

## GRANTS IN AID OF RESEARCH AWARDS (GIAR)

March 2023 Grant Cycle

Grant Recipients by Discipline

| ANTHROPOLOGY       |                  |                  |   |   |
|--------------------|------------------|------------------|---|---|
| First Name         | Last Name        | Education Status | Institution   | Study Title   |
| Trevor             | Auldrige Reveles | Doctoral Student | California, University of California- Santa Barbara | California Dreaming: Coming of Age in America's Other Heartland   |
| Cecilia            | Barroso Medina   | Doctoral Student | University of Wollongong                            | Modelling the effect of hominin hand morphology on the biomechanics of stone tool production  |
| Seth               | Dornisch         | Doctoral Student | Massachusetts, University of Massachusetts-Amherst  | Residential environments, personal belongings, and subjective well- being in senior care communities  |
| Mara               | Fields           | Doctoral Student | Missouri, University of Missouri- Columbia          | 3D Biomechanics of Hallucal Grasping in Anthropoid Primates   |
| Jayde              | Hirniak          | Doctoral Student | Arizona, Arizona State University- Tempe            | Developing a robust tephrochronological framework for refined correlations and age estimates of environmental and archaeological deposits throughout South Africa |
| Prabin             | Karki            | Masters Student  | Tribhuvan University                                | Successful ageing and associated factors among older adults of Kathmandu district, Nepal  |
| Elizabeth          | McGuire          | Doctoral Student | Oregon, University of Oregon                        | Quantifying aridity in modern African environments with triple oxygen isotopes in mammal teeth: implications for human evolution                                  |
| Alexandra          | St Tellien       | Masters Student  | Georgia, Georgia State University                   | The Role of Langaj in the Transmission and Preservation of Haitian Culture and Vodou Tradition  |
| BEHAVIORAL ECOLOGY |                  |                  |   |   |
| First Name         | Last Name        | Education Status | Institution   | Study Title   |
| Jade               | Anderson         | Masters Student  | Idaho, Boise State University                       | Revealing the Mechanism of an Anti-Bat Sensory Illusion   |
| Tara               | Empson           | Doctoral Student | Tennessee, The University of Tennessee- Knoxville   | The effects of acute heat on signal reception   |

| BEHAVIORAL ECOLOGY (CONT.) |           |                       |  |  |
|----------------------------|-----------|-----------------------|--|--|
| Gene                       | Estrada   | Doctoral Student      | Michigan, University of Michigan- Ann Arbor            | Identifying the ecological influences on terrestrial behavior in a primate community   |
| Alexandra                  | Martin    | Doctoral Student      | New York, Binghamton University                        | Thermoregulatory behaviors following antipredator diving behavior in Anolis aquaticus  |
| Laney                      | Nute      | Doctoral Student      | Mississippi, University of Mississippi                 | The influence of individual behavioral differences and recovery program rearing method on dispersal and survival of the Attwater's Prairie Chicken |
| Thomas                     | Quigley   | Doctoral Student      | New York, CUNY Brooklyn College                        | Is Anthropogenic Noise a Selective Pressure in New York City Waters?   |
| Loren                      | Sieg      | Doctoral Student      | Alabama, The University of Alabama                     | Effects of habitat complexity during early development on spatial cognitive ability  |
| Riley                      | Wood      | Masters Student       | Alabama, The University of Alabama                     | Performance Variation in the Cold Across a Subtropical-Tropical Latitudinal Gradient   |
| CELL BIOLOGY/BIOCHEMISTRY  |           |                       |  |  |
| First Name                 | Last Name | Education Status      | Institution  | Study Title  |
| Sadia                      | Amankwa   | Doctoral Student      | Delaware, University of Delaware                       | The role of non-muscle myosin IIA (NMIIA) in mouse lens epithelial to mesenchymal transition and anterior subcapsular cataract formation.          |
| Ana Margarida              | Grego     | Masters Student       | Universidade do Porto                                  | Study of proteins associated with sexual dimorphism in aortic valve stenosis.  |
| Xiaobo                     | Behera    | Doctoral Student      | Minnesota, Mayo Clinic College of Medicine and Science | Investigating regulatory mechanisms of ciliary polyglutamylation   |
| Shravani                   | Berg      | Doctoral Student      | Massachusetts, Northeastern University                 | Vascularisation of Cardiac Organoids   |
| Lindsay                    | Caballero | Masters Student       | Virginia, University of Virginia- Main Campus          | Type 2 inflammatory cytokine production as a driver of frequent exacerbations in cystic fibrosis   |
| Jyoti                      | Chimata   | Doctoral Student      | Tennessee, East Tennessee State University             | Elucidation of the Mechanistic Role of Novel Avocado Oil Biosynthesis Regulator Protein WRINKLED2  |
| Lex                        | Chung     | Undergraduate Student | Tennessee, Christian Brothers University               | Effect of Ceramide on Human Meibomian Gland Epithelial Cells   |

| CELL BIOLOGY/BIOCHEMISTRY (CONT.) |            |                       |  |  |
|-----------------------------------|------------|-----------------------|--|--|
| Jordan                            | Islam      | Undergraduate Student | Pennsylvania, Saint Joseph's University                | Phospho-mimetic 4EBP2 expression can prevent hippocampal protein synthesis impairments caused by sleep deprivation in female mice                              |
| Constantin                        | Juvale     | Masters Student       | Alberta, University of Alberta                         | Using a disease-in-a-dish model to explore the function of peroxisomes in the retina   |
| Malia                             | Kakarla    | Doctoral Student      | Illinois, University of Illinois at Urbana-Champaign   | The regulation of glycogen in bovine uterine epithelial cells by progesterone  |
| Janice                            | McCarthy   | Doctoral Student      | Massachusetts, Harvard University                      | Transcriptomic Profiles of the Inner Ear in States of Glutamate- Analogue- Induced Synaptopathy and NT3-Mediated Regeneration: Investigating the Role of Gria2 |
| Anuradha                          | Mieles     | Doctoral Student      | Ohio, University of Dayton                             | Characterization of Defective proventriculus (Dve) function during Drosophila eye development  |
| Brooke                            | Mouzaaber  | Doctoral Student      | Colorado, University of Colorado Boulder               | Searching for Solutions to Bone Weakness in Space through the Osteocyte Pericellular Matrix  |
| Parag                             | Shepard    | Doctoral Student      | Massachusetts, University of Massachusetts-Amherst     | Investigating how GABAergic signaling assists early-life light exposure to stabilize visual acuity in adulthood.   |
| Charles                           | Somerville | Doctoral Student      | Texas, University of North Texas Health Science Center | Understanding the Mitochondrial Metabolic Activity of Compound SA-2 in primary human Trabecular Meshwork cells.  |
| Dayna                             | Sun        | Undergraduate Student | Vermont, Saint Michael's College                       | The generality of efflux pump-mediated gentamicin collateral sensitivity in Escherichia coli   |
| Jacob                             | Weaver     | Masters Student       | Ohio, Miami University-Oxford                          | Transcriptomic analysis of FOXE3 Knockouts; a transcription factor that is essential for lens development  |
| CHEMISTRY                         |            |                       |  |  |
| First Name                        | Last Name  | Education Status      | Institution  | Study Title  |
| Frank Boateng                     | Osei       | Doctoral Student      | Michigan, Oakland University                           | USING POLYCATIONIC PILLAR[6]ARENES FOR HEPARIN SENSING   |

| CHEMISTRY (CONT.)    |             |                       |   |   |
|----------------------|-------------|-----------------------|---|---|
| Micah                | Shaver      | Masters Student       | Arkansas, University of Arkansas at Little Rock                     | The Design of New and Environmentally Safe Herbicides Using AI and Molecular Modeling   |
| CLIMATE SCIENCE      |             |                       |   |   |
| First Name           | Last Name   | Education Status      | Institution   | Study Title   |
| Savannah             | Adkins      | Doctoral Student      | Utah, Utah State University   | Deciphering a Biogeochemical Grey-Box: Does Acidification Result in Macronutrient Limitations and Altered Soil Carbon Cycling?  |
| Michael              | Rodriguez   | Undergraduate Student | New York, Fordham University  | Measurement of Exposure to Particulate Matter Pollution And Its Effects on Stress   |
| Averie               | St.Germaine | Doctoral Student      | Massachusetts, University of Massachusetts-Boston                   | Elevated Temperature and Drought on Mutualisms Involving Three Trophic Levels   |
| CONSERVATION BIOLOGY |             |                       |   |   |
| First Name           | Last Name   | Education Status      | Institution   | Study Title   |
| Maurice              | Amee        | Doctoral Student      | Connecticut, University of Connecticut                              | Conservation of the Threatened Whitebark Pines Through Genomics Approaches to Identify Resistance Genes to White Pine Blister Rust Disease                                    |
| Garrett              | Gimbel      | Masters Student       | California, California Polytechnic State University-San Luis Obispo | Population and distribution of potentially endangered Narrow- faced Kangaroo Rat ( <i>Dipodomys venustus</i> )  |
| Ana                  | Mansilla    | Undergraduate Student | Florida, University of South Florida - Main Campus                  | Correlation in gene expression between non-destructive and destructive tissue sampling: implications for species of conservation concern.                                     |
| Nicole               | Stevens     | Doctoral Student      | Texas, Texas A & M University- College Station                      | Integrating landscape and behavioral ecology to inform the repatriation of endemic island herpetofauna  |
| Lila                 | Xenakis     | Undergraduate Student | Florida, Florida Institute of Technology                            | Collecting DNA from Sharks using Non-Invasive Skin Sampling   |
| Jessica              | Yates       | Doctoral Student      | Florida, University of Central Florida                              | Dietary Ecology of Native and Exotic Crocodylians (Reptilia: Crocodylia) in South Florida: Conservation Implications for the American Crocodile ( <i>Crocodylus acutus</i> ). |

| ECOLOGY    |            |                       |  |  |
|------------|------------|-----------------------|--|--|
| First Name | Last Name  | Education Status      | Institution  | Study Title  |
| Evelyn     | Abbott     | Doctoral Student      | Texas, The University of Texas at Austin                 | Algal adaptation: a novel method for population genetics research in a coral endosymbiont  |
| Logan      | Becker     | Undergraduate Student | Pennsylvania, Gettysburg College                         | Foraging and Diet Plasticity of Common and Arctic Terns Under Climate Change   |
| Katherine  | Gale       | Doctoral Student      | Washington, Washington State University                  | Assessing atmospheric deposition in an urban landscape: Effects of Policy and Infrastructure in Portland, OR                               |
| Markis'    | Hamilton   | Undergraduate Student | North Carolina, Fayetteville State University            | Prevalence of Antibiotic Resistant Bacteria in Nutrient Enriched Soil Environments   |
| Brandon    | Hays       | Doctoral Student      | North Carolina, Duke University                          | Ecological Impacts of Elephant Reintroductions in Thai Forests   |
| Veronica   | Iriart     | Doctoral Student      | Pennsylvania, University of Pittsburgh-Pittsburgh Campus | Will herbicide pollution cost plants their symbiosis with beneficial soil bacteria?  |
| Zira       | MacFarlane | Doctoral Student      | Ontario, University of Toronto at Mississauga            | Understanding the impacts of increasing salinity in freshwater ecosystems on calling anuran population dynamics and community composition. |
| Hannah     | Merges     | Masters Student       | California, California State University-Northridge       | Effects of submarine groundwater discharge on adult coral metabolism   |
| Maygan     | Palacios   | Masters Student       | Georgia, Georgia Southern University                     | Determining Optimal Source Material of Spartina alterniflora for salt marsh restoration in Coastal GA                                      |
| Elizabeth  | Strasko    | Masters Student       | Kentucky, Western Kentucky University                    | Measuring temporal variation in ephemeral pond amphibian communities using metabarcoding   |
| Shae       | Turner     | Masters Student       | British Columbia, Thompson Rivers University             | Examining the role of molt in carry-over effects from overwintering to migration for Neotropical migratory songbirds                       |
| Shea       | Volkel     | Doctoral Student      | Florida, University of South Florida- Main Campus        | Diet preference of invasive lionfish and prey vulnerability: Implications for regal demoiselle invasion risk and impact                    |

| ENGINEERING |                |                       |  |  |
|-------------|----------------|-----------------------|--|--|
| First Name  | Last Name      | Education Status      | Institution  | Study Title  |
| Jacob       | Ager           | Masters Student       | Ahmadu Bello University                                  | Development of an Improved Charcoal-Fired Oven or Valorizing Biowastes   |
| Chiadika    | Eleh           | Undergraduate Student | Pennsylvania, University of Pennsylvania                 | Deep Learning Model for Mapping Ex Vivo Clinical Bone CT Scans to In Vivo Bone CT Scans to Recover Bone Microstructure                       |
| Jayavignesh | Ganesan        | Undergraduate Student | Illinois, Northwestern University                        | Synthesis of a Biocompatible Scaffold for Mesenchymal Stem Cell Seeding  |
| Fotsing     | Kuetché        | Doctoral Student      | University of Ngaoundere                                 | Optimization of deep learning-based arrhythmias detection systems for m-Health   |
| Manish      | Kumar          | Doctoral Student      | Iowa, Iowa State University                              | Solder Joints Under Extreme Conditions of Temperature and High Strain-rate for In-Space Applications   |
| YiRan       | Li             | Masters Student       | New York, Columbia University                            | Electrical and Metabolic Maturation of Engineered Cardiac Tissues for the In-Vitro Modeling of Cardiovascular Diseases                       |
| Alireza     | Mohammadzadeh  | Doctoral Student      | Pennsylvania, University of Pittsburgh-Pittsburgh Campus | Optimization of the Magnetoliposome Fabrication for Retinal Drug Delivery  |
| GEOSCIENCES |                |                       |  |  |
| First Name  | Last Name      | Education Status      | Institution  | Study Title  |
| George      | Anim           | Masters Student       | Oregon, Portland State University                        | Shock Thermal Processing of Shergottites Using Evidence For Pressure, Temperature and Deformation Gradient                                   |
| Julia       | Gonzales       | Doctoral Student      | New York, Columbia University in the City of New York    | Measuring Rare Earth Element Distributions in CM Chondrites  |
| Benjamin    | Guerrero-Lewin | Doctoral Student      | New York, Syracuse University                            | Revealing the influence of climate on hillslope processes using the 14C-10Be cosmogenic nuclide pair in the western Central Andes (30- 36°S) |
| Samantha    | Khatri         | Doctoral Student      | Georgia, University of Georgia                           | The relationship of aggradation rate and fluvial architecture: a test in the Maastrichtian Hell Creek Formation of Montana and South Dakota  |

| GEOSCIENCES (CONT.)              |           |                       |   |  |
|----------------------------------|-----------|-----------------------|---|--|
| Alexis                           | Lopez     | Doctoral Student      | North Carolina, University of North Carolina at Chapel Hill   | Paragenesis of the Buffalo Valley Mine, NV   |
| Silvina                          | Slagter   | Doctoral Student      | Connecticut, Yale University                                  | Testing the use of Ge/Si ratios as a proxy for the fossilization of Earth's earliest animal ecosystems   |
| Mark                             | Teh       | Undergraduate Student | Massachusetts, Northeastern University                        | Analysis of calcium carbonate fractions and polymorph mineralogy in sediment samples collected from the Western Atlantic continental shelf during NOAA's ECOA-3 research cruise in Summer 2022 |
| PHYSICS/ASTRONOMY                |           |                       |   |  |
| First Name                       | Last Name | Education Status      | Institution   | Study Title  |
| Nicole                           | Firestone | Doctoral Student      | New Jersey, Rutgers University-New Brunswick                  | One-hundred-square-degree DECam Imaging in Narrowbands Observations In Chile   |
| Shinto                           | Francis   | Doctoral Student      | South Carolina, Clemson University                            | An EIS approach to study the electrochemical interactions at Graphene FET gate surface and its implementation in biosensing  |
| Giulia                           | Fumagalli | Doctoral Student      | Universita degli Studi di Milano                              | Eccentricity: the missing piece of the dynamics of precessing compact binaries   |
| Krislyn                          | Sourivong | Doctoral Student      | Virginia, Virginia Polytechnic Institute and State University | Early-Types: Tests of Empirical and Theoretical Models of Molecule Formation   |
| Mehnaz                           | Tarannum  | Doctoral Student      | North Carolina, University of North Carolina at Charlotte     | Synthesis and Characterization of Vanadium Oxide-Based Insulator- to-Metal Transition Materials  |
| PHYSIOLOGY/FUNCTIONAL MORPHOLOGY |           |                       |   |  |
| First Name                       | Last Name | Education Status      | Institution   | Study Title  |
| Danielle                         | Adams     | Doctoral Student      | South Carolina, Clemson University                            | Cetartiodactyla as a model for investigating the evolution of bone material properties across the skull and jaw  |

| PHYSIOLOGY/FUNCTIONAL MORPHOLOGY (CONT.) |                   |                       |   |  |
|--|-------------------|-----------------------|---|--|
| Sofia                                    | Ahsanuddin        | Doctoral Student      | New York, Icahn School of Medicine at Mount Sinai | Elucidating the Transcriptional Landscape and Novel Pathophysiological Mechanisms of Thyroid Eye Disease.  |
| Annelise                                 | Blanchette        | Doctoral Student      | Louisiana, Tulane University of Louisiana         | The effect of lead exposure on endurance in the brown anole, <i>Anolis sagrei</i>  |
| Natalie                                  | Bohmke            | Doctoral Student      | Virginia, Virginia Commonwealth University        | Leveraging circadian rhythms to eradicate hypertension: the effects of chrononutrition   |
| Lisa                                     | Cozma             | Undergraduate Student | Alberta, University of Calgary                    | Measuring muscle energetics and the mechanical efficiency of the quadriceps (Q) vs the plantar flexor (PF) muscle-tendon units during knee and ankle isokinetic movements in vivo          |
| Zoe                                      | Griffin           | Undergraduate Student | Texas, Rice University                            | Skin Color Development and CRISPR Genome Editing in the Brown Anole Lizard ( <i>Anolis sagrei</i> )  |
| Gabrielle                                | Morris            | Undergraduate Student | Mississippi, University of Mississippi            | Influence of Post-Fledging Protein Supplementation on Growth, Reactive Stress and Secondary Sexual Characteristics In Zebra Finches ( <i>Taeniopygia castanotis</i> )                      |
| Yeaeun                                   | Park              | Masters Student       | Ohio, Ohio State University-Main Campus           | The Effect of Ambient Temperature on the Sensitivity of a Noxious Chemical Receptor (TRPA1) in Mosquitoes  |
| Jorge                                    | Rivero Monteagudo | Masters Student       | New Mexico, New Mexico State University-Dona Ana  | Endocrine regulation and vaginal cytology of the Jamaican fruit-eating bat ( <i>Artibeus jamaicensis</i> ) in captive conditions   |
| Sirin                                    | Zhang             | Doctoral Student      | New Jersey, Rutgers University-Newark             | Inhibitory Pedunculopontine Input to the Dopaminergic Midbrain Mediates Goal-Directed Action Selection   |
| PSYCHOLOGY                               |                   |                       |   |  |
| First Name                               | Last Name         | Education Status      | Institution                                       | Study Title  |
| Courtney                                 | Aul               | Doctoral Student      | Massachusetts, Boston University                  | Visual Sustained Attention Fluctuations in Parkinson's Disease   |
| Sarah                                    | Beamish           | Doctoral Student      | Wisconsin, University of Wisconsin-Milwaukee      | Determining the extent to which 17 $\beta$ -estradiol regulates protein degradation in an activity-dependent manner to enhance hippocampal memory formation in ovariectomized female mice. |



| PSYCHOLOGY (CONT.)               |               |                       |   |   |
|----------------------------------|---------------|-----------------------|---|---|
| Brandon                          | McCormick     | Doctoral Student      | Alabama, The University of Alabama                  | Examining the Effects of Mild Traumatic Brain Injury on Youth Mental Health   |
| Codey                            | Smithson      | Undergraduate Student | Massachusetts, Williams College                     | The Role of Oxycodone-Induced Neuroinflammation in Regulating Increased Motivation for Reward   |
| SYSTEMATICS/EVOLUTIONARY BIOLOGY |               |                       |   |   |
| First Name                       | Last Name     | Education Status      | Institution   | Study Title   |
| Alyssa                           | Baker         | Masters Student       | South Carolina, Clemson University                  | A formal test of the historical biogeographic scenario proposed by George (2006) to explain diversification and geographic distribution of spiny lobsters in the genus Panulirus (Decapoda: Achelata) |
| Seth                             | Frazer        | Masters Student       | California, University of California- Santa Barbara | Harnessing machine learning to predict genotype-phenotype relationships in opsins   |
| Ashmita                          | Khanal        | Doctoral Student      | Texas, Texas Tech University                        | Unravelling the genetic basis of sex determination in black willows (Salix nigra; Salicaceae)   |
| Brock                            | Mashburn      | Doctoral Student      | Missouri, Washington University in St Louis         | New perspectives on trans-oceanic dispersal, guided by a critically endangered group of tropical plants: Hibiscus sect. Lilibiscus  |
| Peter                            | Nimlos        | Doctoral Student      | Colorado, University of Denver                      | Transcriptional differences in muscle fiber type in response to high altitude adaptation  |
| Katherine                        | Porras-Brenes | Masters Student       | Ohio, John Carroll University                       | Examining the Relationship Between Antipredator Adaptations in the Green and Black Dendrobatid Poison Frog  |