

Grants-in-Aid of Research Awards -March 15, 2020 Grant Cycle

| Anthropology | | | |
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| Name | Education Status | Institution | Study Title |
| Dylan Davis | Doctoral Candidate | Pennsylvania State University | Studying the Effects of Environmental Change on Human Settlement Behavior in Southwest Madagascar |
| Amber Jaeger | Masters Student | Arizona State University | Assessing the Facial Growth and Development of <i>Australopithecus africanus</i> After Second Molar Eruption |
| Melissa Manus | Doctoral Candidate | Northwestern University | The Influence of the Social Environment on the Infant Skin Microbiome |
| Joshua Porter | Undergraduate Student | George Washington University | Reconstructing Paleoenvironments Using Quantitative Mesowear in East Turkana, Kenya |
| Hayley Roberts | Doctoral Candidate | Australian National University | The Babysitters Club: Hormonal Aspects of Non-parental Infant Care in <i>Colobus guereza</i> |
| Shasta Webb | Doctoral Candidate | University of Calgary | How Does the Gut Microbiome in a Long-lived Host Respond to Short-term Environmental Change? |

| Behavioral Ecology | | | |
|---------------------|-----------------------|--------------------------------------|--|
| Name | Education Status | Institution | Study Title |
| Amanda Beckman | Doctoral Candidate | Texas A&M University-College Station | Struttin' with Two Brothers Versus Eight Cousins: Investigating How Relatedness Influences Cooperative Coalitions |
| José Garrido | Masters Student | Central Washington University | Comparative Ecology of Semi-urban and Wild Populations of <i>Kinosternon chimalhuaca</i> |
| Chelsea Martin | Doctoral Candidate | Loma Linda University | Social Buffering in Southern Pacific Rattlesnakes: Effects of Social Housing on Defensive Behaviors and Stress |
| Sereena Moore | Masters Student | McGill University | Changes in Neurogenesis Leading up to Fall Migration in Juvenile and Adult European Starlings Exposed to Chlorpyrifos, a Widely-used Organophosphate Pesticide |
| Stephanie Sanders | Undergraduate Student | Missouri State University | Chemical Cues |
| Laura Segura | Doctoral Candidate | University of Nebraska at Lincoln | Microhabitat-level Temperature Changes and Their Effects on Small Predatory Ectotherms |
| Bernardo Traversari | Masters Student | Washington State University | Importance of the Early Environment on Amphibian Development and Behavior: Applications for Head-start, Translocation, and Reintroduction Programs |
| Cara Webster | Undergraduate Student | University of Scranton | Army Ant Raiding as a Learning Tool for Bat Foraging Behavior |
| Rebecca Westwick | Doctoral Candidate | University of Kentucky | Allogrooming May Induce Immune Gene Expression as a Component of Social Immunity in the Western Honey Bee (<i>Apis mellifera</i>) |

| Behavioral Ecology (cont.) | | | |
|-----------------------------------|-------------------------|------------------------|--|
| Name | Education Status | Institution | Study Title |
| Mackenzie Woods | Masters Student | University of Victoria | The Impacts of Boat Noise on Acoustic Courtship and Reproductive Success in the Plainfin Midshipman Fish |

| Cell Biology/Biochemistry | | | |
|----------------------------------|-------------------------|--|--|
| Name | Education Status | Institution | Study Title |
| Maria Izabel Costa de Novaes | Doctoral Candidate | Louisiana State University-Baton Rouge | Preventing Self-destruction: Role of Lipid Droplets in Toxin Resistance in a Fungal Plant Pathogen |
| Maximillian Denys | Undergraduate Student | University of California-Riverside | Altered Activation of Social Brain Network After Maternal Transfer of Indoor Flame Retardant Toxicants |
| Jennifer Ding | Doctoral Candidate | University of Chicago | Now You See Me, Now You Don't: The Retinal Encoding of Interrupted Motion Trajectories |
| Ahmed Disouky | Doctoral Candidate | University of Illinois at Chicago | Human Adult Hippocampal Neurogenesis and Its Correlation With Cognitive Function |
| Adam Faranda | Doctoral Candidate | University of Delaware | Pax6 Maintains Lens Epithelial Phenotype by Repressing Runx1 Expression |
| Deepshila Gautam | Masters Student | East Tennessee State University | Characterization of Endocannabinoid Mutants in Early Land Plant, <i>Physcomitrella patens</i> |
| Catherine Hoover | Undergraduate Student | Mansfield University of Pennsylvania | Identifying Novel Therapeutics for Arrhythmogenic Cardiomyopathy via a Molecular Band-Aid and an Antibody |
| Meng Jia | Doctoral Candidate | University of Notre Dame | Investigating the roles of the Hippo pathway during retinal regeneration |
| Cindy Kha | Doctoral Candidate | University of Nevada-Las Vegas | Bioelectrical Signals Regulate Vertebrate Eye Regeneration |
| Angela Sophia Magahis | Undergraduate Student | Villanova University | Quantifying Anti-Tumor CTL Killer Activity in Ly-6A Gene knockout (Ly-6A ^{-/-}) Mice |
| Dominic Mier | Masters Student | Oakland University | Elucidating the Role of an Armadillo Repeat Motif Protein 7 (ARMC7) in Splicing of Minor U12-Type Introns |
| Shaili Patel | Doctoral Candidate | University of Delaware | Investigation of a New RNA-binding Protein Rbm24 Associated with Anophthalmia/Microphthalmia in Early Eye Development |
| Jack Philp | Masters Student | Georgia Southern University | Agonistic and Antagonistic Interaction of 3,4,6 – Tri-substituted Pyridazines as Alpha-2 Adrenergic Ligands and Their Potential Clinical Use in Glaucoma Patients. |
| Carolyn Remsburg | Doctoral Candidate | University of Delaware | Localization and Functional Role of miR-31 on Mitotic Spindles During Early Development |

| Cell Biology/Biochemistry (cont.) | | | |
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| Name | Education Status | Institution | Study Title |
| Valaria Torres | Undergraduate Student | Christian Brothers University | Characterization of WNT10B-Stromal Tumor Microenvironment (CD146 and MMP9) and WNT10B-Epithelial Biomarkers (HMGA2-EZH2) in Highly Chemoresistant TNBC and |
| Casandra Walker | Doctoral Candidate | University of Southern California | Identification of the transcription factor Foxa3 as a major target of In Utero exposure to Low Doses of Genistein and DEHP in Adult Rat Testis |
| Li Wang | Doctoral Candidate | University of Georgia | Genome-Wide Association Study to Identify Genes Responsible for Fluopicolide Resistance in Natural Field Populations of <i>Phytophthora capsici</i> |
| Shirley Wu | Undergraduate Student | Johns Hopkins University | Investigating the Protective Role of Rhodopsin in Light-induced Retinal Degeneration |
| Xianlin Zou | Doctoral Candidate | Virginia Polytechnic Institute and State University | Investigation on How DNA Damage Causes Circadian Phase Resetting |

| Chemistry | | | |
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| Name | Education Status | Institution | Study Title |
| Michelle Chen | Undergraduate Student | Northeastern University | Synthesis and Characterization of Hole Transporting Materials for Perovskite Solar Cells |
| Jesse Gordon | Doctoral Candidate | Johns Hopkins University | Light-Mediated O–O Cleavage at Nonheme Iron Centers for C–H Bond Functionalization |
| Kim Taylor | Undergraduate Student | Waynesburg College | Caspase-8 Activator Marine Natural Product as a Payload for a Novel Antibody-drug Conjugate Cancer Therapy |
| Furui Zhang | Doctoral Candidate | Northwestern University | Design and Fabrication of Zr-MOF/PEEK Membranes for the Electro-assisted Removal of Phosphate and Arsenate From Groundwater |

| Climate Science | | | |
|-----------------|--------------------|--------------------------------|---|
| Name | Education Status | Institution | Study Title |
| Carina Fish | Doctoral Candidate | University of California-Davis | Central California Current Regime Changes Over the Past Century as Told by Deep Sea Coral Geochemistry. |
| Catherine Nield | Masters Student | University of Cincinnati | Calibration of Land Snail Shell $\delta^{18}\text{O}$ at High Arctic Tundra Biomes |

| Computer Science/Mathematics | | | |
|------------------------------|--------------------|-------------------------|---|
| Name | Education Status | Institution | Study Title |
| Yasith Jayawardana | Doctoral Candidate | Old Dominion University | Analytic Streams for Sensory Data – Can Data Analytics be Streamed Alongside Sensory Data and Metadata to Build Efficient Data Pipelines? |

| Computer Science/Mathematics (cont.) | | | |
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| Name | Education Status | Institution | Study Title |
| Anne Xuan-Lan Nguyen | Undergraduate Student | McGill University | Mining Electronic Health Records: An Association Between Pre-Operative Frailty and Post-Operative Outcomes in Older Patients of Ethnic-Minority Background Undergoing Glaucoma Surgery |
| William Unger | Doctoral Candidate | Boise State University | Power Analysis of Base 3 SPN Ciphers |

| Conservation Biology | | | |
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| Name | Education Status | Institution | Study Title |
| Abigail Dwire | Masters Student | Georgia Southern University | Home-range Size of Wintering Henslow's Sparrows (<i>Centronyx henslowii</i>) in Power Line Right-of-Ways |
| Lian Guo | Doctoral Candidate | University of Massachusetts Amherst | Understanding Differential Rates of Climate-driven Range Shifts in River Herring |
| Robert Hogg | Masters Student | California State University-Northridge | Quantifying Local Genetic Impacts of Habitat Loss and Urbanization on <i>Batrachoseps nigriventris</i> , the Black-bellied Slender Salamander, in Island and Mainland Systems, Southern California |
| Patricia Levasseur | Masters Student | University of Massachusetts Amherst | Evaluating the Value of Public Participation in Diamond-backed Terrapin Monitoring Using Visual Head Counts |
| Anna McPherran | Doctoral Candidate | Stony Brook University | Evaluating Past Population Changes of Caribbean Hutias with Genomics to Infer Causes of Extinction |
| Meghan Shea | Doctoral Candidate | Stanford University | Advancing eDNA Monitoring of Marine Ecosystems Impacted by Ocean Acidification: A Coupled Biological and Chemical Approach to Assessing the California Current System |
| Jacqueline Staab | Masters Student | Appalachian State University | Using a Detection Dog to Locate, Then Map Alpine Bombus Nests in High-resolution Using Structure-from-Motion |
| Elise Stacy | Doctoral Candidate | University of Idaho | Evaluating Genetic Structure of Wolverines (<i>Gulo gulo</i>) in Northern Alaska: Populations on a Changing Landscape |

| Ecology | | | |
|-----------------|-------------------------|-----------------------|---|
| Name | Education Status | Institution | Study Title |
| Palani Akani | Doctoral Candidate | Columbia University | How Does Soil Fertility Affect Foliar Nutrient Uptake and Leaching in a Humid Tropical Forest? |
| Monica Brady | Doctoral Candidate | Tulane University | Do Abiotic Conditions and Plant Population Genetics Structure Root Fungal Communities Across a Landscape? |
| Natalia Ershova | Doctoral Candidate | University of Chicago | Ecological Importance of Trematode Parasites in Intertidal Communities |

| Ecology (cont.) | | | |
|-------------------------|-----------------------|--------------------------------------|---|
| Name | Education Status | Institution | Study Title |
| Ilia Maria Ferzoco | Doctoral Candidate | University of Toronto at Mississauga | Impacts of Urbanization on Freshwater Insect Metacommunities |
| Alexander Goetz | Doctoral Candidate | University of Denver | Quantifying Effects of Disturbance and Resource Availability on Tree Morphology Using Airborne Lidar |
| Wieteke Holthuijzen | Masters Student | Northern Illinois University | Hide and Seek: Uncovering the Diet and Ecological Effects of Invasive House Mice on Islands |
| Kaitlyn Howell | Doctoral Candidate | University of Texas at Arlington | Testing the Connection between Brain Size and Survival in Novel Environments |
| Julia Joos | Doctoral Candidate | Ohio University | Thermal Ecology of Two Species of Desert Tortoises in Mexico, <i>G. evgoodei</i> and <i>G. morafkai</i> |
| Augustin Kalytiak-Davis | Undergraduate Student | College of William and Mary | Environmentally-Cued Hatching in Polyclad Flatworms |
| Uma Knaven | Undergraduate Student | University of Denver | Influence of Urbanization on Hybridization of Cottontail Rabbits |
| Daniel Malagon | Doctoral Candidate | Clemson University | Nested Metapopulations |
| Benjamin Plier | Doctoral Candidate | Florida State University | The Role of Digestive System Microbial Symbionts in Alleviating the Nutrient Loading Stress of a Livebearing Fish, <i>Heterandria formosa</i> |
| Joseph Redinger | Masters Student | University of Central Arkansas | Effect of a Top Predator (<i>Crotaphytus collaris</i>) on Prey Populations, Community Structure, and Ecosystem Function in Ozark Glades |
| Tyler Rippel | Doctoral Candidate | Georgetown University | How Does Sea Level Rise and Habitat Fragmentation Impact the Biotic Communities and Carbon Cycling of a Foundational Plant Species? |
| Nicholas Russo | Doctoral Candidate | University of California-Los Angeles | 3D Canopy Structure Drives Seed Dispersal by Hornbills |
| Rebecca Smith | Masters Student | University of Saskatchewan | Mechanisms of Climate-mediated Effects on Intraspecific Torpor Profiles in Columbian Ground Squirrels (<i>Urocitellus columbianus</i>) |
| William Thomas | Doctoral Candidate | Stony Brook University | Epigenetics of a Unique Wintering Strategy in <i>Sorex araneus</i> . |
| Ellen Titus | Masters Student | East Carolina University | The Effect of Stochastic Pulsed Predation on a Simple Freshwater Ecosystem |
| Claire Tortorelli | Doctoral Candidate | Oregon State University | Long-term Wildfire, Environmental, and Societal Impacts of Annual Grass Invasion in the Inland Northwest |
| William Weber | Doctoral Candidate | University of Maryland, College Park | Understanding How Social Dynamics Drive Variation in Male Fertility |
| Anais Zimmer | Doctoral Candidate | University of Texas at Austin | Future of Periglacial Landscape: Alpine Ecosystems and Deglaciation in the Tropical Andes and French Alps |

| Engineering | | | |
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| Name | Education Status | Institution | Study Title |
| Etukessien Akpan | Doctoral Candidate | Ahmadu Bello University | Suitability of Zeolite Reinforced Catfish Bones Derived Hydroxyapatite for Biomedical Applications |

| Engineering (cont.) | | | |
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| Name | Education Status | Institution | Study Title |
| Gretchen Baker | Doctoral Candidate | Ohio State University | Influence of Naturalistic Child Postures on Belt Fit in Belt-Positioning Booster Seats |
| Xingyu He | Doctoral Candidate | University of Cincinnati | Dose-controllable and Light-activated Biodegradable Drug Delivery Implants for Posterior Eye Diseases Treatment |
| Yusen Pei | Undergraduate Student | North Carolina State University | Solar Energy Harvesting by Transparent Organic Solar Cells |
| Natalia Zappernick | Masters Student | Ohio State University | Techno-Economic Analysis of Aquaponics System |

| Hydrology/Geomorphology | | | |
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| Name | Education Status | Institution | Study Title |
| Jacob Clyne | Masters Student | Ohio State University | A Dynamic Water Table and its Impact on Water Quality, Microbial Diversity, and CO2 Efflux |
| Rebecca Talbot | Masters Student | Portland State University | Spatial and Seasonal Variations of Microplastic Concentrations in Oregon's Freshwater |

| Paleontology/Sedimentation | | | |
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| Name | Education Status | Institution | Study Title |
| Abigail Kelly | Doctoral Candidate | University of Cincinnati | Testing Dietary Stress as a Contributor to end-Pleistocene Horse Extinction in North America |
| Anik Regan | Masters Student | University of Georgia | Sequence-stratigraphic Control on the Continental Fossil Record: a Test in the Judith River Fo |
| Elena Stiles | Doctoral Candidate | University of Washington | Linking Cordilleran Uplift to Landscape Aridification in the Northeastern Andes using Phytolith Analysis |

| Petrology/Geochemistry | | | |
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| Name | Education Status | Institution | Study Title |
| Elliot Chang | Doctoral Candidate | California: University of California-Berkeley | Phosphodiester Functional Groups on Bacterial Surfaces: A New Mechanistic Understanding of Rare Earth Metal Transport in the Environment |
| Megan Corcoran | Doctoral Candidate | University of Cincinnati | Assessing a Paired Hydrogen and Oxygen Isotope Approach to Track Evaporation for Paleoclimate Studies |

| Physics/Astronomy | | | |
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| Name | Education Status | Institution | Study Title |
| Dylan Dutton | Doctoral Candidate | University of North Carolina at Chapel Hill | Measuring Hubble's Constant from Optical Counterparts of Gravitational Wave Events |
| Christian Lockwood | Undergraduate | Williams College | Imaging and Analysis of the December 14, 2020, Total Solar Eclipse |
| Melissa Morris | Doctoral Candidate | University of Wisconsin-Madison | Characterizing Gas in Galaxy Groups Using Radio Galaxies with Bent Jets |

| Physics/Astronomy (cont.) | | | |
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| Name | Education Status | Institution | Study Title |
| Anthony Taylor | Doctoral Candidate | University of Wisconsin-Madison | Narrowband Selection and Spectroscopic Analysis of $z=5.7-6.6$ Lyman Alpha Emitters |

| Physiology/Functional Morphology | | | |
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| Name | Education Status | Institution | Study Title |
| Kailie Batsche | Masters Student | George Washington University | Postcranial Variation in Mountain Gorilla Limb Bones |
| Natalie Fischer | Doctoral Candidate | University of California-Riverside | Exploring the Metabolic Mechanisms Underlying Wild Bumble Bee Foraging Behaviors |
| Madison Honer | Masters Student | Saint Joseph's University | 3D-Printed Microfluidic Sorting of Sleeping <i>Caenorhabditis elegans</i> |
| Jordan Olinginski | Doctoral Candidate | Saint Joseph's University | A CRISPR Approach for Studying G-protein Coupled Receptor Signaling in <i>Caenorhabditis elegans</i> |
| Santoshi Ramachandran | Doctoral Candidate | University of Houston | Role of Superior Colliculus in Fixation Preference During a Delayed Saccade Task in Strabismic Nonhuman Primates |
| Jeffrey Spear | Doctoral Candidate | New York University | Integration of Suspension-related Traits in Hominoids |
| Tammy Wang | Undergraduate Student | Vassar College | Imaging Astrocyte Activity in the Medial Prefrontal Cortex During Behavior Using Miniscopes |

| Psychology | | | |
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| Name | Education Status | Institution | Study Title |
| Rachel Barkey | Doctoral Candidate | George Mason University | Blood Transfusion from Young Wildtype Mice Alters the Behavior and Neuropathology of Aged Alzheimer's mice with hTau |
| Jan Dahrendorff | Masters Student | University of South Florida | Differentially Expressed Genes Following Glucocorticoid Exposure in Microglia as Potential Biomarkers of PTSD |
| Caitlin McLean | Undergraduate Student | Kansas State University | Modeling Prodromal Stage Schizophrenia Using a Novel Devaluation Task to Detect Neural Compensation |
| Angela Nazarian | Doctoral Candidate | University of California-Davis | Long-term Memory for Nostalgic Stimuli Across the Lifespan: An Examination of Episodic and Semantic Memory Using Naturalistic Stimuli Presented Across Three Modalities |
| Tim Tang | Doctoral Candidate | Arizona State University | How Comparison Warps Memory: Decoding Similarity Judgment Bias in Visual Working Memory |
| Richard Ward | Doctoral Candidate | University of Wisconsin-Milwaukee | Neurocognitive Mechanisms Underlying the Interaction Between Anxiety, Cognitive Control, and Implicit Racial Bias |

| Systematics/Evolutionary Biology | | | |
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| Name | Education Status | Institution | Study Title |
| Joshua Anderson | Masters Student | Georgia Southern University | Stingray Germs and Worms: Diversity and Interaction of the Gut Microbiome and Helminth Community |
| Natalie Claunch | Doctoral Candidate | University of Florida | Determining Phylogeography of an Invasive Lizard with Rapid Range Expansion |
| Joanna Lee | Doctoral Candidate | Boston University | Differential Expression Between Parasitic and Free-living Life Stages of <i>Edwardsiella lineata</i> Anemone for Insights in Evolution of Parasitism |
| Elena Loke | Masters Student | Northwestern University | Incorporating Phased Alleles to Reconstruct a Recent and Rapid Radiation |
| Rhett Rautsaw | Doctoral Candidate | Clemson University | Testing the Influence of Competition on Venom Evolution in Sky-island Rattlesnakes |
| Jill Sanderson | Doctoral Candidate | University of Toronto | The Evolution of Signal Complexity in a Diverse Tropical Lizard Radiation |

| Tectonics/Geophysics | | | |
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| Name | Education Status | Institution | Study Title |
| James Fisher | Masters Student | Lehigh University | Novel Application of Anisotropy of Magnetic Susceptibility (AMS) measurements to constrain an extensional front in the Central Apennines, Italy |
| Dylan Vasey | Doctoral Candidate | University of California-Davis | On the Hunt for an Enigmatic Suture in the Greater Caucasus: Using Provenance of Jurassic-Cretaceous Sedimentary Rocks to Test the Dizi Fault |

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