Annual Report on Research FY 2022



College of Sciences and Mathematics Office of the Associate Dean for Research

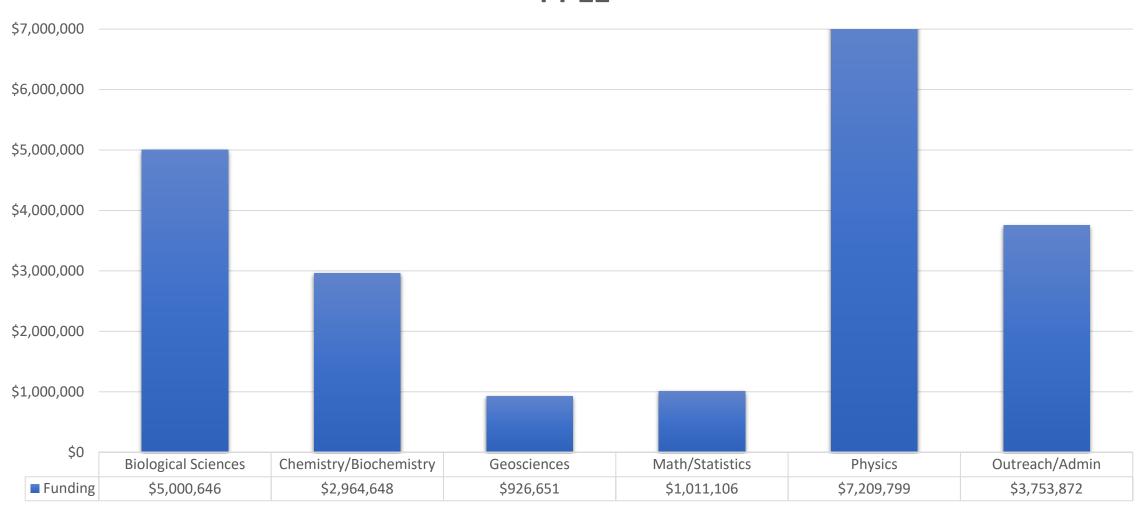
Dr. Mark Liles Amy Thomas, J.D. Kris Rinker

Release date: March 29, 2023

COSAM Data FY22

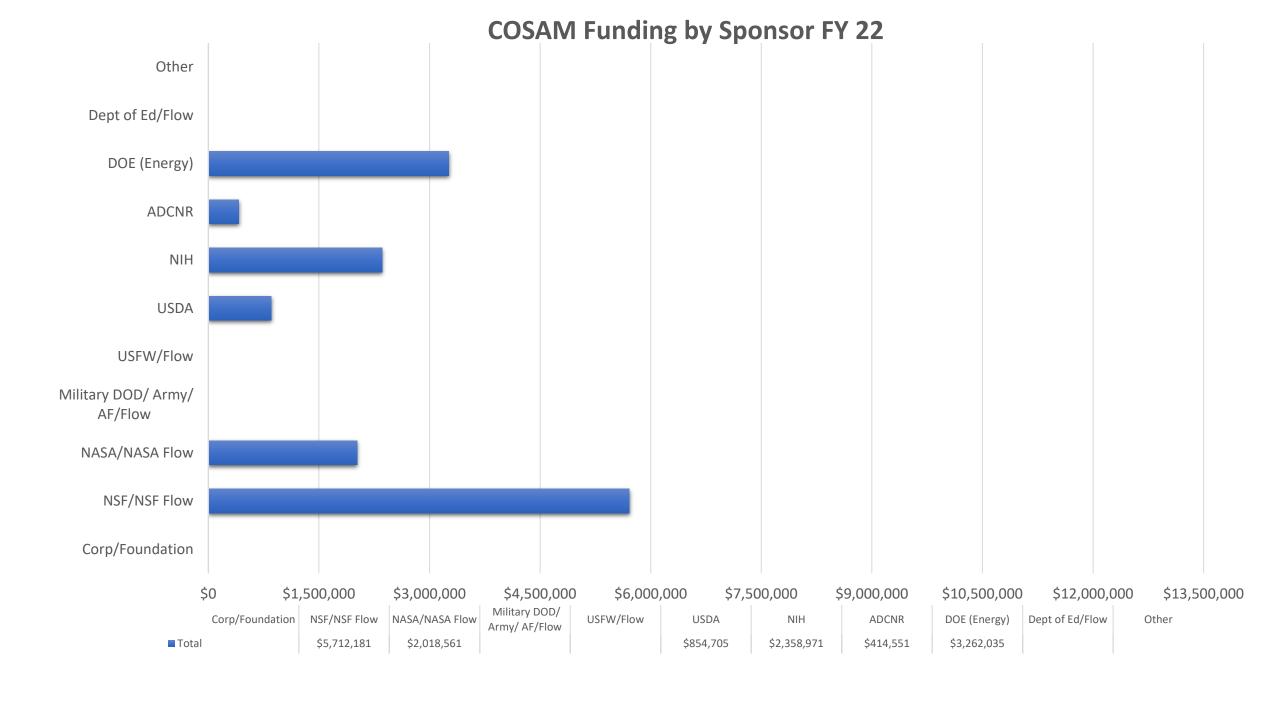
- COSAM Extramural Budget Loads by Department FY22
- COSAM 5 Year Funding History by Department-FY18-FY22
- COSAM Funding by Sponsor FY22

COSAM Extramural Budget Loads by Department FY 22



COSAM 5 Year Funding History by Department

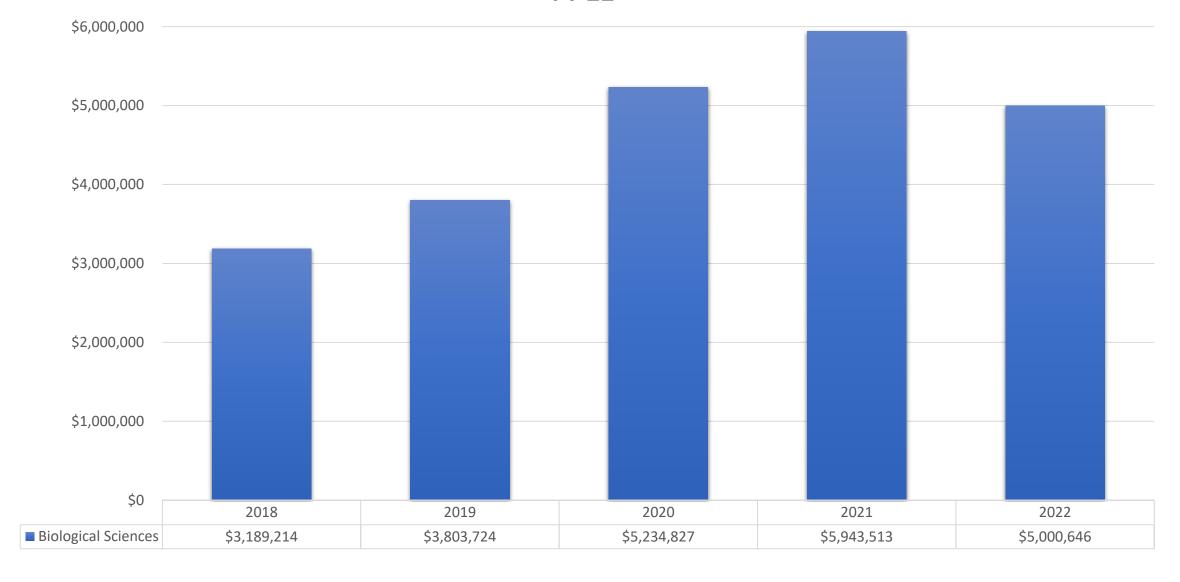




Breakdown of Data by Academic Units FY 22

- Department of Biological Sciences (DBS)
- Department of Chemistry and Biochemistry (DCB)
- Department of Geosciences
- Department of Mathematics and Statistics
- Department of Physics
- COSAM Outreach and Administration
- Departmental data will be presented as follows:
- Chart of 5 year funding history
- Table of new funding received for the fiscal year (budget loads)
- Table of active awards for the fiscal year (active accounts)
- Table of proposals submitted during the current fiscal year

Biological Sciences FY 22



Biological Sciences Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|-----------------------------------|------------|---|-----------------|---------------|
| Adriana Avila Flores | PI | Delivery Of Anti-Fungal Dsrna Into Yeast And Filamentous Fungi Using Laser-Activated Nanoparticle | NIH | \$167,401.55 |
| Adriana Avila Flores | PI | Eval Of Inflammatory Potential Of Bacps &Their Efficacy In Delivering MRNA In Vivo | Phoreus Biotech | \$26,034.07 |
| Alfred Schotz | PI | Baptisia Megacarpa Project | ADCNR | \$23,000.00 |
| Alfred Schotz | PI | Status Assessment For Swamp Buckthorn In Alabama | ADCNR | \$12,750.00 |
| Alfred Schotz | PI | Black Belt Prairie Assessment | ADCNR | \$124,592.26 |
| Alfred Schotz | PI | Rudbeckia Heliopsidis Project | ADCNR | \$18,000.00 |
| Alfred Schotz/ Leslie Goertzen | PI COPI | Habitat Suitability Modeling & Site Verification For The Lg-Flowered Skullcap In Al | ADCNR | \$23,000.00 |
| Brian Counterman | PI | Physiological Genomics Of Sexually Dimorphic Developmental Plasticity On Butterfly Wings | NSF | \$620,674.00* |
| Courtney Leisner | PI | Understanding Plant Natural Product Biosynthesis In Blueberry Thru Core Gene Discovery | USDA-NIFA | \$281,173.00 |
| Courtney Leisner | PI | Dissecting The Physiological Mechanisms Of Plant Nutrient Repsonses To Rising Atmospheric Carbon Dioxide Levels | USDA-NIFA | \$448,532.00 |
| Daniel Jones | PI | Comparative Genomics Of The Capitulum: Deciphering The Molecular Basis Of A Key Floral Innovation | NSF | \$752,045.00 |
| Daniel Warner/Jamie Oaks | PI COPI | Graduate Resch Fellowship Prog For Chris Norris | NSF | \$46,000.00 |
| Haruka Wada | PI | Graduate Resch Fellowship Prog For Victoria Coutts | NSF | \$46,000.00 |

Biological Sciences Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|---------------------------------------|------------|--|--|---------------|
| James Godwin | PI | Occurrence Of Western Chicken Turtle | La Dept Wildlife &Fisheries (Fed Flow) | \$20,000.00 |
| James Godwin/ Daniel Warner | PI COPI | Reintroduction Of Eastern Indigo Snake Onto Conecuh National Forest | ADCNR (Fed Flow) | \$102,854.00 |
| Jennifer Fenner/ Ryan Range | PI COPI | How Does The Embryonic Development Of Tx Pollinator &Pest Butterflies Differ? | PRIVATE LANDOWNERS-TX ECOLAB | \$6,250.00 |
| Joanna Sztuba – Solinska | PI | Interplay Between M6a &Viral Incrna During Kshv Replication | NIH | \$226,133.00 |
| Jonathan Armbruster | PI | Investigation Of Ala Red-Bellied Turtle Nesting In American Alligator Nests | ADCNR (Fed Flow) | \$60,665.00 |
| Jonathan Armbuster/ Katelyn Lawson | PI COPI | Propeller Scarring Hot Spot Analysis &Behavior Change-Social Marketing Campaign For Tampa Bay | University of Florida (fed flow) | \$4,400.00 |
| Katherine Buckley | PI | Regulatory Control Of The System-Wide Innate Immune Response In Marine Invertebrates | NSF | \$910,860.00 |
| Kyle Heine/ Wendy Hood | PI COPI | Effects Of Increasing Temp &Ultraviolet Radiation On Copepod Mitochondria Along A Latitudinal Gradient | NSF | \$263,705.00* |
| Laurie Stevison | PI | Role Of Oogenesis In Speciation | NIH | \$367,023.00 |
| Leslie Pendergrass | PI | Mgt Activities For White Fringeless Orchid &Relict Trillium In Al | Atlanta Botanical Garden | \$7,639.95 |
| Margaret Ballen | PI | Diversifying &Humanizing Scientist Role Models To Increase Impact Of Data Literacy Instruction On Student Interest &Retention In Stem | NSF | \$10,787.00 |
| Mark Liles | PI | Assessment Of Immunomodulatory Effect Of Probiotics On The Catfish Adaptive Immune Response & Columnaris Disease Resistance | USDA | \$125,000.00 |
| Mark Liles | PI | Reducing Bioburden Of Europa Lander Solid Rocket Motor Insulation & Assessing Bioburden Of Other Srm Nonmetallic Materials Of Concern For Planetary Protection | NASA | \$122,092.00 |
| Mark Liles | PI | Eval Of Citrafiber As A Prebiotic To Enhance Bacillus Growth & Avoid Soybean Germination Inhibition | Citrus Extracts (Corp) | \$26,717.76 |

Biological Sciences Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|---|------------|--|-----------------------------------|----------------|
| Min Zhong | PI | Embedding Metacognition Into Introductory Biology Courses | University of Wyoming (non-fed) | \$4,250.00 |
| Ryan Range | PI | Graduate Resch Fellowship Program For Cheikhouna Ka | NSF | \$46,000.00 |
| Tonia Schwartz | PI | Paternity Analysis Of Ai Louisiana Pine Snakes | Memphis Zoo (non fed) | \$4,534.00 |
| Wendy Hood | PI | Graduate Resch Fellowship Program For Emma Rhodes | NSF | \$8,811.96 |
| Wendy Hood/ Geoffrey Hill | PI COPI | Integrated Approach To Health &Longevity-Enhancing Drug Target Discovery | University of Michigan (fed flow) | \$93,722.00 |
| | | | | |
| | | | Biological Sciences Total: | \$5,000,645.55 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| *Denotes Participant Support Costs Included | | | | |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|--|---|--------------------------------|------------|----------|
| Armbruster, Jonathan | The Nature Conservatory | TNC-030119_A105227 | 03/01/19 | 11/30/21 |
| Armbruster, Jonathan | Coypu Foundation | COYPU FDN-NEW RVR TRIANGLE | 01/01/21 | 02/28/23 |
| Avila-Flores, Adriana | National Institute of Health | NIH-1R15GM144897-01-DBS | 09/20/21 | 08/31/24 |
| Ballen, Margaret | National Science Foundation | NSF-DUE-2120934* | 10/01/21 | 09/30/24 |
| Ballen, Margaret | National Science Foundation | NSF-DUE-2011995* | 10/01/20 | 09/30/25 |
| Ballen, Margaret/Beatty, Abby | Montana State University-Billings-lember | MT ST UN-BILLINGS-IEMBER | 07/02/21 | 09/30/23 |
| Ballen, Margaret/Harshman, Jordan | University of Minnesota | UN MN-P007692401 | 09/01/19 | 08/31/23 |
| Barbour, Michael/Steen/Schotz/Armbruster | Environmental Protection Agency | EPA-CD-00D65317-0 | 10/01/17 | 09/30/22 |
| Bruner, Toni/Armbruster, Jonathan | AL Dept of Conservation and Natural Resources | ADCNR-ENVIRONMENTAL ED-22 | 08/16/21 | 07/31/22 |
| Buckley, Katherine | Texas A&M University | TX A&M-M2300343 | 08/01/22 | 06/30/24 |
| Buckley, Katherine | National Science Foundation | NSF-IOS-2131297 | 07/15/22 | 06/30/25 |
| Counterman, Brian | National Science Foundation | NSF-IOS-2143339* | 02/15/22 | 01/31/27 |
| Fenner, Jennifer/Range, Ryan | Private Landowners Texas Ecolab | PRIVATE LANDOWNERS-TX ECOLAB | 05/01/22 | 12/31/22 |
| Fenner, Jennifer/Range, Ryan | National Science Foundation | NSF-OPP-2038088 | 09/15/22 | 08/31/25 |
| Godwin , James/Armbruster/Werneke | Louisiana Dept of Wildlife and Fisheries | LDWF-PO 2000482193 | 09/30/17 | |
| Godwin, James | AL Dept of Conservation and Natural Resources | ADCNR-FLATTENED MUSK TURTLE-22 | 10/01/19 | 09/30/22 |
| Godwin, James | AL Dept of Conservation and Natural Resources | ADCNR-FLATTENED MUSK TURTLE-22 | 10/01/21 | 09/30/22 |
| Godwin, James | US Fish and Wildlife Service | FS-20-PA-11080100-103 | 06/19/20 | 04/30/25 |
| Godwin, James/Armbruster, Jonathan | US Fish and Wildlife Service | FWS-F20AP12103 | 10/01/20 | 12/31/23 |
| Godwin, James/Armbruster, Jonathan | AL Dept of Conservation and Natural Resources | ADCNR-RED-BELLIED TURTLE-21 | 10/01/20 | 09/30/22 |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|--|---|-----------------------------|------------|----------|
| Godwin, James/Armbruster, Jonathan | AL Dept of Conservation and Natural Resources | ADCNR-RED-BELLIED TURTLE-22 | 10/01/21 | 09/30/22 |
| Graze, Rita | National Science Foundation | NSF-DEB-1751296* | 08/01/18 | 07/31/23 |
| Halanych, Kenneth | National Science Foundation | NSF-OPP-1916661 | 09/01/19 | 08/31/23 |
| Halanych, Kenneth/Armbruster, Jonathan | National Science Foundation | NSF-DBI-2001316 | 11/01/20 | 10/31/24 |
| Harkess, Alex | National Science Foundation | NSF-DGE-1937964-KD | 09/01/19 | 08/31/22 |
| Heine, Kyle/Hood, Wendy | National Science Foundation | NSF-OCE-2126224* | 12/01/21 | 11/30/23 |
| Hill, Geoffrey | National Science Foundation | NSF-IOS-1754152 | 08/15/18 | 07/31/23 |
| Hill, Geoffrey | National Science Foundation | NSF-IOS-2037741* | 08/01/21 | 07/31/24 |
| Hood, Wendy | National Science Foundation | NSF-DBI-1453784* | 04/01/15 | 03/31/22 |
| Hood, Wendy | National Science Foundation | NSF-DGE-1937964-ER | 06/01/22 | 05/31/23 |
| Hood, Wendy/Hill, Geoffrey | University of Michigan | UN MI-SUBK00014655 | 02/01/21 | 08/31/22 |
| Hood, Wendy/Kavazis | University of South Carolina | UN SC-18-3423-PO#2000035389 | 08/01/17 | 07/31/23 |
| Lawson, Katelyn/Armbruster, Jonathan | University of Florida | UF-SUB00003184 | 02/02/22 | 12/31/23 |
| Leisner, Courtney | US Dept of Agriculture | USDA-2022-67013-36416 | 01/15/22 | 01/14/24 |
| Leisner, Courtney | US Dept of Agriculture | USDA-2022-67013-36126-BS | 11/01/21 | 10/31/24 |
| Liles, Mark | Sintef Institute | SINTEF-LILES-22* | 04/22/19 | 09/30/23 |
| Liles, Mark | NASA | NASA-80NSSC20K0665 | 02/14/20 | 02/13/24 |
| Liles, Mark | US Dept of Agriculture | USDA-58-6010-0-009 | 07/01/20 | 06/30/25 |
| Liles, Mark | Merck Animal Health | MAH-FISH VACCINE | 07/01/20 | 12/31/23 |
| Liles, Mark | Citrus Extracts | CITRUS EXTRACTS-LILES | 11/01/20 | 12/31/22 |
| Liles, Mark | US Dept of Agriculture | USDA-2022-70007-38285-ML | 09/10/22 | 09/09/24 |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|---------------------------------------|---|--------------------------|------------|----------|
| | Varigen Biosciences | VARIGEN-SBIR-LILES | 09/01/22 | 02/28/24 |
| Liles, Mark | Verices Biossioness | VADICEN BIOCCIENCES | 05/04/20 | 44/20/24 |
| Liles, Mark/Calderon/Petrov | Varigen Biosciences | VARIGEN BIOSCIENCES | 05/01/20 | 11/30/21 |
| Liles, Mark/Saez de Jauregui | Reazent | REAZENT-LILES | 06/01/20 | 03/31/22 |
| Oaks, Jamie | FL Fish & Wildlife Conservation Commission | FFWCC-AGRMT 19149 | 07/22/20 | 02/28/22 |
| Oaks, Jamie | National Science Foundation | NSF-DGE-1937964-CN | 06/01/22 | 05/31/23 |
| Oaks, Jamie | National Science Foundation | NSF-DEB-1656004* | 05/01/17 | 04/30/23 |
| Pendergrass, Leslie/Thompson, Patrick | AL Dept of Conservation and Natural Resources | ADCNR-WHORLED SUNFLOWER | 10/01/20 | 09/30/22 |
| Pendergrass, Leslie/Thompson, Patrick | Atlanta Botanical Garden | ATL BOTANICAL GARDEN | 03/29/22 | 12/30/22 |
| Range, Ryan | National Institute of Health | NIH-2R15HD088272-03 | 03/06/21 | 02/29/24 |
| Range, Ryan | National Institute of Health | NIH-1R13HD101241-01 | 02/01/20 | 01/31/23 |
| Range, Ryan | National Science Foundation | NSF-DGE-1937964-CK | 09/01/21 | 08/31/23 |
| Range, Ryan/Counterman, Brian | Un Puerto Rico Rio Piedras | UPRRP-2021-001 | 05/01/21 | 07/31/23 |
| Range, Ryan/Counterman, Brian | National Science Foundation | NSF-IOS-2108227 | 10/01/20 | 08/31/22 |
| Rashotte, Aaron | National Science Foundation | NSF-IOS-2033337* | 07/15/21 | 06/30/23 |
| Santos, Scott | Kansas State University | KSU-A20-0470-S001 | 05/15/20 | 04/30/22 |
| Santos, Scott | National Science Foundation | NSF-DEB-2020081 | 05/01/20 | 04/30/22 |
| Schotz, Alfred | US Army | ARMY-W9126G-19-2-0064 | 09/27/19 | 09/30/22 |
| Schotz, Alfred | US Fish and Wildlife Service | FWS-F20AP11387 | 10/01/20 | 09/30/23 |
| Schotz, Alfred | AL Dept of Conservation and Natural Resources | ADCNR-BLACK BELT PRAIRIE | 03/01/22 | 09/30/22 |
| Schotz, Alfred/Goertzen, Leslie | AL Dept of Conservation and Natural Resources | ADCNR-S622-AUSKL | 10/01/21 | 09/30/22 |
| Schwartz, Elizabeth | National Science Foundation | NSF-IOS-2123655-BIO | 08/01/21 | 07/31/24 |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|------------------------------------|---|--------------------------|------------|----------|
| Schwartz, Elizabeth/Halanych/Graze | National Science Foundation | NSF-IOS-1755377 | 07/15/18 | 06/30/22 |
| Schwartz, Tonia | National Science Foundation | NSF-IOS-2015802-DBS* | 06/15/20 | 05/31/24 |
| Schwartz, Tonia | Memphis Zoo-Schwartz | MEMPHIS ZOO-SCHWARTZ | 03/14/22 | 03/13/23 |
| Schwartz, Tonia/Graze, Rita | National Institute of Health | NIH-1R15AG064655-01 | 08/01/19 | 07/31/23 |
| Stevison, Laurie | National Science Foundation | NSF-DEB-1939090* | 08/15/19 | 07/31/23 |
| Stevison, Laurie | National Institute of Health | NIH-1R35GM147501-01 | 08/18/22 | 06/30/23 |
| Strader, Marie | National Science Foundation | NSF-OCE-1935308 | 06/15/19 | 12/31/22 |
| Strader, Marie/Buckley, Katherine | National Science Foundation | NSF-EF-2021886* | 07/15/20 | 06/30/23 |
| Sztuba-Solinska, Joanna | VCOM | EVCOM-SZTUBA-SOLINSKA-22 | 07/01/21 | 06/30/22 |
| Sztuba-Solinska, Joanna | National Institute of Health | NIH-1R21AI159361-01 | 03/04/21 | 10/01/22 |
| Upton, Jason | National Institute of Health | NIH-1R15GM136535-01 | 05/06/20 | 04/30/24 |
| Wada, Haruka | National Science Foundation | NSF-IOS-1553657* | 04/15/16 | 03/31/23 |
| Wada, Haruka | National Science Foundation | NSF-DGE-1937964-VC | 06/01/20 | 05/31/23 |
| Warner, Daniel | National Science Foundation | NSF-DGE-1414475-JP | 09/01/17 | 12/31/21 |
| Warner, Daniel | National Science Foundation | NSF-DEB-1942145* | 03/01/20 | 02/28/25 |
| Warner, Daniel/Godwin, James | AL Dept of Conservation and Natural Resources | ADCNR-INDIGO SNAKE-16 | 10/01/15 | 03/31/22 |
| Zhong, Min | University of Wyoming | UN WY-1005225-AU | 07/15/21 | 07/31/24 |
| | | | | |
| *Includes Participant Support Cost | | TOTAL ACTIVE AWARDS: 79 | | |
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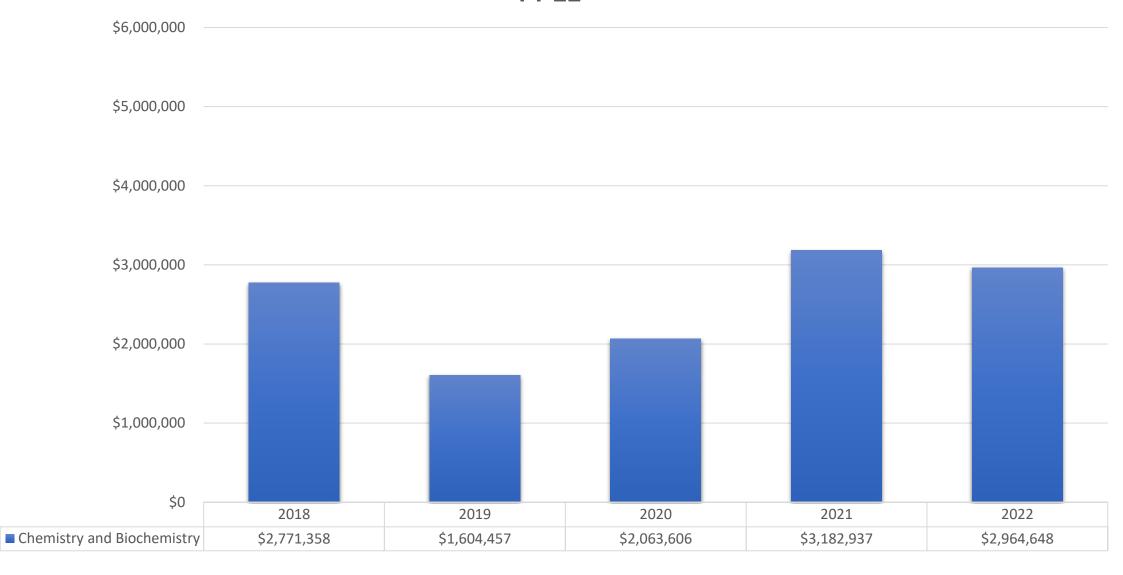
| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|---|---|--|------------------|
| 0011-22P | Armbruster, Jonathan | Propeller scarring hot spot analysis and behavior change/social marketing campaign for Tampa Bay | University of Florida | \$4,400 |
| 1121-22P | Avila-Flores. Adriana | Evaluation of inflammatory potential of BACPs and their efficacy in delivering mRNA in vivo. | Phoreusbiotech | \$26,034.07 |
| 1198-22P | Avila-Flores, Adriana | Resisting Resistance: Nanoparticle-mediated delivery of dsRNA to induce RNAi in invasive organisms | NSF Career | \$517,140.84 |
| 0381-22P | Ballen, Cissy | TEST ANXIETY—RETHINKING ASSESSMENT IN INTRODUCTORY STEM (TARA) | NSF | \$182,840.03 |
| 0625-22P | Ballen, Cissy | Representation in STEM, Student Science Identity, and Nature of Science | NSF | \$252,850 |
| 1134-22P | Ballen, Cissy | Inclusive Instructional Practices in Undergraduate STEM Introductory Courses | NSF | \$219,503.80 |
| 1351-22P | Bassar, Ron | The Evolution of Fluctuation-Dependent Species Coexistence | NSF | \$1,208,528.94 |
| 0866-22P | Bernal de Leon, Moise | Isolation, adaptation and acclimation in the sea: how sister species diverge in contrasting environments | NSF | \$195,562.05 |
| 1549-22P | Buckley, Katherine | | Johnson & Johnson 2023 Women in STEM2D Scholars Award, Science category. | \$150,000.00 |
| 1356-22P | Buckley, Katherine | Connecting the epigenome to phenotypes in purple sea urchins: Characterizing developmental and immunological plasticity in response to environmental change | Texas A&M (NSF Flow) | \$132,566.00 |
| 0069-22P | Fenner, Jennifer | How does the embryonic development of Texas pollinator and pest butterflies differ? | Texas Ecological Laboratory Program, Braun & Gresham PLLC | \$15,100 |
| 0704-22P | Fenner, Jennifer/Ryan Range | Assessment of early embryonic developmental timing mechanisms through interspecies comparisons | NIH | \$208,446.00 |
| 0931-22P | Godwin, James/Katelyn Lawson, Jonathan Armbruster | Occurrence of Snake Fungal Disease in Eastern Indigo Snake | ADCNR | \$696,678.25 |
| 0331-224 | Godwin, James/Katelyn | Occurrence of Shake rungal Disease in Eastern Mulgo Shake | ADCINK | |
| 1179-22P | Lawson | Environmental DNA Survey in Tributaries of the Locust Fork | The Nature Conservatory | \$133,843.80 |
| 0279-22P | Gross, Iwo | Reproductive ecology of the diamond-backed terrapin (Malaclemys terrapin) in the central Gulf Coast | NOAA, Department of Commerce | \$111,680.71 |

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|-------------------|---|-------------------------------|------------------|
| 1531-22P | Hill, Geoffrey | The Physiolological Basis for Hybrid Breakdown and Haldane's Rule | NSF | \$1,772,773.00 |
| 0612-22P | Hood, Wendy | The Roles of Mitochondrial Behavior and Morphology in Animal Performance | NSF | \$1,232,030.58 |
| | | Animal Migration as a model for integrative biology: a teaching and | Norwegian Directorate for | |
| 0798-22P | Hood, Wendy | research collaboration between Norway and the United States | Higher Education and Ski | \$171,562.31 |
| | | Variation in mitochondrial function and the unfolded protein response | | |
| 0773-22P | Hood, Wendy | ' | NASA | \$899,797.64 |
| | | Interactions between chronic stress and a high-fat diet during lactation and the | University of Idaho (DoD | |
| 0883-22P | Hood, Wendy | implications for mitochondrial function | flow) | \$65,567.48 |
| | | | NIH-Subcontract Uni of | |
| | Hood, Wendy | An Integrated Approach to Health and Longevity-Enhancing Drug Target Discovery. | Michigan | \$61,983.20 |
| | | Comparative genomics of the capitulum: deciphering the molecular basis of a key | | |
| 0368-22P | Jones, Daniel | floral innovation | NSF | \$884,499.69 |
| | | Deciphering the integrated mechanisms of host-mycobiome associated plant stress | | |
| 0416-22P | Jones, Daniel | | NSF | \$252,944.62 |
| | | Development of species habitat models to predict spread of emerging aquatic | US Fish and Wildlife Service, | |
| 0470-22P | Lawson, Katelyn | invasives and assess risks to native biodiversity hotspots in the Southeastern US | Department of Interior | \$155,078.44 |
| 0170221 | Lawson, | invasives and assess risks to mative bloarversity notspots in the southeastern of | Department of interior | Ψ133,076111 |
| | Katelyn/Jonathan | Preventing the Introduction and Spread of Invasive through Strategic Landscape- | | |
| 1056-22P | Armbruster | Level Approaches | University of Florida (USFW) | \$353,886.35 |
| | Lawson, | | , , , , | . , |
| | Katelyn/Jonathan | Use of habitat suitability modeling and field-based site assessment to identify | The Land Trust of North | |
| 1029-22P | Armbruster | potential sites for Spring Pygmy Sunfish reintroduction | Alabama | \$38,726.76 |
| | | | National Fish and Wildlife | |
| 1077-22P | Lawson, Katelyn | One Alabama Landscape | Foundation (fed flow) | \$106,722.26 |
| | | | National Fish and Wildlife | |
| 1190-22P | Lawson, Katelyn | Prioritization of barriers to connectivity in the Uchee Creek watershed | Foundation | \$323,074.06 |
| | | AU-UTRGV Collaborative: Expanding Latinx/Hispanic Opportunities, Education and | | |
| | Leisner, Courtney | Matriculation in Biology | Sloan Foundation | \$241,990 |
| | | CAREER Genomics-enabled plant physiology to understand climate change impacts | | |
| 0944-22P | Leisner, Courtney | on dormancy in perennial cropping systems | NSF | \$1,622,223.58 |

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|----------------------|--|---------------------------|------------------|
| | | Smart Climate Hops: Supporting an Industry under development with Research and | | |
| 1438-22P | Leisner, Courtney | Extension | USDA | \$744,735.83 |
| | Leisner, | | | |
| | Courtney/Rashotte, | | | |
| | Aaron/Goertzen, | | | |
| 0404-22P | Leslie/Jones, Daniel | RaMP: Project KEYSTONE: Keeping Every Young Scientist Trained on Natural Ecosystems | | \$2,980,690 |
| | | | Varigen Biosciences (pass | |
| | | Development of a Simple and Easy to Use Diagnostic Assay for Rapid Detection of | through of USDA Phase I | 4 |
| 0114-22P | Liles, Mark | Virulent Strains of Aeromonas hydrophila (vAh) | SBIR) | \$58,303.62 |
| 0040 225 | L'Il a NA a I | Synthetic biology solutions for microbial crop protection against fungal and oomycete | Varigen Biosciences (pass | ¢452 204 |
| 0049-22P | Liles, Mark | pathogens | through NSF Phase I STTR) | \$153,381 |
| | | Rapid validation of immunogenic targets from hypervirulent Aeromonas hydrophila for | | |
| 0062 220 | Lilos Mark | development of a recombinant protein vaccine against vMAS in channel catfish | LICDA | \$206.101 |
| 0963-22P | Liles, Mark | (Ictalurus punctatus) Critical upgrades for the curation, organization, and database | USDA | \$296,101 |
| 0832-22P | Liles, Mark | management of the Auburn University Microbial Collection (AU-PAM) | NSF | \$609,524 |
| 0632-22F | Liles, ividik | Enhancing conservation and captive breeding efforts toward the recovery of the Eastern | | \$009,324 |
| 0586-22P | Oaks, Jamie | indigo snake | Conservation Commission | \$44,962.49 |
| 0380-22F | Oaks, Jaillie | CAREER: A process-based, modular, phylogenetic framework for inferring rates and | Conservation Commission | 744,302.43 |
| 1147-22P | Oaks, Jamie | patterns of shared evolutionary events | NSF | \$1,432,790.00 |
| 111, 221 | ouks, surme | patterns of shared evolutionary events | The Institute of Museum | ψ1, 132,730.00 |
| | Pendergrass, Morgan | Establishing a scientific basis for managing genetic diversity in botanic garden collections | | \$10,020.00 |
| | rendergrass, Morgan | | and Library Services | \$10,020.00 |
| ANP | Pendergrass, Morgan | On- the-ground management activities for Relict Trillium in Alabama | Atlanta Botanical Garden | \$7639.95 |
| | J , G | | | · |
| 0632-22P | Pendergrass, Morgan | Global Tree Conservation Program | The Morton Arboretum | \$2,000 |
| 0588-22P | Petrov, Alexey | Single-Molecule Analysis of Eukaryotic Translation | NIH | \$445,388.40 |
| | | | | |
| 0640-22P | Petrov, Alexey | Mechanism of Translation Initiation on Leaderless mRNAs | NIH | \$406,683.43 |
| | | The role of circadian rhythm transcription in plant induced systemic | | |
| 432-22P | Rashotte, Aaron | defense responses against drought and environmental stresses. | NSF | \$85,631.00 |
| 0637-22P | Schotz, Al | Alabama Black Belt Prairie Assessment | ADCNR | \$277,160.00 |

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|------------------------|-------------------------|--|--------------------------------|------------------|
| | | How to get small: Using "island dwarfism" to elucidate shared | | |
| 0316-22P | Schwartz, Tonia | molecular mechanisms for morphology and life history traits. | NSF | \$1,073,792.13 |
| | | Collaborative Research: Collective Comb Building in Constrained | | |
| 0085-22P | Smith, Michael | | NSF | \$485,462 |
| | | Tuning Social Information: The Collective Effects of Behavioral | | |
| 0293-22P | Smith, Michael | Spreading in Honey Bees | NSF | \$964,989.57 |
| | | The 3-dimensional nest of the honey bee: organization, development, | | |
| 0414-22P | Smith, Michael | , | NSF | \$749,993 |
| | | Collaborative Research: Collective Comb Building in Constrained | | + 12,523 |
| 0085-22P | Smith, Michael | | NSF | \$485,462.31 |
| | | Honeybee-inspired architectural solutions for irregular hexagonal | Air Force Office of Scientific | |
| 1017-22P | Smith, Michael | arrays | Research | \$449,930.07 |
| 1379-22P | Smith, Michael | International collaboration and a "bees-in-the-loop" research design: Combining in-silico modelling and in-vivo experiments to reveal the behavioural rules behind comb building | CB Dennis Trust | \$33,013.20 |
| 1569-21P | Stevison, Laurie | ТВА | NIH | \$1,864,043.00 |
| 0063-22P | Sztuba-Solinksa, Joanna | Towards the elucidation of RNA elements and RNA-protein interactions that modulate the Zika virus infectious cycle | SUNY | \$148,934.79 |
| 0092-22P | Upton, Jason | Role of Viral Deubiqitinases in Cytomegalovirus Pathogenesis | NIH | \$450,593.02 |
| 0234-22P | Wolak, Matthew | Empirically Testing the Fundamental Theorems of Evolution and Natural Selection | NSF | \$762,576.88 |
| 1169-22P | Wolak, Matthew | CAREER: Empirical tests of the fundamental theorems of evolution and natural selection | NSF | \$1,523,634.43 |
| 0297-22P | Zhong, Min | Embedding Metacognition into Introductory Biology Courses | University of Wyoming | \$4,250.00 |
| TOTAL PROPOSALS: 58 | | | TOTAL AMOUNT REQUESTED: | \$28,383,036.16 |

Chemistry and Biochemistry FY 22



Chemistry and Biochemistry Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|------------------------------------|--------------|---|--|----------------|
| Christopher Easley | PI | Nucleic Acid Nanostructure Built Thru On-Electrode Ligation For Electrochemical Detection Of Proteins, Peptides & Small Molecules | NIH | \$299,242.00 |
| Christopher Easley | PI | Unmasking Mechanisms Of Lipolytic Dynamics In Adipose Tissue Using High-Resolution Microfluidic Sampling | NIH | \$418,170.00 |
| Eduardus Duin | PI | Recombinant Methyl-Coenzyme M Reductase In The Methanogenic Archaeon Methanococcus Maripaludis For Examination Of Activation &Role Of Post-Translational Modifications | Department of Energy | \$105,090.84 |
| Evangelos Miliordos | PI | State Of The Art Quantum Calculations On A Novel Class Of Super-Atoms | NSF | \$11,340.00 |
| Ahmed Hamid/ Christopher Easley | COPI COPI | Detection Canine Applied R&D-Base Period Task 3.1-Develop Recommendations For Best Odor Training Methods | DHS | \$309,591.33 |
| Ahmed Hamid/ Christopher Easley | COPI COPI | Detection Canine Applied R&D-Base Period Task 3.3-Develop &Test Training Aids For Existing &Emerging Threats To Enable &Broaden Detection Canine Capabilities | DHS | \$307,771.33 |
| Jordan Harshman | PI | Career: Uncovering Faculty Beliefs And Values To Define A Model Of Doctoral Education In Chemistry | NSF | \$133,538.00 |
| Konrad Patkowski | PI | Production Of Excited Rovibrational Levels Of Oh For Analysis Of Infrared Observations Of Young Stellar Objects | University of Georgia (fed flow Nasa) | \$33,097.00 |
| Ming Chen | PI | Enantioselective Syntheses Of Organoboron Compounds Via Transition-Metal Catalysis | NSF | \$420,816.00 |
| Ming Chen | PI | Asymmetric Synthesis Via Organoboron Compounds | NIH | \$374,829.00 |
| Rashad Karimov | PI | Graduate Research Fellowship Program For Nathan O'Hare | NSF | \$46,000.00 |
| Rashad Karimov | PI | Synthesis Of Partially Saturated Nitrogen Heterocycles Thru Stereo- And Regioselective Dearomatization Of Heteroarenes | NIH | \$374,162.00 |
| Steven Mansoorabadi | PI | Mechanistic Studies Of A Primitive Homolog Of Nitrogenase Involved In Coenzyme F430 Biosynthesis | Department of Energy | \$109,844.16 |
| | | Chemistry and Biochemistry Total: | | \$2,964,647.66 |

Chemistry and Biochemistry Active Awards FY22

| PI | SPONSOR | TITLE | START DATE | END DATE |
|----------------------|---------------------------------------|-----------------------|------------|----------|
| Chen, Ming | National Science Foundation | NSF-CHE-2042353* | 09/01/21 | 08/31/26 |
| Chen, Ming | National Institute of Health | NIH-1R35GM147523-01 | 07/01/22 | 06/30/23 |
| Duin, Eduardus | Dept of Energy | DE-SC0018011 | 09/01/17 | 08/31/23 |
| Duin, Eduardus | University of Arkansas | UA-UA2019-63 | 08/15/18 | 08/14/23 |
| Duin, Eduardus | Virginia Tech | VT-480645-19158 | 07/01/21 | 05/30/24 |
| Easley, Christopher | National Institute of Health | NIH-1R01GM138828-01 | 09/18/20 | 07/31/23 |
| Farnum, Byron | National Science Foundation | NSF-CHE-1945160* | 07/01/20 | 06/30/25 |
| Goldsmith, Christian | National Science Foundation | NSF-CHE-1954336 | 08/01/20 | 07/31/24 |
| Hamid, Ahmed | National Institute of Health | NIH-1R35GM147225-01 | 09/22/22 | 07/31/23 |
| Harshman, Jordan | National Science Foundation | NSF-DUE-1915343 | 10/01/19 | 09/30/23 |
| Harshman, Jordan | National Science Foundation | NSF-DGE-2142873 | 06/01/22 | 05/31/27 |
| | National Institute of Health | NIH-2R01DK093810-08A1 | 07/01/21 | 06/30/23 |
| Judd, Christopher | National Science Foundation | NSF-DGE-1937964-NO | 06/01/22 | 05/31/23 |
| Karimov, Maria | | | | |
| Karimov, Rashad | National Institute of Health | NIH-1R35GM147244-01 | 08/15/22 | 06/30/23 |
| Mansoorabadi, Steven | National Science Foundation | NSF-CHE-1555138 | 05/01/16 | 09/30/22 |
| Mansoorabadi, Steven | Dept of Energy | DE-SC0018043 | 09/01/17 | 08/31/22 |
| Mansoorabadi, Steven | Exxon Mobile Research and Engineering | EMRE-LAW-2019-3530 | 09/15/19 | 12/31/23 |

Chemistry and Biochemistry Active Awards FY22

| PI | SPONSOR | TITLE | START DATE | END DATE |
|---|---------------------------------------|------------------------------------|------------|----------|
| Mansoorabadi, Steven | Dept of Energy | DE-SC0023451 | 09/01/22 | 08/31/23 |
| Merner, Bradley | National Science Foundation | NSF-CHE-1654691 | 05/01/17 | 03/31/23 |
| Miliordos, Evangelos | Dept of Energy | DE-SC0019177 | 09/01/18 | 08/31/22 |
| Miliordos, Evangelos | National Science Foundation | NSF-CHE-1940456* | 09/01/20 | 08/31/25 |
| Miliordos, Evangelos | National Science Foundation | NSF-CHE-1940456-A2 | 09/01/20 | 08/31/25 |
| Mills, German | National Lubricating Grease Institute | NLGI-MILLS | 08/31/21 | 12/31/22 |
| Ortiz, Joseph | National Science Foundation | NSF-CHE-1565760 | 09/01/16 | 08/31/22 |
| Patkowski, Konrad | National Science Foundation | NSF-CHE-1955328* | 07/01/20 | 06/30/23 |
| Patkowski, Konrad | University of Georgia | UGA-SUB00002733 | 09/01/21 | 08/31/24 |
| Goodwin, Douglas/Pokkuluri, Phani | Medical College of Wisconsin | MCW-eBRIDGE FP0019427 | 01/01/21 | 12/31/21 |
| Pokkuluri, Phani | James Madison University | JMU-S22-146-01 | 08/01/22 | 06/30/27 |
| Raj, Monika | National Science Foundation | NSF-CHE-1752654 | 07/01/18 | 06/30/23 |
| Easley, Christopher/ Wang/Hamid | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-CHEM-T3.1 | 01/11/22 | 01/10/23 |
| Easley, Christopher/Wang/Hamid | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-CHEM-T3.3 | 01/11/22 | 01/10/23 |
| Worley, Shelby | NASA | NASA-80NSSC19K0368-CHEM | 04/01/19 | 12/11/21 |
| Zhan, Wei | National Science Foundation | NSF-CHE-2108243* | 08/15/21 | 07/31/24 |
| | | | | |
| *Donatos Doutisionat Cura ant Contains in the | | TOTAL ACTIVE AWARDS: 33 | | |
| *Denotes Participant Support Costs Included | | | | |

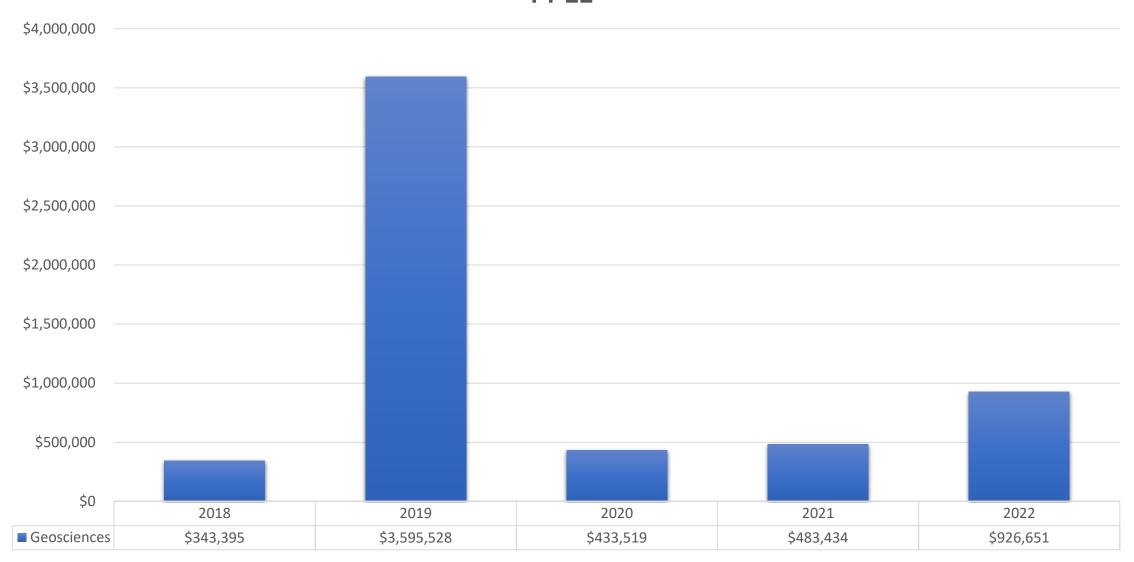
Chemistry and Biochemistry Proposals Submitted FY 22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|---------------------------------------|--|--|------------------|
| 1530-22P | Boersma, Melissa | Development of an Analytical Method for the Quantification of PFAS from Firefighting Foams Using Fluorine- Functionalized Polymers | DoD | \$199,976.55 |
| 0059-22P | Boersma, Melissa | DARPA | NOBLIS | \$10,290 |
| 0303-22P | Boersma, Melissa | Uncovering the molecular basis of growth inhibition during algal treatment of anaerobic digestate | NSF | \$341,530.00 |
| 1601-21P | Chen, Ming | Asymmetric Synthesis via Organoboron Compounds | National Institute of General Medical Sciences | \$1,876,283.20 |
| 0344-22P | Duin, E | Understanding Nitrogenase Maturation and Activity in Methanogens | University of Arkansas | \$88,564.48 |
| 0365-22P | Duin, Eduardus | Living on the Thermodynamic Edge: Mechanisms for Energy Conservation and Electron Flow in Syntrophic Metabolism | University of Oklahoma | \$92,851.62 |
| 0933-22P | Duin, Eduardus/Steven Mansoorabadi | Creating and testing of genetic tools for the development of microbial systems that can capture carbon dioxide and methane | NSF | \$826,376.72 |
| 1577-21P | Goldsmith, Christian | The Development of Fluorescent Superoxide Dismutase Mimics and their Application towards Determining How Cellular Localization Impacts Protection against Oxidative Stress | NIH | \$1,484,091.07 |
| 1493-22P | Goldsmith, Christian | Development and Mechanistic Study of Highly Active Catalase Mimics Containing Redox-Active Organic Components | NSF | \$466,845 |
| 0571-22P | Grieco, Christopher | 2D Infrared Correlation Spectroelectrochemistry of Mixed Ionic-Electronic Conductors | Spectroscopy Society of Pittsburgh | \$30,000.00 |
| 1600-21P | Hamid, Ahmed | Development of a Portable Ion Mobility Spectrometer for Efficient Detection and Rapid Identification of Foodborne Pathogens | NIH | \$1,780,522.24 |
| 0660-22P | Harshman, Jordan | The Writing SySTEM: A Systemic Approach to Graduate Writing Instruction and Intervention | NSF | \$434,807.00 |
| 0034-22P | Hill, Ethan | Cooperative Transition Metal and Non-Trigonal Phosphorus Ligand Mediated Green Oxidation of Hydrocarbons | American Chemical Society | \$110,000.00 |
| 1576-21P | Karimov, Rashad | Dearomative synthesis of partially saturated nitrogen heterocycles | NIH MIRA/R35 | \$1,870,810.00 |

Chemistry and Biochemistry Proposals Submitted FY 22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|---------------------|----------------------|--|----------------------------|------------------|
| 0113-22P | Mansoorabadi, Steven | Mechanistic and Biosynthetic Studies of Dinoflagellate Bioluminescence | NSF | \$487,247.00 |
| 0387-22P | Mansoorabadi, Steven | Mechanistic Studies of a Primitive Homolog of Nitrogenase Involved in Coenzyme F430 Biosynthesis | DOE | \$699,213.32 |
| 0112-22P | Miliordos, Evangelos | CAREER: State-of-the-art Quantum Calculations on a Novel Class of Super-atoms: Discovering Exotic Chemical Bonding Schemes and Proposing New Two and Three Dimensional Materials | NSF | \$11,340.00 |
| 1314-22P | Ohno, Paul | Potential impacts of emerging building and urban envelopes on air quality | Schmidt Science Fellows | \$2,500.00 |
| 0668-22P | Pawlowski, Filip | Molecular Response Properties from Novel Cluster-Perturbation Theory on Exascale Platforms | DOE | \$1,897,511.16 |
| 0207-22P | Pokkuluri, Raj | RUI: Molecular Mechanisms of Short-Range Electron Transfer in Metalloproteins | James Madison University | \$21,155.88 |
| 1463-22P | Worley, Shelby | Mitigation and Prevention of Biofouling and Biofilm Growth in Wastewater Processing Assembly | NASA | \$5,134.00 |
| TOTAL PROPOSALS: 21 | | | TOTAL AMOUNT REQUESTED: | \$12,737,043.24 |
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Geosciences FY 22



Geosciences Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|-------------------|---------|---|---------------------------------------|--------------|
| Ann Ojeda | PI | Ala Water Resources Resch Inst | USGS | \$9,925.29 |
| Ann Ojeda | PI | Harnessing Citizen-Science To Understand Stressors On Groundwater Quality In The Alabama Gulf Coast | Dauphin Island Sea Lab (fed flow) | \$108,892.50 |
| Chandana Mitra | PI | Multi-Scalar Analysis Of Urban-Influenced Hydrometeorological Processes | University of Georgia (Fed Flow Nasa) | \$65,479.00 |
| Jake Nelson | | | | \$16,160.00 |
| Karen McNeal | PI | Graduate Research Fellowship Program For Stephanie Courtney | NSF | \$5,000.00 |
| Karen McNeal | PI | Ala Water Resources Research Inst | USGS | \$4,999.80 |
| Karen McNeal | PI | Developing A Diverse Research Workforce With Expertise In Hydrological Climate Events In The Upland Watersheds Of The Northern Gulf Of Mexico (Hydroclimate-Au) | USGS | \$180,000* |
| Karen McNeal | PI | Effectively Addressing Natural Resource Management Needs | NC State University (Fed flow USGS) | \$37,017.06 |
| Karen McNeal | PI | Hosting The SE Climate Science Center-Year 6 | NC State University (fed flow USGS) | \$15,000.00 |
| Laura Bilenker | PI | Characterizing Iron Deposits In Puerto Rico To Elucidate Metal Transport & Magnetite Mineralization Processes In Skarn Systems | NSF | \$257,214.00 |
| Lorraine Wolf | PI | Graduate Research Fellowship Program For Akilah Alwan | NSF | \$21,504.43 |

Geosciences Extramural Research Grants with New Dollars Received in FY2022

| PI Name | PI/COP | PROJECT TITLE | SPONSOR | AMOUNT |
|--|------------|---|--|--------------|
| Luke Marzen | PI | Gis Fellowship For City Of Auburn | Auburn GIS Fellow (non Fed) | \$15,000.00 |
| Luke Marzen/ Chandana Mitra | PI COPI | State View Program Development & Ops For State Of Alabama | USGS | \$23,500.00 |
| Richard Vachula | PI | Second Century Stewardship Research Fellowship | Scoodic Inst at Acadia National Park (non fed) | \$19,912.00 |
| Stephanie Rogers/ Ann Ojeda | PI COPI | Integrating Geospatial & High-Res Water Quality Data To Understand Contamination From Onsite Disposal Systems | ADCNR | \$49,690.00 |
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| | | | | |
| | | Geosciences Count: | Accounts: Individual Awards: | |
| | | Geosciences Total: | | \$926,651.08 |
| | | | | |
| *Denotes Participant Support Costs Included | | | | |

Geosciences Active Awards FY22

| L | SPONSOR | TITLE | START DATE | END DATE |
|-------------------------------------|----------------------------------|----------------------------|------------|----------|
| Bilenker, Laura | National Science Foundation | NSF-EAR-2217927 | 08/01/22 | 07/31/25 |
| Chaney, Philip | University of Alabama Huntsville | UAH-2021-1313-GEO | 01/15/21 | 10/15/22 |
| Chaney, Philip/ Burton, Christopher | Lee County EMA | LEE CO EMA-TORNADO SHELTER | 08/15/17 | |
| Hanqin, Tian | North Carolina State University | NCSU-2017-1878-05 | 08/01/18 | 07/31/22 |
| Marzen, Luke | City of Auburn | AUBURN GIS FELLOW-22 | 08/15/21 | 08/14/22 |
| Marzen, Luke | City of Auburn | AUBURN-GIS FELLOW-21 | 08/15/20 | |
| McNeal, Karen | North Carolina State University | NCSU-2020-2689-01 | 05/01/20 | 03/31/22 |
| McNeal, Karen | National Science Foundation | NSF-DGE-1414475-EJ | 06/01/18 | 12/31/21 |
| McNeal, Karen | National Science Foundation | NSF-DGE-1937964-SC | 09/01/19 | 12/31/22 |
| McNeal, Karen | National Science Foundation | NSF-DGE-1937964-EJ | 09/01/19 | 05/31/23 |
| McNeal, Karen | North Carolina State University | NCSU-2017-1878-05-Y5 | 08/01/21 | 07/31/23 |
| McNeal, Karen | National Science Foundation | NSF-DUE-2043990-GEO | 07/01/21 | 06/30/24 |
| McNeal, Karen | North Carolina State University | NCSU-2020-0455-01 | 10/01/19 | 09/30/23 |
| McNeal, Karen | US Geological Survey | USGS-G21AP10596-00-KM | 09/01/21 | 08/31/22 |
| McNeal, Karen | US Geological Survey | USGS-G22AC00083-00* | 03/01/22 | 02/29/24 |
| McNeal, Karen | North Carolina State University | NCSU-2020-2689-01-A1 | 04/01/22 | 02/28/24 |
| McNeal, Karen/Tian, Hanqin | North Carolina State University | NCSU-2017-1878-05-Y6 | 08/01/22 | 07/31/23 |
| Medina-Elizalde, Martin | National Science Foundation | NSF-AGS-1903132 | 07/15/19 | 06/30/22 |
| Mitra, Chandana | University of Georgia | UGA-SUB00002502 | 07/02/20 | 07/01/24 |

Geosciences Active Awards FY22

| PI | SPONSOR | TITLE | START DATE | END DATE |
|---|---|-------------------------------|------------|----------|
| Mitra, Chandana/ Burton, Christopher | National Science Foundation | NSF-DGE-1922687* | 09/01/19 | 08/31/24 |
| Mitra, Chandana/Luke, Marzen | AmericaView Inc | AVI-AV18-AL-01-GY21 | 09/18/21 | 09/17/22 |
| Mitra, Chandana/Marzen, Luke | AmericaView Inc | AVI-AV18-AL-01-GY22 | 09/18/22 | 09/17/23 |
| Nelson, Jake | Arizona State University | AZ ST UN-ASUB00000979 | 06/10/21 | 06/09/22 |
| Nelson, Jake | US Geological Survey | USGS-G21AP10596-01-JN | 09/01/22 | 08/31/23 |
| Ojeda, Ann | National Science Foundation | NSF-EAR-2051747* | 07/01/21 | 06/30/23 |
| Ojeda, Ann | US Geological Survey | USGS-G21AP10596-00-AO | 09/01/21 | 08/31/22 |
| Ojeda, Ann | US Geological Survey | USGS-G21AP10596-00-AO2 | 09/01/21 | 08/31/22 |
| Ojeda, Ann/Lee, Ming Kuo/ Bilenker, Laura | Electric Power Research Institute | EPRI-10015589 | 08/22/22 | 12/31/22 |
| Rogers, Stephanie/Ojeda, Ann | AL Dept of Conservation and Natural Resources | ADCNR-AUBURN-CZM-306-20-1 | 10/01/21 | 09/30/22 |
| Rogers, Stephanie/Ojeda, Ann | Dauphin Island Sea Lab | DISL-MESC-ALCOE-05 | 10/01/21 | 04/30/25 |
| Rogers, Stephanie/Ojeda, Ann | Dauphin Island Sea Lab | DISL-MESC-ALCOE-05-KITS | 10/01/21 | 04/30/25 |
| Savrda, Charles | American Chemical Society | ACS-PRF 57720-UR8 | 07/01/17 | 08/31/22 |
| Vachula, Richard | Schoodic Institute at Acadia National Park | SIANP-2ND CENTURY STEWARDSHIP | 06/01/22 | 06/30/23 |
| Wolf, Lorraine | National Science Foundation | NSF-DGE-1937964-AA | 06/01/20 | 05/31/23 |
| Zou, Haibo | American Chemical Society | ACS-PRF 57500-UR2 | 09/01/17 | 08/31/23 |
| | | | | |
| *Denotes Participant Support Costs included | | TOTAL ACTIVE AWARDS: 35 | | |
| | | | | |

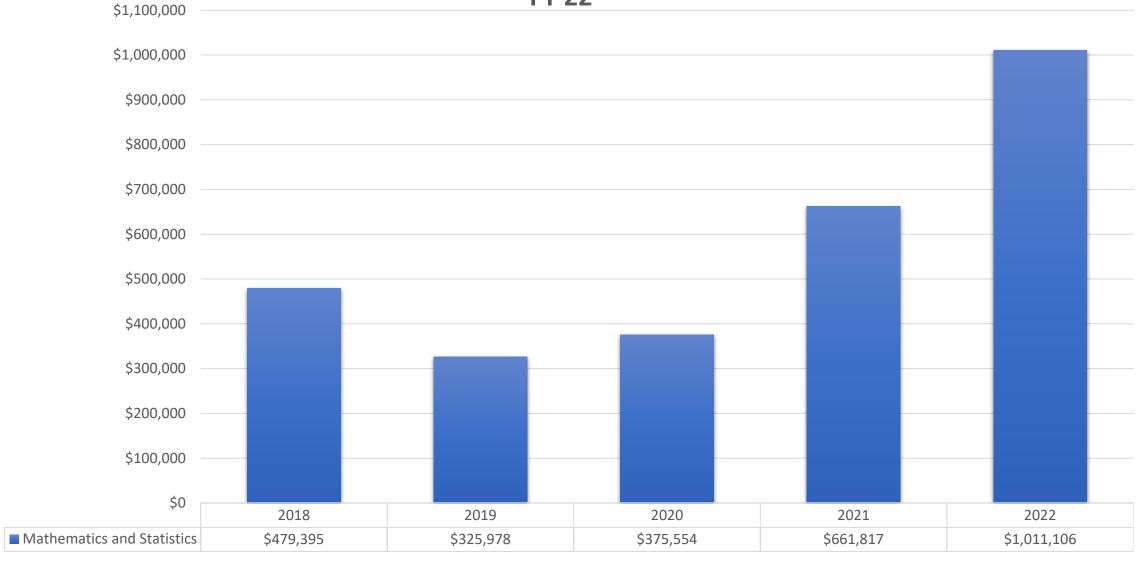
Geosciences Submitted Proposals FY22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|------------------------------|--|---|------------------|
| 0450-22P | Bilenker, Laura | Characterizing Iron Deposits in Puerto Rico to Elucidate Metal Transport and Magnetite Mineralization Processes in Skarn Systems | NSF | \$257,614.00 |
| 0318-22P | King, David | Mesozoic and Cenozoic stratigraphy of Belize | NSF | \$889,259.52 |
| 1451-22P | King, David | Optimizing Alabama's CO2 Storage in Shelby County (OASIS) CarbonSAFE (Phase II) Project | SSEB / DoE | \$199,551.05 |
| 0673-22P | Marzen, Luke/Mitra, Chandana | StateView Program Development and Operations for the State of Alabama | AmericaView/USGS | \$23,500.00 |
| 1018-22P | Marzen Luke | City of Auburn GIS Fellowship 2022-2023 Academic Year | City of Auburn | \$15,000.00 |
| 0566-22P | McNeal, Karen | DBER-Establishing a multidisciplinary discipline-based education research postdoc training program in science and mathematics | NSF | \$1,248,980 |
| 0622-22P | McNeal, Karen | Hosting the SE Climate Center - Year 6 Funding | NC State/USGS | \$15,000.00 |
| | McNeal, Karen | AWRRI Student Award - Tyler Smith | AL Water Resources Research Institute | \$4,999.80 |
| 0481-22P | Mitra, Chandana | Linkages between Forest Transitions and Urbanization and their Effects on Climate, Water, and Biodiversity in South Asia: A Synthesis | Yale University (NASA flow) | \$99,977.22 |
| 0836-22P | Mitra, Chandana | Planning: CIVIC Track A - Empowering Community with Energy Efficiency and Independence (ECEEI): Alabama and Beyond | NSF | \$49,999.30 |
| 1224-22P | Mitra, Chandana | Workshop in Mauritius: Training farmers about land use landcover change and resiliency to climate change | U.S. Dept of State, U.S Embassy to Mauritius & Seychelles | \$24,000.00 |
| 1375-22P | Mitra, Chandana | PV Tracking/Sizing and Crop Design for Maximum Value Return in Southeast Utility-Scale Agrivoltaics | Sofos Harbert Renewable Energy (DoE Flow) | \$485,068.00 |
| 0162-22P | Nelson, Jake | Expanding and Improving NYMPHS with Multi-Sourced Remotely Sensed Data | Arizona State University | \$16,159.64 |
| 0196-22P | Nelson, Jake | Is Your Water Well? Impacts of Extreme Flooding on Health And Community Resilience For Private Well Owners In The Gulf Coast | EPA | \$1,349,151.93 |

Geosciences Submitted Proposals FY22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|------------------------|---------------------|--|--|------------------|
| 0589-22P | Nelson, Jake | Building a private well contamination risk model to reduce environmental inequity | Alabama Water Resources Research Institute | \$72,177.48 |
| 0303 221 | Ojeda, Ann | Sequestration of Molybdenum through Bioremediation | EPRI | \$197,949.24 |
| 0345-22P | Ojeda, Ann | NAS Early-Career Research Fellowship | NAS Gulf Research Program | \$76,000.00 |
| 0850-22P | Ojeda, Ann | Using chemometrics to understand climatic and lithologic controls on PFAS occurrence in groundwater | USGS | \$249,866.38 |
| | Ojeda, Ann | AWRRI Student Award - Caitlyn Herron | AL Water Resources Research Institute | \$4,935.00 |
| | Ojeda, Ann | AWRRI Student Award - Ella Larson | AL Water Resources Research Institute | \$4,990.29 |
| 0781-22P | | ADEM – Utilizing Remote Sensing and GIS to Investigate Potential Pathogen Sources in the Upper Uphapee Creek Watershed | AL Dept of Environmental Management | \$124,983.40 |
| 1141-22P | Shepherd, Stephanie | Inclusive Design for Enhancing Active Learning in STEM (IDEALS) Program | NSF | \$599,867.01 |
| 1496-22P | Shepherd, Stephanie | UTEACH | UTEACH | \$4,285,000.00 |
| 066-22P | Vachula, Richard | Collaborative Research: Determining the climatic and anthropogenic controls of fire in the mid-Atlantic U.S. during the Holocene | NSF - Paleo Perspectives on Climate Change | \$285,694.67 |
| | Vachula, Richard | Using the past to inform modern and future wildfire in Acadia National Park | Second Century Stewardship | \$19,912.00 |
| 0485-22P | Vachula, Richard | Paleoecological constraints on fire driven aquatic-terrestrial connectivity in the southeastern United States | NSF | \$509,848.00 |
| 1361-22P | Vachula, Richard | Paleoecological constraints on fire driven aquatic-terrestrial connectivity in the southeastern United States | NSF | \$587,800.00 |
| 0607-22P | Vachula, Richard | Characterizing black carbon in lacustrine sediments as an analog for inertinite in Type I kerogen | American Chemical Society Petroleum Research Fund | \$110,000 |
| TOTAL PROPOSALS: 28 | , | <u> </u> | TOTAL AMOUNT REQUESTED: | \$11,807,283.93 |

Mathematics and Statistics FY 22



Mathematics and Statistics Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|--------------------------------------|------------|--|---|--------------|
| David Carpenter | PI | Quantification Of Confidence Level Of Fy21 Missile Models Performance | DOD | \$100,000.00 |
| Elvan Ceyhan | PI | Adversarial Risk Analysis For Optimal Obstacle Evasion | Navy | \$91,725.00 |
| Elvan Ceyhan | PI | Graph Theoretic Learning & Spatial Methods | Simons Foundation | \$8,400.00 |
| Erkan Nane | PI | Space-Time Fractional Dynamics | Simons Foundation | \$8,400.00 |
| Erkan Nane | PI | Groundwater 2070 In Baldwin County Alabama Under A Changing Climate & Threatened By Seawater Intrusion: From Sustainability To Vulnerability | University of Alabama (fed flow) | \$16,667.00 |
| Guanqun Cao | PI | Statistical Learning In Next Gen Of Functional Data Analysis | Simons Foundation | \$8,400.00 |
| lannah Alpert | PI | Disk Configuration Spaces & Macroscopic Scalar Curvature | Simons Foundation | \$8,400.00 |
| Huajun Huang/ Hans Werner Van Wyk | PI COPI | Developing, Recruiting & Empowering Alabama Mathematics Teachers | NSF | \$261,000.00 |
| essica McDonald | PI | Colouring & Structure In Graphs | Simons Foundation | \$8,400.00 |
| ingyi Zheng | PI | Towards A Manifold-Based Framework For Brain-Computer Interface | NSF | \$174,964.00 |
| ingyi Zheng | СОРІ | Detection Canine Applied R&D-Base Period Task 2.1-Optimize Early Dvlmt & Training Practices | DHS | \$1,691.00 |
| unshan Lin | PI | Imaging & Sensing Via Plasmonic Nanohole Resonance | NSF | \$72,965.00 |
| e Chen | PI | Frontier Probability Days Conference Attendance | NSF | \$32,000.00 |
| ₋e Chen | PI | Asymptotics For Stochastic Partial Differential Equations | Simons Foundation | \$8,400.00 |
| Melinda Lanius | PI | Promoting Success In Mathematical Enrichment Thru Graduate Teaching Assistant & Undergrad Pre-Service Teacher Training | Mathematical Association of America (non fed) | \$5,000.00 |
| Γhi Thao Phuong Hoang | PI | Efficient & Accurate Local Time-Stepping Algorithms For Multiscale Multiphysics Systems | NSF | \$89,294.00 |
| (iaoying Han | PI | Stochastic Dynamical Systems Arising From The Applied Sciences | Simons Foundation | \$7,000.00 |
| (iaoying Han | PI | Applied Dynamical Systems In Biological, Computational & Engineering Models | Simons Foundation | \$8,400.00 |
| 'anzhao Cao | PI | Reliable & Efficient Machine Learning For Leadership Facility Scientific Data Analytics | Dept of Energy | \$100,000.00 |
| | | Mathematics and Statistics Total: | | \$1,011,106 |

Mathematics and Statistics Active Awards

| PI | Sponsor | Title | Start Date | End Date |
|--|-------------------------------------|-------------------------------|------------|----------|
| Alpert, Hannah | Simons Foundation | SIMONS FDN-965348 | 09/01/22 | 08/31/23 |
| Cao, Guanqun | Simons Foundation | SIMONS FDN-849413 | 09/01/21 | 08/31/23 |
| Cao, Yanzhao | Dept of Energy | DE-SC0022253 | 09/01/21 | 08/31/23 |
| Cao, Yanzhao/Lin/Werner van Wyk/Hoang | National Science Foundation | NSF-DMS-1949953-PSC | 01/01/20 | 12/31/22 |
| Carpenter, David | Parsons Government Service | PGS-PO-0012480-TO35-MS-LBR | 09/26/22 | 09/06/23 |
| Carpenter, David | Parsons Government Service | PGS-PO-0012480-TO35-MS-TRV | 09/26/22 | 09/06/23 |
| Carpenter, David | Simons Foundation | SIMONS FDN-845698 | 09/01/21 | 08/31/23 |
| Carpenter, David | Parsons Government Service | PGS-PO-0008047-TO 192-M&S-LBR | 09/07/21 | 08/30/22 |
| Carpenter, David | Parsons Government Service | PGS-PO-0008047-TO 192-M&S-TRV | 09/07/21 | 08/30/22 |
| Carpenter, David | Parsons Government Service | PGS-PO-0008047-TO 193-M&S-LBR | 09/16/21 | 09/06/22 |
| Carpenter, David | Parsons Government Service | PGS-PO-0008047-TO 193-M&S-TRV | 09/16/21 | 09/06/22 |
| Ceyhan, Elvan | US Navy | NAVY-N00014-22-1-2572 | 07/01/22 | 06/30/25 |
| Ceyhan, Elvan | Simons Foundation | SIMONS FDN-855850 | 09/01/21 | 08/31/23 |
| Chen, Le | Simons Foundation | SIMONS FDN-959981 | 09/01/22 | 08/31/23 |
| Han, Xiaoying | Simons Foundation | SIMONS FDN-964968 | 09/01/22 | 08/31/23 |
| Hoang, Thi | National Science Foundation | NSF-DMS-2041884 | 09/01/21 | 08/31/26 |
| Hoang, Thi | National Science Foundation | NSF-DMS-1912626 | 08/01/19 | 07/31/23 |
| Huang, Huajun | National Science Foundation | NSF-DUE-1950251-M&S | 04/15/20 | 03/31/22 |
| Huang, Huajun/Werner Van Wyk | National Science Foundation | NSF-DUE-2151040-M&S | 04/01/22 | 03/31/28 |
| Lanius, Melinda | Mathematical Association of America | MATHEMATICAL ASSN AM | 05/03/22 | 08/31/23 |
| Lanius, Melinda/Jenda /Merchant/Billor | National Science Foundation | NSF-DUE-1821460* | 10/01/18 | 09/30/23 |

Mathematics and Statistics Active Awards

| PI | Sponsor | Title | Start Date | End Date |
|------------------------------------|-----------------------------|-----------------------------------|------------|----------|
| Lin, Junshan | National Science Foundation | NSF-DMS-2011148 | 09/01/20 | 08/31/23 |
| McDonald, Jessica | Simons Foundation | SIMONS FDN-845698 | 09/01/21 | 08/31/23 |
| Molinari, Roberto | Purdue University | PURDUE-10002092-002 | 08/15/22 | 07/31/25 |
| Nane, Erkan | Simons Foundation | SIMONS FDN-853651 | 09/01/21 | 08/31/23 |
| Nane, Erkan | University of Alabama | UAT-A22-0126-S001 | 01/01/22 | 08/31/22 |
| Oeding, Luke | Embassy of France | EMBASSY OF FRANCE | 09/01/20 | 08/31/24 |
| Schenck, Henry | National Science Foundation | NSF-DMS-2006410 | 03/01/21 | 02/29/24 |
| Schenck, Henry | National Science Foundation | NSF-DMS-2048906 | 02/15/21 | 12/31/21 |
| Zheng, Jingyi | National Science Foundation | NSF-CCF-2153492 | 05/01/22 | 04/30/24 |
| Zheng, Jingyi | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-M&S-T4 | 01/11/22 | 01/10/23 |
| Zheng, Jingyi | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-M&S-T5 | 01/11/22 | 01/10/23 |
| Zheng, Jingyi | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-M&S-T6 | 01/11/22 | 01/10/23 |
| Zheng, Jingyi | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-M&S-T7.1 | 01/11/22 | 01/10/23 |
| Zheng, Jingyi | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-M&S-T2.1 | 01/11/22 | 01/10/23 |
| Zheng, Jingyi | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-M&S-T3.1 | 01/11/22 | 01/10/23 |
| Zheng, Jingyi | Dept of Homeland Security | DHS-70RSAT22CB0000002-BP-M&S-T3.3 | 01/11/22 | 01/10/23 |
| | | | | |
| *Includes Participant Support Cost | | TOTAL ACTIVE AWARDS: 37 | | |
| | | | | |

Mathematics and Statistics Submitted Proposals FY22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|----------------|---|--|--|------------------|
| | | | | \$42,000.00 |
| 0459-22P | Alpert, Hannah | Disk configuration spaces and macroscopic scalar curvature | Simons Foundation | |
| 1537-22P | Alpert, Hannah | Phase Transitions in Homology of Configuration Spaces | Johnson & Johnson | \$150,000.00 |
| Brown, Michael | Exterior methods in multigraded commutative algebra | NSF | \$233,380.00 | |
| 0388-22P | Brown, Michael | Exterior methods in multigraded commutative algebra | Simons Foundation | \$42,000.00 |
| 0281-22P | Cao, Guangun | Modern Machine Learning for Functional Data Analysis | NSF | \$179,664.00 |
| 1055-22P | Cao, Guangun | Medical Imaging Data Classification via Deep Neural Network | Center for Clinical and Translational Science at UAB | \$19,830.00 |
| 1160-22P | Cao, Guanqun | Improving forest sustainability in the Southeastern US through synergistic use of Earth Observation data | USDA | \$467,557.48 |
| 0241-22P | Cao, Yanzhao | Collaborative Research: Sample-wise Back-propagation Method for Uncertainty Quantification in Deep Learning | NSF | \$141,062.73 |
| 0965-22P | Cao, Yanzhao | RTG: Data Science, Statistics and Machine Learning at Auburn: building knowledge and skills of the next generation | NSF | \$2,000,000 |
| 1268-22P | Carpenter, Mark | Physics Informed Modeling for UAV Threats | RIF | |
| 1357-21P | Carpenter, Mark | Quantification of Confidence Level of FY21 Missile Models | Parsons Govt. Services Inc. | \$100,000.00 |
| 1294-21P | Carpenter, Mark | Solid-Propellent Motor Analysis | Parsons Govt. Services Inc. | \$84,849.00 |
| 1178-22P | Carpenter, Mark | Quantification of Confidence Level of FY22 Missile | Parsons Govt. Services | \$285,000.00 |
| 0057-22P | Ceyhan, Elvan | Adversarial Risk Analysis for Optimal Obstacle Evasion | Office of Naval Research | \$358,005.00 |

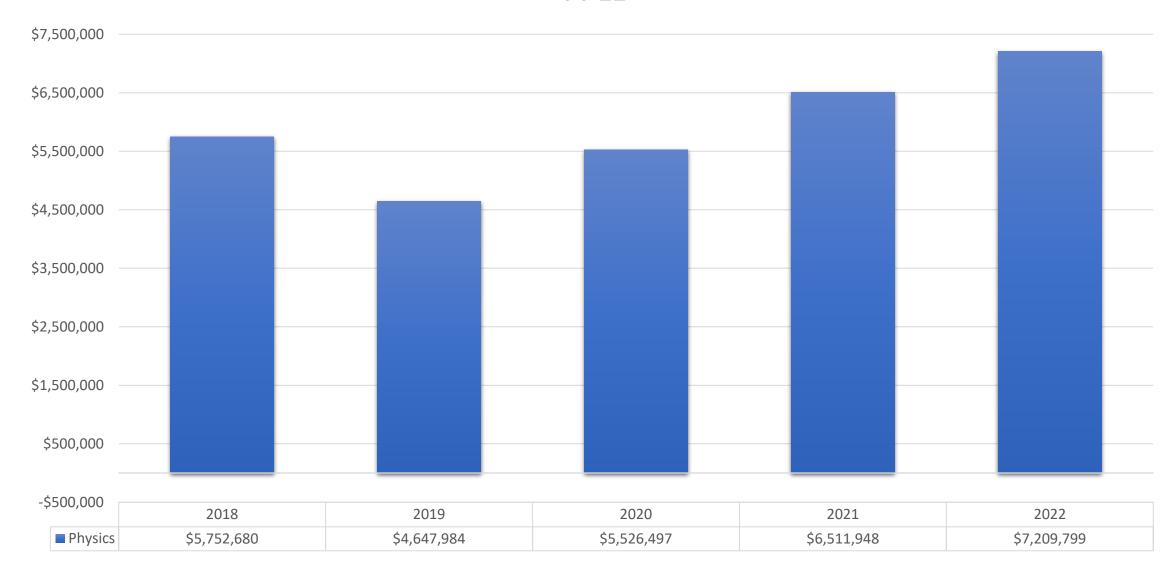
Mathematics and Statistics Submitted Proposals FY22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|-------------------|---|--|------------------|
| 0312-22P | Ceyhan, Elvan | Imbalanced Classification with Random Geometric Graphs | NSF | \$625,640.63 |
| 0568-22P | Ceyhan, Elvan | | DOD - USAF - AFOSR - Air Force Office of Scientific Research | \$593,320.93 |
| 1523-22P | Chen, Le | Studies of the Stochastic Partial Differential Equations | NSF | \$499,692.00 |
| 1194-22P | Chen, Le | Asymptotics for stochastic partial differential equations | NSF | \$673,309.28 |
| 1523-22P | Chen, Le | CAREER Studies of the Stochastic Partial Differential Equations | NSF | \$499,693.00 |
| 1602-21P | Chen, Le | Frontier Probability Days (Transfer from Emory) | NSF | \$32,000.00 |
| 0417-22P | Chen, Le | Asymptotics for partial differential equations | Simons Foundation | \$42,000.00 |
| 0014-22P | Feng, Ziqin | Applications of Tukey order in classifying Topological Spaces/Groups | NSF | \$185,430.14 |
| 0456-22P | Feng, Ziqin | Applications of Tukey order in classifying Topological Spaces/Groups | Simons Foundation | \$42,000.00 |
| 0438-22P | Han, Xiaoying | Applied dynamical systems in biological, computational, and engineering models | Simons Foundation | \$42,000.00 |
| 0253-22P | Lanius, Melinda | On the Capacity of Remote Learning Technologies to Support Conceptual Understanding Over Rote Memorization | Spencer Foundation | \$59,090.00 |
| 0534-22P | Lanius, Melinda | Promoting Success in Mathematical Enrichment Through Graduate Teaching Assistant and Undergraduate Pre-Service Teacher Training | Mathematical Association of America | \$5,000.00 |
| 0678-22P | Lanius, Melinda | Utilizing a Contemporaneous Measurement of Math Anxiety in the Undergraduate STEM Classroom | NSF | \$347,358.91 |
| | Lanius, Melinda | Developing a heart rate variability statistic for measuring math anxiety in the undergraduate classroom | Auburn University | |
| 1156-22P | Molinari, Roberto | CAREER-Robust and Scalable Inference for Complex Dependent Data | NSF | \$431,261 |

Mathematics and Statistics Submitted Proposals FY22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|------------------------|------------------|--|--|------------------|
| 0979-22P | Oeding, Luke | NSF ExpandQISE: Building Foundations of Quantum Computing and Machine Learning in Alabama | NSF | \$800,000.00 |
| 1332-22P | Schenck, Henry | Computational Algebraic Geometry: Applications to Physics and Topological Data Analysis | Simons Foundation | \$130,000.00 |
| 0181-22P | Shen, Wenxian | Propagation phenomena and persistence in biological systems under chemoattractants and/or climate change | NSF | \$277,383.00 |
| 0153-22P | Sukhtaiev, Selim | Existence, stability and spreading of nonlinear waves on networks | NSF | \$185,958.05 |
| 0419-22P | Sukhtaiev, Selim | Existence, stability and spreading of nonlinear waves on networks | Simons Foundation | \$42,000.00 |
| 1306-22P | Sukhtaiev, Selim | Joint AlabamaFlorida Conference on Differential Equations, Dynamical Systems and | NSF | \$26,010.00 |
| 1505-22P | Sukhtaiev, Selim | Index Theorems in Analysis, Mathematical Physics, and Spectral Theory | NSF | \$193,582.00 |
| 0289-22P | Zeng, Peng | On the Large-n-large-p Asymptotics for Generalized Linear Models | NSF | \$284,147.00 |
| 0442-22P | Zeng, Peng | Statistical Inference for High-Dimensional Generalized Linear Models | Simons Foundation | \$42,000.00 |
| 1552-22P | Zhang, Yuming | Regularity and asymptotic properties of some partial differential equations | NSF | \$317,815.00 |
| 0389-22P | Zheng, Jingyi | Developing and Testing a novel Bayesian model of human spatial navigation | University of Arizona | \$40,601.32 |
| 1068-22P | Zheng, Jingyi | Scalp EEG denoising via functional independent component analysis | Center for Clinical and Translational Science (UAB) | \$19,996.00 |
| 0540-22P | Zheng, Jingyi | EDGE CMT: Genomic, metagenomic, & material transcriptomic determinants of canine behavior | NSF | \$2,205,186.00 |
| 0516-22P | Zheng, Jingyi | Team Science Approach to Care of Patients with Mitral Regurgitation | University of Alabama Birmingham | \$1,013,740.00 |
| TOTAL PROPOSALS: 43 | | | TOTAL AMOUNT REQUESTED: | \$13,717,562.47 |

Physics FY 22



Physics
Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|---|--------------------|--|---|--------------|
| Allen Landers | PI | Times Microwave Systems Cobalt Services | Times Microwave Systems (Corp) | \$1,585.50 |
| Allen Landers | PI | Carlisle Interconnect Technologies Cobalt Services | Carlisle Interconnect Technologies (Corp) | \$20,158.50 |
| Allen Landers | PI | Times Microwave Systems Vacuum Radiation Test | Times Microwave Systems (Corp) | \$2,567.00 |
| Christopher Mehta/ Evdokiya Kostadinova | PI COPI | Formation Of Organic Compounds Through Meteoritic Atmospheric Shock | Department of Energy | \$68,156.87 |
| David Maurer/ David Ennis/ John Schmitt | PI COPI COPI | Three-Dimensional Equilibrium Stability &Its Impact On Edge Transport &Divertor Performance In Wendelstein 7-X | Department of Energy | \$392,104.95 |
| Dennis Bodewits | PI | Unravel Photon & Electron Processes & Their Interaction With Coma Of 67p Churyumov-Gerasimenko | NASA | \$184,874.00 |
| Dennis Bodewits | PI | Neil Gehrels-Swift Observatory Catalogue Of UV Spectra Of Asteroids | NASA | \$26,160.37 |
| Dennis Bodewits | PI | Characterizing The Distant Activity Evolution Of Comet C 2017 K2 | NASA | \$39,998.74 |
| Dennis Bodewits | PI | Using Nicer To Study The Solar Wind Interaction With The Rare Co-Rich Comet C 2017 K2 | NASA | \$43,942.11 |
| Dennis Bodewits | PI | Close Encounter With Comet 46p Wirtanen | Space Telescope Science Institute (Nasa flow) | \$9,829.00 |
| Dennis Bodewits | PI | Composition & Physical Processes Of Inner Coma Of Comet 46p-Wirtanen | Space Telescope Science Institute | \$57,683.00 |
| Dennis Bodewits | PI | Comet Outburst Target Of Opportunity | Space Telescope Science Institute | \$15,800.00 |
| Dennis Bodewits | PI | Hst-Cos Chemical Inventory &Activity Of Interstellar Object 2i Borisov | Space Telescope Science Institute | \$27,880.00 |
| Dennis Bodewits | PI | Detecting Water On Metallic M-Type Asteroids In The Far-Uv | Space Telescope Science Institute | \$11,486.00 |
| Dennis Bodewits | PI | The Return Of Rosetta'S Comet 67p Churyumov-Gerasimenko | Space Telescope Science Institute | \$48,921.00 |
| Dennis Bodewits | PI | Characterizing The Aftermath Of Mega-Outbursts Of Centaur 29p | Space Telescope Science Institute | \$92,160.00 |
| Dennis Bodewits | PI | Determining The Coma Contents Of The Incoming Oort Cloud Comet C 2014 Un271 | Space Telescope Science Institute | \$9,256.00 |
| Dennis Bodewits | PI | First Detection Of Volatiles From A Main-Belt Comet | Space Telescope Science Institute | \$14,247.00 |

Physics
Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|---|-------------|--|---|-----------------|
| Edward Thomas | PI | Support For 2022 Eclipse Meeting | National Science Foundation | \$83,266* |
| Edward Thomas/ Uwe Konopka | PI COPI | Magnetized Plasma Resch Lab As A Doe Plasma Science Facility | Department of Energy | \$561,495.10 |
| Edward Thomas/ David Maurer/ Evdokiya Kostadinova/ Joseph Perez/ Mary Ewald/ Uwe Konopka/ Xueyi Wang/ Yu Lin | PI/ COPI | Future Technologies Enabled By Plasma Processes | UAH | \$559,997.00 |
| Edward Thomas | PI | Connecting The Plasma Universe To Plasma Technology In Ala | UAH (fed flow) | \$599,580* |
| Evdokiya Kostadinova | PI | Hypervelocity Impact In Stellar Media: Heat Shielding, Shock Fronts & Ablation Clouds | Department of Energy | \$67,885.60 |
| Evdokiya Kostadinova | PI | Onset Of Turbulence In Dusty Plasma Liquids | Baylor University (NSF Flow) | \$47,876.00 |
| Guillaume Laurent | PI | Delivery Of Anti-Fungal Dsrna Into Yeast And Filamentous Fungi Using Laser-Activated Nanoparticles | NIH | \$132,011.47 |
| Hong Zhao | PI | Miniaturized High-Energy-Resolution Relativistic Electron Telescope | NASA | \$286,345.60 |
| Hong Zhao | PI | Roles Of Inward Radial Diffusion &Local Acceleration On The Energy-Dependent Energization Of Ultra Relativistic Electrons | NASA | \$249,008 |
| Hong Zhao | PI | Investigating The Role Of Subauroral Polarization Stream On The Energetic Particle Deep Penetration | NASA | \$295,983.00.00 |
| John Schmitt | PI | Optimized Stellarator Pilot Plant Design | Princeton Plasma Physics Lab (fed flow) | \$24,950.35 |
| Joseph Perez | PI | Storm Time O+ Ring Current Imaging Evolution | NASA | \$82,254.23 |
| Luca Guazzotto | PI | Two Fluid Equilibrium &Stability Analysis In Axisymmetric Plasmas | Department of Energy | \$126,388.16 |
| Marcelo Kuroda | PI | Modulation Of The Interlayer Coupling In Heterostructures Based On Two- Dimensional Materials | NSF | \$106,154* |
| Mark Adrian | PI | Development Of Low-Energy Electron Plasma Instrument | NASA | \$29,999.99 |

Physics
Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|-------------------------------|------------|--|---|---------------|
| Michael Fogle | PI | Small Satellite Based Secure Communication Thru Entangled Quant Key Distribution-Option 1 | Missile Defense Agency- Dept of Defense | \$76, 772.31 |
| Michael Fogle/ Stuart Loch | PI COPI | A Joint Theoretical & Experimental Approach To Dielectronic Recombination Data Needs | NASA | \$190,544.01 |
| Michael Fogle | PI | Trusted-Node Quantum Key Distribution From A Cube Sat | Space Dynamics Lab (fed flow) | \$214,327.04 |
| Nicholas Giordano | PI | Physics Of Wind Musical Instruments | NSF | \$113,370.00 |
| Rafael Bernardi | PI | Career: In Silico Single-Molecule Force Spectroscopy | NSF | \$484,008.00* |
| Ryan Comes | PI | Metastable Oxides For High-Mobility & Spin-Orbit 2D Electronics | Air Force Research Lab- Dept of Defense | \$149,800.00 |
| Saikat Chakraborty Thakur | PI | Z13.03-2204xemu Lunar Dust Mitigation Devices | Innovative Aerospace (Corp Nasa fed flow) | \$142,309.59 |
| Saikat Chakraborty Thakur | PI | Direct Nanomechanical Measurement Of Laser-Generated Plasma Shocks & Their Interaction With 2D Materials | Innovative Aerospace | \$13,965.00 |
| Sarit Dhar | PI | Army Research Lab Accelerator Services | Army Research Lab- Dept of Defense | \$4,800.00 |
| Sarit Dhar | PI | Fe Ion Implantation Into Ga2o3 | UES (Corp fed flow) | \$979.14 |
| Sarit Dhar | PI | Proton Irradiations | Blue Wave Semiconductors (Corp fed flow) | \$4,500.00 |
| Sarit Dhar | PI | Proton Irradiations Using Various Energies & Fluences | PSU-Abington (nonfed flow) | \$999.44 |
| Sarit Dhar | PI | Improving Sic Wafers & Processing For Lower Costs & Higher Reliability | National Renewable Energy Lab (fed flow) | \$37,500.00 |
| Sarit Dhar | PI | Thin Film Diamond-Lift Off By Ion Implantation & Annealing | JESCO (non fed) | \$20,066.83 |
| Uwe Konopka/ Edward Thomas | PI COPI | Complex Plasma Under Microgravity: Utilizing The International Space Station Experiment Pk-4 & Beyond | California Institute of Technology Jet Propulsion Lab (fed flow) | \$155,000.00 |
| Wencan Jin | PI | Probing Novel Phases Of Matter In Van Der Waals Magnet | NSF | \$240, 706.42 |

Physics Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|---|------------|---|---|----------------|
| Xueyi Wang/ Yu Lin | PI COPI | Gem-Impact Of Solar Wind Dynamic Pressure Enhancement On The Cusp & Polar Cap Ion Source | National Science Foundation | \$396,722.00 |
| Xueyi Wang | PI | Investigation Of Whistler-Mode Chorus Wave Generation & Associated Electron Scattering In The Earth's Inner Magnetosphere | NASA | \$379,467.00 |
| Xueyi Wang | PI | Investigating Quasi-Periodic Modulation Of The Fast Magnetosonic Waves In the Earths Inner Magnetosphere | University of Maryland Baltimore County (NASA fed flow) | \$87,892.00 |
| Xueyi Wang | PI | Impact Of Foreshock Transients On The Earth's Nightside Magnetosphere | UCLA (fed flow) | \$102,389.00 |
| Yu Lin | PI | Tracers Phase A | University of Iowa (fed flow) | \$41,952.27 |
| Yu Lin | PI | Investigating Magnetosphere-Ionosphere Coupling Associated With Flow Induced Alfven Wave Energy In The Magnetotail | University of Alaska Fairbanks (fed flow) | \$41,516.00 |
| | | | | |
| | | | | |
| | | Physics Total: | | \$7,209,799.19 |
| | | | | |
| | | | | |
| *Patricipant Support Costs included | | | | |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|------------------|---------------------------------------|--------------------------|------------|----------|
| Adrian, Mark | NASA | NASA-80NSSC22K1280 | 07/01/22 | 06/30/25 |
| Bernardi, Rafael | National Science Foundation | NSF-MCB-2143787* | 03/01/22 | 02/28/27 |
| Bernardi, Rafael | University of Illinois | UN IL-110955-19424 | 09/28/22 | 07/31/23 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-16040.003-A | 04/01/20 | 03/31/23 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-16049.001-A | 03/01/20 | 02/28/24 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-16652.005-A | 11/01/21 | 10/31/24 |
| Bodewits, Dennis | Smithsonian Astrophysical Observatory | SAO-DD0-21117A | 04/28/20 | 04/27/22 |
| Bodewits, Dennis | NASA | NASA-80NSSC20K0839 | 04/01/20 | 03/31/23 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-16077.003-A | 08/01/20 | 07/31/23 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-15965.001-A | 12/01/19 | 11/30/22 |
| Bodewits, Dennis | NASA | NASA-80NSSC21K1910 | 08/20/21 | 08/18/23 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-16770.001-A | 11/01/21 | 10/31/24 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-JWST-AR-02037.003-A | 07/01/22 | 06/30/25 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-15625.001-A | 03/01/19 | 02/28/23 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-16878.005-A | 04/01/22 | 03/31/25 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-16852.001-A | 03/01/22 | 02/28/25 |
| Bodewits, Dennis | Space Telescope Science Institute | STSI-HST-GO-15372.011-A | 12/01/18 | 11/30/22 |
| Bodewits, Dennis | Planetary Science Institute | PSI-SUBAWARD 1528 AUBURN | 08/01/18 | 05/15/23 |
| Bodewits, Dennis | NASA | NASA-80NSSC19K0245 | 03/14/19 | 03/13/23 |
| | | | | |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|--------------------------------------|---------------------------------------|-----------------------------|------------|----------|
| Bodewits, Dennis | NASA | NASA-80NSSC19K1304 | 09/01/19 | 08/31/23 |
| Bodewits, Dennis | Smithsonian Astrophysical Observatory | SAO-GO8-19001A | 12/07/18 | 12/06/21 |
| Bodewits, Dennis/Bodewits, De | NASA | NASA-80NSSC21K0703 | 04/01/21 | 03/31/22 |
| Bodewits, Dennis | NASA | NASA-80NSSC22K0540 | 07/01/22 | 08/31/23 |
| Bonamente, Emanuele/Bodewits, Dennis | NASA | NASA-80NSSC21K0127 | 11/01/20 | 10/31/22 |
| Chakraborty Thakur, Saikat | Innovative Aerospace | INNOVATIVE AEROSPACE-THAKUR | 09/01/22 | 06/15/24 |
| Comes, Ryan | Air Force Research Lab | AF-FA9550-20-1-0034 | 01/01/20 | 01/26/24 |
| Comes, Ryan | National Science Foundation | NSF-DMR-2045993* | 05/01/21 | 04/30/26 |
| Comes, Ryan/Farnum, Byron | National Science Foundation | NSF-DMR-2018794 | 08/01/20 | 07/31/23 |
| Comes, Ryan/Farnum, Byron | National Science Foundation | NSF-DMR-1809847* | 07/01/18 | 06/30/22 |
| Dhar, Sarit | Martin Materials Solutions | MMS-PO-S15-2021-01 | 01/01/21 | 12/31/21 |
| Dhar, Sarit | UES-Po | UES-PO 162-13-WL017 | 08/01/21 | 08/01/22 |
| Dhar, Sarit | Spectrolab | SPECTROLAB-PO 111971 | 06/01/21 | 06/01/22 |
| Dhar, Sarit | UES-Po | UES-PO 162-13-WL016 | 08/01/21 | 08/01/22 |
| Dhar, Sarit | Penn State University -Abington | PSU ABINGTON-DHAR | 03/25/22 | 03/25/23 |
| | US Army | ARMY-ACCELERATOR SERV-23 | 06/30/22 | 06/30/23 |
| Dhar, Sarit Dhar, Sarit | Blue Wave Semiconductors | BLUE WAVE SEMICONDUCTORS | 02/15/22 | 02/15/23 |
| Dhar, Sarit | Jesco | JESCO-DHAR | 04/01/22 | 04/01/23 |
| Dhar, Sarit | Solaero | SOLAERO-PO S000010374 | 09/21/22 | 09/30/23 |
| Dhar, Sarit | National Renewable Energy Lab | NREL-AHL-9-92362-01 | 09/10/19 | 09/30/22 |
| Dhar, Sarit | The Aerospace Corporation | TAC-PO 4600006756 | 08/08/19 | 09/30/23 |
| , | | | | |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|--|----------------------------------|-----------------------------|------------|----------|
| Dhar, Sarit | Spectrolab | SPECTROLAB-PO 103647 | 06/01/18 | 06/01/19 |
| Dhar, Sarit | Solaero | SOLAERO-PO S000009094 | 01/15/18 | 01/15/19 |
| Dhar, Sarit | Reghar Solar | REGHER SOLAR | 01/10/20 | 06/30/23 |
| Dhar, Sarit/Dhar, Sa | Solaero | SOLAERO-PO S000009857 | 08/01/20 | 09/30/23 |
| Dhar, Sarit/Dhar, Sa | Solaero | SOLAERO-PO S000009854 | 08/01/20 | 09/30/23 |
| Dhar, Sarit/Kuroda, Marcelo | US Army | ARMY-W911NF-18-2-0160 | 06/21/18 | 06/20/21 |
| Ennis, Stuart | Dept of Energy | DE-SC0015877-B | 07/01/22 | 06/30/23 |
| Ewald, Mary/Wang, Xueyi/Maurer, David/Perez, Joseph /Kostadinova, Evdokiya / Thomas, Ed/Konopka, Uwe | University of Alabama-Huntsville | UAH-2022-1537* | 06/01/22 | 04/30/27 |
| Fogle, Michael | Missile Defense Agency | MDA-HQ0860-21-C-6000-PHY | 04/02/21 | 04/01/22 |
| Fogle, Michael | Missile Defense Agency | MDA-HQ0860-21-C-6000-O1-PHY | 04/02/22 | 04/01/23 |
| Fogle, Michael | Space Dynamics Lab | SDL-CP0072009-PHY | 01/01/22 | 01/31/24 |
| Fogle, Michael | Clemson University | CU-2125-204-2013329 | 02/01/19 | 03/11/23 |
| Fogle, Michael/Adams, Mark | Space Dynamics Lab | SDL-CP0053703 | 01/01/19 | 11/30/21 |
| Fogle, Michael/Loch, Stuart | National Science Foundation | NSF-AST-2108647 | 09/01/21 | 08/31/24 |
| Fogle, Michael/Wersinger, Jean Marie | National Science Foundation | NSF-AGS-1445465-PHY | 08/15/15 | 07/31/23 |
| Jin, Wencan | National Science Foundation | NSF-DMR-2129879-PHY | 08/15/21 | 07/31/24 |
| King, David/ Thomas, Ed/Konopka, Uwe/Bodewits, Dennis | University of Alabama-Huntsville | UAH-2019-215-PY | 07/01/19 | 05/31/22 |
| Konopka, Uwe | University of Alabama-Huntsville | UAH-2020-1255 | 09/01/20 | 07/31/23 |
| Konopka, Uwe | National Science Foundation | NSF-PHY-1740784 | 06/01/17 | 05/31/22 |
| Konopka, Uwe | Jet Propulision Lab-Cal Tech | JPL-1655063 | 10/01/20 | 09/30/23 |
| | | | | |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|----------------------------|--------------------------------------|-------------------------|------------|----------|
| Konopka, Uwe/Thomas, Ed | Jet Propulsion Lab-Cal Tech | JPL-RSA 1667433 | 08/16/21 | 09/30/22 |
| Konopka, Uwe/Thomas, Ed | Jet Propulsion Lab-Cal Tech | JPL-RSA 1571699 | 04/15/07 | |
| Konopka, Uwe/Thomas, Ed | Jet Propulsion Lab-Cal Tech | JPL-1679198 | 06/15/22 | 06/15/24 |
| Kostadinova, Evdokiya | Dept of Energy | DE-SC0023061 | 09/01/21 | 08/31/23 |
| Kostadinova, Evdokiya | Dept of Energy | DE-SC0022554 | 05/01/22 | 04/30/23 |
| Kostadinova, Evdokiya | Dept of Energy | DE-SC0023476 | 09/01/22 | 08/31/23 |
| Kostadinova, Evdokiya | Baylor University | BAYLOR-1000274-01 | 08/26/21 | 07/31/23 |
| Kuroda, Marcelo | National Science Foundation | NSF-DMR-1848344 | 07/01/19 | 06/30/24 |
| Kuroda, Marcelo | National Science Foundation | NSF-DMR-1848344-PSC | 07/01/19 | 06/30/24 |
| Landers, Allen | Times Microwave Systems | TMS-PO 40837 | 12/03/21 | 12/02/22 |
| Landers, Allen | Times Microwave Systems | TMS-PO41364 | 06/10/22 | 09/30/22 |
| Landers, Allen/Cichon, Max | Carlisle Interconnect Technologies | CIT-PO 4500668201 | 07/29/21 | 03/31/22 |
| Landers, Allen/Cichon, Max | Carlisle Interconnect Technologies | CIT-PO 4500691610 | 02/08/22 | 09/30/23 |
| Laurent, Guillaume | National Institute of Health | NIH-1R15GM144897-01-PHY | 09/20/21 | 08/31/24 |
| Laurent, Guillaume | Air Force | AF-FA9550-18-1-0333 | 06/15/18 | 06/14/23 |
| Lin, Yu | University of California-Los Angeles | UCLA-2090 G XA735 | 03/04/20 | 05/15/23 |
| Lin, Yu | American Physical Society | APS-CONTR CWC-066 | 09/01/22 | 07/30/23 |
| Lin, Yu | University of Alaska-Fairbanks | UA FAIRBANKS-UA 22-0077 | 10/01/21 | 09/30/22 |
| Lin, Yu | NASA | NASA-80NSSC20K1322 | 07/14/20 | 07/13/23 |
| Lin, Yu | University of Iowa | UN IA-PO 1002078137 | 03/05/18 | 08/31/24 |
| | | | | |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|--|--|---------------------|------------|----------|
| Loch, Stuart/Fogle, Michael | NASA | NASA-80NSSC21K1465 | 07/08/21 | 07/07/24 |
| Loch, Stuart/Fogle, Michael | Dept of Energy | DE-SC0015877 | 06/01/16 | 06/30/22 |
| Loch, Stuart/Fogle, Michael | National Science Foundation | NSF-AST-1816984 | 09/01/18 | 08/31/22 |
| Loch, Stuart/Werner Van Wyk, Hans | Smithsonian Astrophysical Observatory | SAO-SV8-88019 | 06/01/18 | 12/31/21 |
| Maurer, David/Schmitt, John/Ennis, David | Dept of Energy | DE-SC0014529 | 08/15/15 | 08/14/23 |
| Maurer, David/Schmitt, John/Fogle, Michael | Princeton Plasma Physics Lab | PPPL-S210158 | 02/01/21 | 09/30/22 |
| Maurer, David/Knowlton, Steven/Harwell, Greg/Ennis, David | Dept of Energy | DE-FG02-00ER54610 | 09/01/00 | 05/15/23 |
| Mehta, Christopher/Kostadinova, Evdokiya | Dept of Energy | DE-SC0023375 | 09/01/22 | 08/31/23 |
| Perez, Joseph | NASA | NASA-80NSSC22K1029 | 05/09/22 | 05/08/26 |
| Perez, Joseph | University of Alabama-Huntsville | UAH-2018-251 | 06/26/18 | 05/25/22 |
| Schmitt, John | Princeton Plasma Physics Lab | PPPL-S018052 | 04/29/20 | 09/30/22 |
| Schmitt,John/Maurer, David | University of Montana | UN MT-PG23-25236-01 | 08/01/22 | 07/31/23 |
| Thomas, Edward | Jet Propulision Lab-Cal Tech | JPL-1646773-PHY | 02/06/20 | 02/05/23 |
| Thomas, Edward | University of Alabama-Huntsville | UAH-2017-096-A13-ET | 10/01/20 | 07/31/23 |
| Thomas, Edward | Program Income For Eclipse Conf-Additive | PROG INCOME-200868 | 02/15/22 | 01/31/23 |
| Thomas, Edward | National Science Foundation | NSF-PHY-2213431 | 02/15/22 | 01/31/23 |
| Thomas, Edward | National Science Foundation | NSF-PHY-2213431-PSC | 02/15/22 | 01/31/23 |
| Thomas, Edward | University of Alabama-Huntsville | UAH-2017-096 | 08/01/17 | 07/31/23 |
| Thomas, Edward | University of Alabama-Huntsville | UAH-2017-096-PSC | 08/01/17 | 07/31/23 |
| Thomas, Edward | University of Alabama-Huntsville | UAH-2017-096-GRA | 09/01/17 | 07/31/23 |
| Thomas, Edward | University of Alabama-Huntsville | UAH-2017-096-A10-FS | 09/01/17 | 07/31/23 |
| Thomas, Edward | University of Alabama-Huntsville | UAH-2017-096-A10-SJ | 09/01/17 | 07/31/23 |

| PI | SPONSOR | TITLE | START DATE | END DATE |
|---------------------------------------|--|--------------------------|------------|----------|
| Thomas, Edward/Konopka, Uwe | Dept of Energy | DE-SC0019176 | 09/01/18 | 08/31/23 |
| Thomas, Edward/Thomas, Ed | L3Harris | L3HARRIS-PO A000529678 | 02/27/20 | 12/31/23 |
| Thomas, Ed/Chakraborty Thakur, Saikat | University of Alabama-Huntsville | UAH-2017-096-A17-THAKUR | 08/01/21 | 07/31/23 |
| Wang, Xueyi | University of California-Los Angeles | UCLA-0965 G XA019 | 04/16/19 | 04/15/23 |
| Wang, Xueyi | University of Madison-Baltimore County | UMBC-NASA0065-02 | 08/05/21 | 08/04/23 |
| Wang, Xueyi/Lin, Yu | University of California- Los Angeles | UCLA-0965 G ZA769 | 06/01/22 | 05/31/23 |
| Wang, Xueyi/Wang, Xu | NASA | NASA-80NSSC21K1688 | 09/01/21 | 08/31/24 |
| Wang,Xueyi/Zhao, Hong/Lin, Yu | National Science Foundation | NSF-AGS-2131012 | 08/01/21 | 07/31/25 |
| Zhao, Hong | National Science Foundation | NSF-AGS-2140933 | 01/01/21 | 02/29/24 |
| Zhao, Hong | NASA | NASA-80NSSC21K1041 | 09/01/21 | 08/31/24 |
| Zhao, Hong | NASA | NASA-80NSSC22K0473 | 04/01/22 | 03/31/25 |
| Zhao, Hong | NASA | NASA-80NSSC22K0356 | 05/11/22 | 05/10/25 |
| Zhao, Hong | National Science Foundation | NSF-AGS-2140934 | 01/01/21 | 05/31/24 |
| *Includes Participant Support Cost | | TOTAL ACTIVE AWARDS: 115 | | |
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| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|------------------|---|-------------------|------------------|
| 957-22P | Adrian, Mark | Development of Low-energy Electron Plasma Instrumentation | NASA GSFC | \$29,999.93 |
| | | SiC Punch-through diodes for integrated voltage control and over-voltage suppression | | |
| 0464-22P | Ahyi, Ayayi | at 500°C | UAH | \$79,992.25 |
| 0073-22P | Bernardi, Rafael | Al-driven optimization of protein interfaces for antibody design | NIH | \$415,250.00 |
| 0074-22P | Bernardi, Rafael | Designing pathogen adhesin blockers with Deep Learning | NIH | \$316,525.00 |
| | Bernardi, Rafael | Modeling the evolution of protein mechanostability with AI-driven single-molecule approaches | Simons Foundation | |
| 0173-22P | Bernardi, Rafael | Optimizing Affibody design with Al-driven single-molecule approaches | NIH | \$1,829,922.14 |
| 1082-22P | Bernardi, Rafael | Mechanisms of protein mechanostability by in silico single-molecule force spectroscopy | NIH | \$453,000.00 |
| 1142-22P | Bernardi, Rafael | Designing pathogen adhesin blockers with Deep Learning | NIH | \$406,989.00 |
| 0071-22P | Bernardi, Rafael | A machine learning method for describing the atomic principles of viral protein mechanostability | NIH - R03 | \$141,880.37 |
| 0208-22P | Bodewits, Dennis | HST Cycle 29 Program GO-16852 Observations of 29P | NASA/STSCI | \$110,901.89 |
| 0288-22P | Bodewits, Dennis | HST Cycle 29 Program GO-16878 | STScl | \$11,568.11 |
| 0686-22P | Bodewits, Dennis | WHY WAS COMET C/2017 K2 ACTIVE AT RECORD-SETTING DISTANCES AND WHAT HAPPENS WHEN IT REACHES THE INNER SOLAR SYSTEM? | NASA | \$39,459.28 |
| 0835-22P | Bodewits, Dennis | NICER Cycle 4 Using NICER to Study the Solar-Wind Interaction with the Rare, CO-Rich Comet C/2017 K2 | NASA/NICER | \$44,000.00 |
| | Bodewits, Dennis | Spectroscopic models of small, oxygen-bearing molecular ions | NASA | |
| 0904-22P | Bodewits, Dennis | Spectral models for Cations in Cometary Comae | NASA | \$520,813.61 |

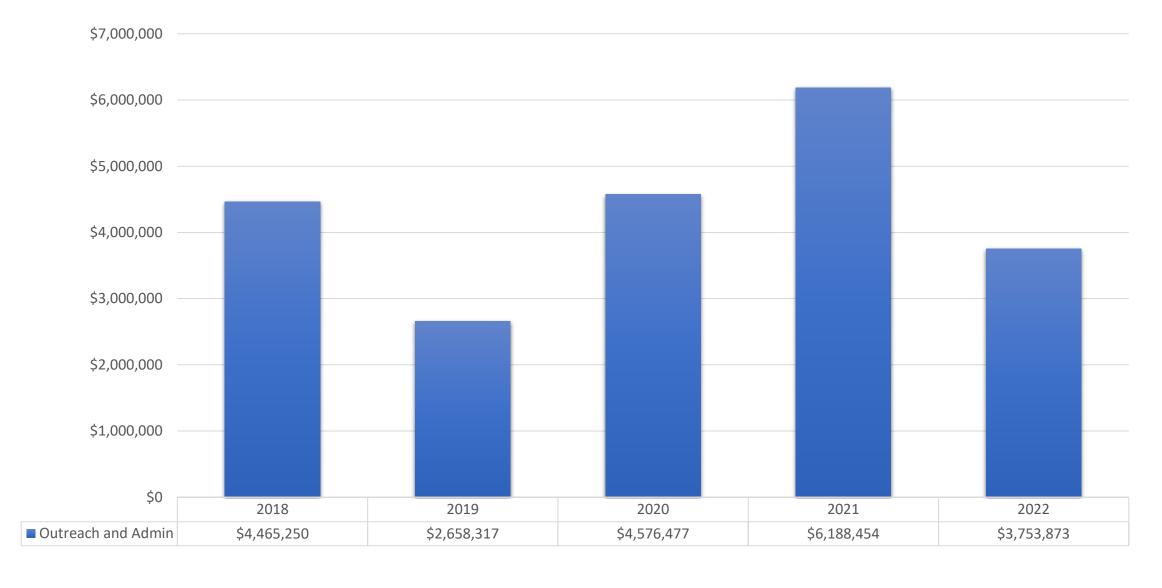
| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|----------------------------|---|--------------------------|---|
| | Bodewits, Dennis | Xrism guest scientist program Cometary X-rays | NASA | |
| | | | Space Telescope Science | |
| 1210-22P | Bodewits, Dennis | Investigating Sulfur Abundances and Distributions in UV Comet Observations | Institute | \$319,387.06 |
| | | Assessing and teaching real-world problem solving skills in engineering science | | |
| 400-22P | Burkholder, Eric | courses | NSF | \$299,985.69 |
| | | Assessing and improving real-world problem-solving skills in graduate | | |
| 0644-22P | Burkholder, Eric | | NSF | \$499,857.50 |
| 0011221 | Burking dery Erre | | 1101 | ψ 133,837130 |
| 0645 220 | Develop a labora. Estica | Investigating the role of background preparation in cooperative | NCE | 6240 707 04 |
| 0645-22P | Burkholder, Eric | | NSF | \$349,797,.04 |
| 0022 220 | Dunkhaldan Eria | Student self- and group-assessment and implications for equitable | Cooper Foundation | ¢2.46.709.72 |
| 0822-22P | Burkholder, Eric | | Spencer Foundation | \$246,708.72 |
| 1120 220 | Dunkhaldan Eria | Development and validation of a mathematical sensemaking inventory in | NCE | ¢722 128 20 |
| 1128-22P | Burkholder, Eric | physics The state of the state | NSF | \$733,138.29 |
| 1163-22P | Burkholder, Eric | Equitable group structure: barriers, moderating factors, and solutions | NSF | \$1,024,913.00 |
| | | NSF IUSE/PFE: RED Innovation: Improving problem-solving and | | , |
| 1108-22P | Burkholder, Eric | | NSF | \$1,985,230.00 |
| | · | Facilitating equitable group work: Investigating challenges and tools for equal | | |
| 1526-22P | Burkholder, Eric | | NSF | \$1,030,907.19 |
| | | | Innovative Aerospace LLC | |
| 0211-22P | Chakraborty Thakur, Saikat | The Lunar Dust Mitigation Devices (LDMD) Testing (SBIR Phase II) | (NASA flow) | \$142,273.15 |
| | | ECLIPSE: Collaborative Research: Physical and chemical insights into particle | | |
| 0171-22P | Chakraborty-Thakur, Saikat | , | NSF | \$368,414.94 |
| 0171 221 | Chakiasorty makar, saikat | 1 | 1131 | φ300,111.31 |
| | | The SECURE Collaboration: Scholarly Excellence in Critical Element Utilization, | | 4 |
| 0423-22P | Comes, Ryan | | NSF | \$1,434,000.21 |
| | | In Situ Studies of Charge Transfer Phenomena in Complex Oxide | | 4 |
| 0727-22P | Comes, Ryan | | DOE BES | \$749,728.20 |
| 0550-22P | Dhar, Sarit | Accelerator | Blue Wave Semiconductors | \$4,500.07 |

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|-------------------|--|-----------------------|------------------|
| 1512-22P | Dhar, Sarit | Accelerator Services-Solaero various ions and fluence combinations | Solaero | \$8,345.32 |
| | Dhar, Sarit | Engineering interfaces for high performance SiC power electronic systems (tentative) | NSF | \$1,377,635.69 |
| 0869-22P | Dhar, Sarit | Thin film diamond-lift off by ion implantation and annealing | JESCO | \$64,541.85 |
| 0679-22P | Dhar, Sarit | Accelerator - Pennsylvania State Abington | Penn State | \$999.44 |
| 0730-22P | Dhar, Sarit | Thin film diamond-lift off by ion implantation and annealing | JESCO Projects LLC | \$20,066.82 |
| 1074-22P | Dhar, Sarit | Accelerator | Army Research Lab | \$4,800.00 |
| 0445-22P | Ennis, David | Erosion and Re-Deposition Spectroscopic Diagnostic Developments for High-Z PFCs in DIII-D | Dept. of Energy (DOE) | \$920,569.56 |
| 1586-21P | Gramlich, Michael | Inter-Synaptic Vesicle Exchange Mediation of Frequency-dependent Presynaptic Transmission | NSF | \$736,087.59 |
| | Gramlich, Michael | Presynaptic Recycling Vesicle Pathway to hyperexcitable states in P301L tau model | NIH | |
| 1060-22P | Gramlich, Michael | Regulating glutamate and tau release in rTg(4510)P301L mice | NIH | \$431,126.10 |
| 1251-22P | Gramlich, Michael | Dynamically Changing Presynaptic Vesicle Pool Size Mediates Long Term Potentiation Via Inter-Synaptic Vesicle Exchange | NSF | \$809,134.45 |
| 1452-22P | Gramlich, Michael | Bootstrapping Approach to Understanding Presynaptic Vesicle Pool Size on Synaptic Transmission | NSF/NIH | \$596,827.52 |
| 0950-22P | Jin, Wencan | Characterization, modeling, and test generation for defects in skyrmion logic gates and circuits | NSF-EPMD | \$524,983.33 |
| 1191-22P | Jin, Wencan | Nonlinear optics studies of ferroic orders in complex oxides | NSF | \$673,374.64 |
| 0821-22P | Konopka, Uwe | JPL PK-4 | JPL - NASA | \$309,587.11 |

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|-------------|-----------------------|---|---|------------------|
| 0776-22P | Konopka, Uwe | Understanding the melting dynamics of the plasma crystal under the influence of varying magnetic field | East Michigan University (DOE Flow) | \$20,069.82 |
| 0163-22P | Kostadinova, Evdokiya | Using dusty plasma to study universality of liquid crystal phase transitions and origins of pattern formation | NSF-DMR | \$731,126.02 |
| 0178-22P | Kostadinova, Evdokiya | Hypervelocity Impact in Stellar Media: Heat Sheilding, Shock Fronts and Ablation Clouds | DOE | \$67,885.33 |
| ANP | Kostadinova, Evdokiya | Energetic Electron Transport in Magnetized Plasma with Magnetic Islands | DOE | \$136,118.77 |
| 0454-22P | Kuroda, Marcelo | NSF EPSCoR - TBD | NSF EPSCoR (Kansas Lead) | \$1,998,433.41 |
| 0803-22P | Kuroda, Marcelo | SemiSynBio-III: 2D Material Nanochannels as Biomolecule-based High- Density Storage | NSF | \$1,500,000 |
| 1015-22P | Landers, Allen | Cobalt Services | Times Microwave Systems | \$2,567.00 |
| 0272-22P | Landers, Allen | Cobalt 60 | Times Microwave Systems | \$1,585.50 |
| 0081-22P | Landers, Allen | Cobalt 60 - Carlisle IT | Carlisle Interconnect Technologies | \$7,927.50 |
| 1498-21P | Lin, Yu | A magnetosphere model based on combined global hybrid and inner magnetosphere codes | NASA | \$2,211,278.36 |
| 0048-22P | Lin, Yu | HERMES: HEliospheRic Magnetic Energy Storage and conversion | NASA DRIVE Center Program | \$1,051,002.56 |
| 0366-22P | Lin, Yu | Global and Kinetic Aspects of Mass, Momentum, and Energy Transport across the Magnetopause | Andrews Univ. | \$189,175.00 |
| 0452-22P | Maurer, David | MHD stability and equilibrium in a current-driven stellarator-tokamak hybrid | DOE Office of Science, Fusion Energy Science | \$202,095,255.00 |
| 1479-22P | Maurer, David | Three-dimensional equilibrium stability and its impact on edge transport and divertor performance in Wendelstein 7-X (Supplemental Funding) | DOE | \$75,642.74 |
| | Mehta, Christopher | Formation of Organic Compounds through Meteoritic Atmospheric Shock | DOE | \$154,477.98 |

| PI/COPI | Title | Sponsor | Amount Requested |
|----------------------|--|---|--|
| Perez Joseph | Storm Time O+ Ring Current Imaging Evolution (STORIE) | Goddard NASA | \$254,605.03 |
| Schmitt, John | Magnetohydrodynamic Optimization of Stellarator Fusion Energy Systems | DOE EPSCoR | \$169,797.81 |
| Thomas, Ed | Experiments to validate thermodynamic and transport models of strongly coupled dusty plasma matter | University of Memphis | \$33,339.29 |
| Thomas, Ed | ECLIPSE-Plasma Physics Workshop | NSF | \$99,766.00 |
| Thomas, Ed | IGSA | Fort Benning | \$18,461,797.00 |
| Wang, Xueyi | Understanding warm plasma cloak in the magnetosphere | UCLA (NASA flow through) | \$403,607.44 |
| Wang, Xueyi | Impact of solar wind dynamic pressure enhancement on the cusp particle source for the Earth's magnetosphere | UCLA | \$300,228.00 |
| Wang, Xueyi | Predictive Model of Hot Flow Anomalies and Foreshock Bubbles | UCLA | \$62,706.00 |
| Wang, Xueyi | · · | | \$109,937.81 |
| Wang, Xueyi/ Lin, Yu | Collaborative Research: Impact of Solar Wind Dynamic Pressure Enhancement on the Cusp and Polar Ion Source" | UCLA (NSF PRIME) | \$396,719.82 |
| Wang, Xueyi | 1 ' ' | | \$82,799.86 |
| Zhao, Hong | Collab.Res: Quantifying the contribution of off-equatorial ULF waves on radial diffusion in the radiation belts | NSF | \$89,978.46 |
| | | TOTAL AMOUNT REQUESTED: | \$250,775,049.57 |
| | Perez Joseph Schmitt, John Thomas, Ed Thomas, Ed Thomas, Ed Wang, Xueyi Wang, Xueyi Wang, Xueyi Wang, Xueyi Wang, Xueyi Wang, Xueyi Wang, Xueyi/ Lin, Yu Wang, Xueyi | Perez Joseph Storm Time O+ Ring Current Imaging Evolution (STORIE) Magnetohydrodynamic Optimization of Stellarator Fusion Energy Systems Experiments to validate thermodynamic and transport models of strongly coupled dusty plasma matter Thomas, Ed ECLIPSE-Plasma Physics Workshop Thomas, Ed IGSA Wang, Xueyi Understanding warm plasma cloak in the magnetosphere Impact of solar wind dynamic pressure enhancement on the cusp particle source for the Earth's magnetosphere Wang, Xueyi Predictive Model of Hot Flow Anomalies and Foreshock Bubbles How upstream solar wind conditions determine the properties of the foreshock backstreaming ions Collaborative Research: Impact of Solar Wind Dynamic Pressure Enhancement on the Cusp and Polar Ion Source" How upstream solar wind conditions determine the properties of the foreshock backstreaming ions Collab.Res: Quantifying the contribution of off-equatorial ULF waves | Perez Joseph Storm Time O+ Ring Current Imaging Evolution (STORIE) Goddard NASA Magnetohydrodynamic Optimization of Stellarator Fusion Energy Systems DOE EPSCOR Experiments to validate thermodynamic and transport models of strongly coupled dusty plasma matter Thomas, Ed ECLIPSE-Plasma Physics Workshop NSF Thomas, Ed IGSA Fort Benning Wang, Xueyi Understanding warm plasma cloak in the magnetosphere UCLA (NASA flow through) Impact of solar wind dynamic pressure enhancement on the cusp particle source for the Earth's magnetosphere UCLA Wang, Xueyi Predictive Model of Hot Flow Anomalies and Foreshock Bubbles How upstream solar wind conditions determine the properties of the foreshock backstreaming ions UCLA (NASA PRIME) Collaborative Research: Impact of Solar Wind Dynamic Pressure Enhancement on the Cusp and Polar Ion Source" UCLA (NASA PRIME) Wang, Xueyi foreshock backstreaming ions NSF Collab. Res: Quantifying the contribution of off-equatorial ULF waves on radial diffusion in the radiation belts TOTAL AMOUNT |

Outreach and Admin FY 22



Outreach and Admin Extramural Research Grants with New Dollars Received in FY2022

| PI NAME | PI/COPI | PROJECT TITLE | SPONSOR | AMOUNT |
|------------------------------|------------|---|---|----------------|
| Mary Ewald | PI | Teacher in Residence | US Department of Education | \$356,400.00 |
| Mary Ewald | PI | Alabama Science in Motion Program | Alabama Department of Education (non fed) | \$466,814.00 |
| Mary Ewald | PI | Al Math, Science & Technology Initiative Site (Amsti) | Alabama Department of Education (non fed) | \$2,398,821.00 |
| Mary Ewald | PI | Stem Teaching At Capital Heights Middle School | Montgomery Public Schools (non fed) | \$11,250.00 |
| Mary Ewald | PI | Alabama Space Grant Consortium-2022 Greater East Alabama Regional Science & Engineering Fair | UAH (Nasa fed flow) | \$5,000.00 |
| Mary Ewald | PI | Alabama Space Grant Consortium-2022 Alabama Science & Engineering Fair | UAH (NASA fed flow) | \$5,000.00 |
| Overtoun Jenda/ Ash Abebe | PI COPI | Making To Advance Knowledge, Excellence & Recognition In Stem | NSF | \$57,436.00 |
| Overtoun Jenda | PI | Greater Ala Black Belt Region Stem Initiative Summer Academy | Alabama Department of Education (non fed) | \$40,000.00 |
| Overtoun Jenda | PI | College Quest Summer Academy For Blind & Low Vision High School Students | Alabama Department of Rehabilitation Services | \$74,985.00 |
| Overtoun Jenda | PI | Act Summer Academy For Deaf & Hard Of Hearing High School Students | Alabama Department of Rehabilitation Services | \$40,000.00 |
| Overtoun Jenda | PI | Alabama State University Gear Up | US Department of Education | \$69,011.58 |
| Overtoun Jenda | PI | Support Panopto Teaching & Learning System | Maren-Panopto System Malawi Research and Education Network | \$85,000.00 |
| Robert Boyd | PI | Alabama Department of Public Health Rural Medicine Program | Alabama Department of Public Health (non fed) | \$144,155.00 |
| | | Outreach and Admin Total: | | \$3,753,872.58 |
| | | | | |

COSAM Outreach/Admin Active Awards FY22

| PI | SPONSOR | TITLE | START DATE | END DATE |
|------------------------------------|---|---------------------------|------------|-----------|
| Robert Boyd | Alabama Dept of Public Health | ADPH Rural Health Program | 1-Jul-10 | 30-Sep-23 |
| Overtoun Jenda | National Science Foundation | NSF-HRD-1712692* | 1-Sep-17 | 31-Aug-24 |
| Overtoun Jenda/Abebe/Wilson | National Science Foundation | NSF-DUE-1644007* | 1-Oct-16 | 31-Mar-24 |
| Overtoun Jenda | | NAU-1004670-01 | 1-Dec-20 | 30-Jun-23 |
| Overtoun Jenda/Abebe/Johnson | National Science Foundation | NSF-DMS-2015425* | 15-Jul-20 | 30-Jun-23 |
| Overtoun Jenda/Peter Johnson | National Science Foundation | NSF-DMS-1950563* | 1-Apr-20 | 31-Mar-24 |
| Overtoun Jenda/McCulluogh | National Science Foundation | NSF-EES-2119902* | 1-Aug-21 | 31-Jul-27 |
| Overtoun Jenda | Alabama Dept of Rehabilitation Services | AL DRS-AE2087MS05 | 1-Apr-22 | |
| Overtoun Jenda | Alabama Dept of Rehabilitation Services | AL DRS-AE2087MS58 | 1-Feb-22 | |
| Overtoun Jenda | Alabama State Dept of Education | AL DOE-X230102 | 1-Oct-22 | 30-Sep-23 |
| Overtoun Jenda | | MAREN-PANOPTO SYSTEM | 1-Aug-22 | 1-Aug-23 |
| Overtoun Jenda | Alabama Dept of Rehabilitation Services | AL DRS-AE1087MS05 | 1-Apr-21 | |
| Overtoun Jenda | Alabama Dept of Rehabilitation Services | AL DRS-AE9087MS58 | 1-May-19 | |
| Overtoun Jenda/Asheber Abebe | National Science Foundation | NSF-HRD-1649344* | 10/01/16 | 06/30/22 |
| Kimberly Mulligan-Guy/Karen McNeal | National Science Foundation | NSF-EEC-1950304* | 04/15/20 | 03/31/23 |
| Overtoun Jenda | AL Dept of Education | AL DOE-X220473 | 10/01/21 | 09/30/22 |
| Overtoun Jenda | Alabama State University | AL ST UN-ASU GEAR UP | 04/01/22 | 09/01/22 |
| Overtoun Jenda | Alabama Dept of Rehabilitation Services | AL DRS-AE8087MS58 | 1-May-18 | |
| | | Total Admin: 18 | | |
| | Lipinorsity of Alabama at Huntsvilla | HALL 2020 4254 ASEE 22 | 00/20/21 | 06/01/22 |
| Mary Ewald | University of Alabama at Huntsville | UAH-2020-1261-ASEF-22 | 09/30/21 | 06/01/22 |
| Mary Ewald | University of Alabama at Huntsville | UAH-2020-1261-GEARSEF-22 | 09/30/21 | 06/01/22 |
| Mary Ewald | AL Dept of Education | AL DOE-U220114 | 10/01/20 | 09/30/22 |
| Mary Ewald | AL Dept of Education | AL DOE-U210038 | 10/01/21 | 09/30/22 |
| | | Total Outreach: 4 | | |

COSAM Outreach/Admin Active Awards FY22

| PI | SPONSOR | TITLE | START DATE | END DATE |
|---|----------------------|-------------------------|------------|-----------|
| Mary Ewald | AL Dept of Education | AL DOE-U210027* | 10/01/20 | 09/30/22 |
| Mary Ewald | AL Dept of Education | AL DOE U220134 | 10/01/21 | 12/31/22 |
| Mary Ewald | AL Dept of Education | AL DOE-U220161 | 1-Oct-21 | 30-Sep-23 |
| | | Total AMSTI: 3 | | |
| *Denotes Participant Support Costs included | | | | |
| | | TOTAL ACTIVE AWARDS: 25 | | |
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Outreach and Admin Submitted Proposals FY22

| Proposal ID | PI/COPI | Title | Sponsor | Amount Requested |
|------------------|--------------------|--|----------------------------|------------------|
| ANP | Boyd, Robert | Auburn Rural Scholars Program | AL Dept Health | \$144,155.00 |
| ANP | Ewald, Mary | Alabama Science in Motion FY23 | ALSDE | \$466,814.00 |
| ANP | Ewald, Mary | AMSTI | ALSDE | \$2,398,821 |
| 1841-22P | Ewald, Mary | AMSTI TIR | ALSDE | \$183,600.50 |
| 0162-22P | Jenda, Overtoun | LSAMP BD: Auburn University GABBR Alliance | NSF | \$1,074,992 |
| 0572-22P | Jenda, Overtoun | Collaborative Research: MAKERS through Data Science (MAKERS-DS): A Mentoring Community Approach in Areas of Critical National Need | NSF | \$1,598,048.00 |
| 1395-22P | Jenda, Overtoun | REU Site: Research Experience for Undergraduates in Algebra & Discrete Mathematics at Auburn University | NSF | \$259,200.00 |
| 0415-22P | Mulligan, Kimberly | RaMP: Enhancing Scientific Preparation through Mentorship (ESP-M) Program | NSF | \$2,954,761.66 |
| 1357-22P | Mulligan, Kimberly | Collaborative Research: AGEP FC-PAM | NSF | \$1,577,193.00 |
| 0726-22P | Mulligan, Kimberly | EPSCOR-DE-STRESS Postbac program | NSF | \$999,997.40 |
| TOTAL PROPOSALS: | | | TOTAL AMOUNT REQUESTED: | \$11,657,582.56 |
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Submitted Proposals FY20-FY22

