposal Title
Allwardt, K. (CVM '24)	Glendale	One Health	Evaluating the Role of Strain-level Differences of <i>Rickettsia rickettsii</i> on the Spread of Rocky Mountain Spotted Fever by <i>Rhipicephalus sanguineus</i> in Arizona, Mexico, and Surrounding Regions
Sidor, J. (CCOM '23)	Downers Grove	One Health	The Role of Presenilin1 Regulating Wnt-dependent Melanoma Aggressiveness
Tonelli-Raylove, A. (CVM '23), Hirsh, M. (CVM '24) & Kasai, M. (CVM '24)	Glendale	One Health	The Pathology and Incidence of Building-caused Bird Mortality

**TOTAL ONE HEALTH STUDENT RESEARCH FUNDING: \$7,500**

**TOTAL FUNDING IN SUPPORT OF STUDENT RESEARCH ACTIVITIES  
ACROSS BOTH CAMPUSES IS \$572,767**

**THE ORSP WEBSITE CAN BE FOUND AT:**

<https://www.midwestern.edu/departments/office-of-research-and-sponsored-programs>

# MWU FACULTY JOINT APPOINTMENTS

## AZCOM

Layla Al-Nakkash	Justin Georgi	Sam Katzif	Kathleen Muldoon	Erin Simons
Karen Baab	Aryeh Grossman	Jason Kaufman	Christopher Olson	Heather Smith
Nancy Bae	Wade Grow	Laszlo Kerecsen	Matthew O'Neill	Mark Swanson
Thomas Broderick	Margaret Hall	Chongwoo Kim	Pamela Potter	Kathryn Townsend
David Jon Carroll	Jose Hernandez	Shaleen Korch	Michael Quinlan	Tony Tullo
Gerald Call	Thu Huynh	Lisa Kronstad	Parveen Ranjan	Johana Vallejo-Elias
Dana Devine	Garilyn Jentarra	Kathryn Lawson	Ann Revill	John VandenBrooks
Jeremy Ellermeier	Douglas Jones	Andrew Lee	Tobias Riede	Gloria Yueh
Robert Fintelmann	T. Bucky Jones	Kathryn Leyva	Minsub Shim	

## AZCOPT

Karen Baab	Aryeh Grossman	Douglas Jones	Andrew Lee	Erin Simons
Nancy Bae	Wade Grow	Sam Katzif	Kathryn Leyva	Heather Smith
Thomas Broderick	Jose Hernandez	Laszlo Kerecsen	Pamela Potter	Mark Swanson
Gerald Call	Garilyn Jentarra	Shaleen Korch	Michael Quinlan	Kathryn Townsend
Dana Devine	T. Bucky Jones	Kathryn Lawson	Parveen Ranjan	Johana Vallejo-Elias
Fernando Gonzalez				

## AZCPM

T. Bucky Jones	Laszlo Kerecsen	Kathleen Muldoon	Michael Quinlan	Yir Gloria Yueh
Jason Kaufman	Kathryn Leyva	Pamela Potter	Tony Tullo	

## CCO

Hilal Arnouk	Sandra Inouye	Paul McCulloch	Sinju Sundaresan	Renier Velez-Cruz
Bryan Bjork	Phillip Kopf	Rafael Mejia-Alvarez	M. Swanson-Mungerson	Susan Viselli
Nalini Chandar	Kathy LePard	Marsha Pierce	Julie Swartzendruber	Michael Volin
Julie Doll	Sean Lynch	Maura Porta	Martin Szul	Gordon Wahler
Joanna Goral	Alejandro Mayer	Luigi Strizzi	Vaibhav Tiwari	James Woods
Kyle Henderson				

## CCOM

Hilal Arnouk	Kurt Heinking	Erin Leslie	Maura Porta	Martin Szul
Nalini Chandar	Kyle Henderson	Sean Lynch	Walter Prozialeck	Vaibhav Tiwari
J. Wesley Cook	Sandra Inouye	Alejandro Mayer	Ira Sigar	Maria Traka
Michael Ebeid	Melanie Jessen	Paul McCulloch	Erin Stephenson	Susan Viselli
Michael Fay	John Kasimos	Rafael Mejia-Alvarez	Luigi Strizzi	Michael Volin
Michele Fornaro	Phillip Kopf	William Moran	Sinju Sundaresan	Gordon Wahler
Joanna Goral	Richard Laddaga	Kathleen O'Hagan	M. Swanson-Mungerson	Robin Zavod
Jacalyn Green	Kathy LePard	Balbina Plotkin	Julie Swartzendruber	

## CPDG

Thomas Bodenshteyn	Alejandro Mayer	Maura Porta	Sinju Sundaresan	Michael Volin
Jacalyn Green	Paul McCulloch	Walter Prozialeck	Vaibhav Tiwari	Gordon Wahler
Kyle Henderson	Barbara Plotkin	Prasanth Puthanveetil	Renier Velez-Cruz	
Sean Lynch				

## CDMA

Layla Al-Nakkash	Fernando Gonzalez	Douglas Jones	Kathryn Lawson	Heather Smith
Karen Baab	Wade Grow	T. Bucky Jones	Andrew Lee	Mark Swanson
Nancy Bae	Margaret Hall	Sam Katzif	Kathryn Leyva	Kathryn Townsend
Gerald Call	Jose Hernandez	Jason Kaufman	Pamela Potter	Johana Vallejo-Elias
Dana Devine	Garilyn Jentarra	Shaleen Korch	Michael Quinlan	Gloria Yueh

# MWU FACULTY JOINT APPOINTMENTS

## CDMI

Hilal Arnouk  
Bryan Bjork  
Nalini Chandar  
Mae Ciancio  
Michael Ebeid  
Joshua Edwards  
Michael Fay

Michele Fornaro  
Joanna Goral  
Eric Gorscak  
Jacalyn Green  
Kyle Henderson  
Sandra Inouye  
Phillip Kopf

Kathy LePard  
Erin Leslie  
Sean Lynch  
Alejandro Mayer  
Paul McCulloch  
Rafael Mejia-Alvarez  
Balbina Plotkin

Maura Porta  
Kyle Ramsey  
Fred Romano  
Ira Sigar  
Jacquelyn Smith  
Luigi Strizzi  
M. Swanson Mungerson

Julie Swartzendruber  
Vaibhav Tiwari  
Susan Viselli  
Michael Volin  
James Woods

## CGS

Mark Acierno  
Shridhar Andurkar  
Clemence Chako  
Tamer Elbayoumi  
Christian Evans

Annette Gilchrist  
Vanthida Huang  
Melanie Jordan  
Medha Joshi  
Rachael Kreisler

Jung Keun Lee  
Weidang Li  
John Mitchell  
Ashlesh Murthy  
Ogi Okwumabua

Mark Olsen  
Byron Russell  
Marc Scheetz  
Charles Veltri  
Volkmar Weissig

Kathryn Wycislo  
Mingyi Yao

## CHS-DG

Bryan Bjork  
Thomas Bodenstine  
Mae Ciancio

Michelle Fornaro  
Phillip Kopf  
Alejandro Mayer

Marsha Pierce  
Barbara Plotkin  
Prasanth Puthanveetil

Erin Stephenson  
Julie Swartzendruber  
Susan Viselli

Michael Volin

## CHS-GD

Layla Al-Nakkash  
Karen Baab  
Thomas Broderick  
Lori Buhlman

Gerald Call  
Fernando Gonzalez  
Wade Grow  
Douglas Jones

T. Bucky Jones  
Shaleen Korch  
Katherine Mitzel  
Kathleen Muldoon

Matthew O'Neill  
Michael Quinlan  
Tobias Riede  
Heather Smith

Johana Vallejo-Elias  
John VandenBrooks

## CPG

Thomas Broderick  
Fernando Gonzalez

John Hnida  
Sam Katzif

Chongwoo Kim  
Kathryn Leyva

Michael Quinlan  
Mark Swanson

Johana Vallejo-Elias

## CVM

Layla Al-Nakkash  
Nancy Bae  
Leonard Bell  
Thomas Broderick  
Lori Buhlman  
Gerald Call  
Alice Chapman  
Dana Devine  
Delrae Eckman  
Mitra Esfandiarei  
Sudhindra Gadagkar  
Justin Georgi

Fernando Gonzalez  
Aryeh Grossman  
Wade Grow  
Nicholas Haley  
Margaret Hall  
Christopher Heesy  
Jose Hernandez  
John Hnida  
Vanthida Huang  
Elizabeth Hull  
Nafisa Jadavji  
Garilyn Jentarra

Nathan Johnson  
Carleton Jones  
Douglas Jones  
T. Bucky Jones  
Sam Katzif  
Laszlo Kerecsen  
Shaleen Korch  
Lisa Marie Kronstad  
Kathryn Lawson  
Andrew Lee  
Kathryn Leyva  
Kathleen Muldoon

Jeffrey Norris  
Christopher Olson  
Pamela Potter  
Michael Quinlan  
Kyle Ramsey  
Ann Revill  
Tobias Riede  
Jose Rodriguez Sosa  
Byron Russell  
Erin Simons  
Heather Smith  
Scott Soby

Julie Swartzendruber  
Kathryn Townsend  
Felicia Trembath  
Johana Vallejo-Elias  
Chad VanDenBerg  
John VandenBrooks  
Brian Wellensiek  
Gloria Yueh  
Mariah Zeigler