# BOARD OF REGENTS SUPPORT FUND

# REVIEW OF COMPETITIVE PROPOSALS SUBMITTED FOR FUNDING CONSIDERATION IN THE RESEARCH COMPETITIVENESS SUBPROGRAM (RCS)

## FY 2022-23 COMPETITION

**March 2023**

# REPORT OF THE FINAL PANEL
# BOARD OF REGENTS SUPPORT FUND RESEARCH & DEVELOPMENT PROGRAM
# RESEARCH COMPETITIVENESS SUBPROGRAM (RCS)
# FY 2022-23

## BACKGROUND INFORMATION

Ninety-nine (99) proposals requesting a total of $5,298,569 in first-year funds were submitted for funding consideration in fiscal year (FY) 2022-23 to the Research Competitiveness Subprogram (RCS) of the Board of Regents Support Fund (BoRSF). Nine (9) disciplines were eligible, including Agricultural Sciences, Biological Sciences I, Biological Sciences II, Computer & Information Sciences, Earth & Environmental Sciences, Engineering A, Mathematics, Physics & Astronomy, and Social Sciences.

## THE REVIEW PROCESS

The ninety-nine (99) proposals submitted were reviewed by discipline-based panels. The chairs of each review panel represented their discipline on the final panel and submitted written reports with priority rankings of highly recommended proposals to the final panel chair, Dr. Virginia Ayres of the Department of Electrical & Computer Engineering at Michigan State University.

After careful consideration of all panel reports during March of 2023, the final panel chair highly recommended twenty-seven (27) proposals be funded for a total of $1,249,059 in first-year funds based on monies projected to be available. Of the twenty-seven (27) proposals recommended, twenty-three (23) are traditional multi-year projects and four (4) are one-year projects. A total of $3,290,555 was recommended over three years.

Table I of this report contains the rank-order list of all proposals highly recommended for funding. Proposals are divided by discipline and listed in the rank order provided by each discipline-based panel. Table II lists in priority rank order the proposals to be funded if additional funds become available. These proposals are not separated by discipline, but in a unified rank order. Table III lists the final panel chair and contributing consultants comprising the nine (9) discipline-based review panels. These are followed by a compilation of written comments submitted by the discipline-based review panels for each of the highly recommended proposals. Attachment A contains the scoring rubric used by panel members, and Attachment B provides a list of all proposals submitted to RCS in FY 2022-23.

Due to limited funds available and the large number of high-quality projects, funding recommendations in each project year were limited to a maximum of $53,000. Specific stipulations for budget items not recommended for funding must be accommodated by awarded projects. No reductions may be made to graduate student support in accordance with the BoRSF's constitutional

mission to support the recruitment of superior graduate students. All other reductions may be made at the discretion of the Principal Investigator.

This report contains assessments only of Priority I proposals recommended for funding. All proposals not recommended for funding (i.e., any proposal not listed in Table I) will receive debriefing material summarizing reviewer assessments of the project in July 2023, to assist applicants in development of submissions to RCS and other grant programs. These materials will be distributed via the PI LOGAN account used to submit the original proposal.

## Research Competitiveness Subprogram (RCS)
## Table I: Proposals Highly Recommended For Funding

### Agricultural Sciences

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 005A-23 | LSU-AG | Jeb Fields | $41,300 | $18,500 | $10,000 |
| 2 | 003A-23 | LSU-AG | Maria Bampasidou | $53,000 | $53,000 | $46,372 |
| | | | | $94,300 | $71,500 | $56,372 |

### Biological Sciences I

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 099A-23 | UNO | Cheng Shi | $53,000 | $53,000 | $53,000 |
| 2 | 047A-23 | LSUHSC-NO | Ben Kelly | $50,000 | $50,000 | $50,000 |
| 3 | 008A-23 | LSU-AG | Constantine Simintiras | $53,000 | $53,000 | $53,000 |
| 4 | 042A-23 | LSU A&M | Anastasios Vourekas | $53,000 | $50,000 | $42,255 |
| | | | | $209,000 | $206,000 | $198,255 |

### Biological Sciences II

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 040A-23 | LSU A&M | Jiaqi Tan | $53,000 | $53,000 | $37,200 |
| 2 | 029A-23 | LSU A&M | Karen Maruska | $20,000 | | |
| 3 | 085A-23 | ULL | Emily Kane | $53,000 | $53,000 | $53,000 |
| 4 | 041A-23 | LSU A&M | Gregory Thom | $53,000 | $53,000 | |
| 5 | 034A-23 | LSU A&M | Olalekan Ogundele | $20,000 | | |
| | | | | $199,000 | $159,000 | $90,200 |

### Computer & Information Sciences

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 084A-23 | ULL | Aminul Islam | $53,000 | $50,295 | $46,056 |
| 2 | 073A-23 | Tulane | Mahir Bilen Can | $53,000 | $53,000 | |
| | | | | $106,000 | $103,295 | $46,056 |

### Earth & Environmental Sciences

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 086A-23 | ULL | David Oppo | $39,384 | $33,301 | $31,250 |
| 2 | 069A-23 | Nicholls | Jonathan Willis | $38,700 | $39,959 | $39,052 |
| 3 | 021A-23 | LSU A&M | Achim Herrmann | $12,675 | | |
| | | | | $90,759 | $73,260 | $70,302 |

## Engineering A

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 011A-23 | LSU A&M | Yaxin An | $53,000 | $53,000 | $50,000 |
| 2 | 056A-23 | LaTech | M Shafiqur Rahman | $53,000 | $53,000 | $53,000 |
| 3 | 017A-23 | LSU A&M | Kofi Christie | $53,000 | $53,000 | $53,000 |
| 4 | 098A-23 | UNO | Elnaz Safapour | $53,000 | $53,000 | $53,000 |
| 5 | 023A-23 | LSU A&M | Amirhosein Jafari | $53,000 | $53,000 | $53,000 |
| | | | | $265,000 | $265,000 | $262,000 |

## Mathematics I

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 053A-23 | LaTech | Nathan Green | $53,000 | $53,000 | $42,109 |
| 2 | 077A-23 | Tulane | Xiang Ji | $53,000 | $53,000 | $53,000 |
| | | | | $106,000 | $106,000 | $95,109 |

## Physics & Astronomy

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 012A-23 | LSU A&M | Xiaojian Bai | $53,000 | $53,000 | $53,000 |
| 2 | 010A-23 | LSU A&M | Ivan Agullo | $53,000 | $53,000 | |
| | | | | $106,000 | $106,000 | $53,000 |

## Social Sciences

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 1 | 038A-23 | LSU A&M | Kevin Smiley | $20,000 | | |
| 2 | 016A-23 | LSU A&M | Kellie Brisini | $53,000 | $53,000 | $27,147 |
| | | | | $73,000 | $53,000 | $27,147 |

| RCS Total Recommended Funds | 1st Year | 2nd Year | 3rd Year |
|---|---|---|---|
| | $1,249,059 | $1,143,055 | $898,441 |

## Research Competitiveness Subprogram (RCS)
## Table II: Proposals Recommended if Additional Funds Become Available

| Rank | Proposal # | Institution | PI | 1st-Year Recommendation | 2nd-Year Recommendation | 3rd-Year Recommendation |
|---|---|---|---|---|---|---|
| 28 | 013A-23 | LSU A&M | Sviatoslav Baranets | $53,000 | $53,000 | $52,224 |
| 29 | 020A-23 | LSU A&M | Ipsita Gupta | $53,000 | $53,000 | $53,000 |
| 30 | 080A-23 | LSU A&M | Kalinna Mincheva | $53,000 | $32,333 | $30,295 |
| 31 | 006A-23 | LSU-AG | Lewis Gaston | $43,500 | $41,500 | $21,750 |
| 32 | 019A-23 | LSU A&M | Rebeca de Jesus Crespo | $48,980 | $40,115 | $35,681 |
| | | | | $251,480 | $187,615 | $192,950 |

# Table III
# FY 2022-23 RCS Panelists

| 2022-23 Research Competitiveness Subprogram | | |
|---|---|---|
| **Name** | **School** | **Discipline** |
| **Final Panel** | | |
| Virginia M. Ayres | Michigan State University | Physics/Engineering |
| **Biological Sciences I** | | |
| Rakesh Patel, chair | University of Alabama at Birmingham | Pathology, Molecular |
| Maitreyi Das | Boston College | Cell/Molecular/Genetics |
| **Biological Sciences II** | | |
| Katharine Lewis, chair | Syracuse University | Neuroscience, Zoology |
| Sean P. Mullen | Boston University | Ecology, Evolutionary |
| **Computer & Information Sciences** | | |
| Kai Zheng, chair | University of California Irvine | Informatics |
| Yu Chen | Binghamton University | Computer Engineering |
| **Earth & Environmental Sciences** | | |
| Alexis Sitchler, chair | Colorado School of Mines | Geochemistry |
| Yasin Elshorbany | University of South Florida | Atmospheric Chemistry |
| Johan Gottgens | University of Toledo | Environmental Science |
| **Agricultural Sciences** | | |
| Eugene Kelly, chair | Colorado State University | Soil & Crop Sciences |
| S. Alan Walters | Southern Illinois University | Vegetable Science |
| **Engineering A** | | |
| Nasim Uddin, chair | University of Alabama at Birmingham | Civil Engineering |
| Rebecca Ong | Michigan Technological University | Chemical |
| Stephen Bayne | Texas Tech University | Electrical |
| **Mathematics** | | |
| Brett Wick, chair | Washington University in St. Louis | Complex Analysis |
| Michael Zieve | University of Michigan | Algebraic Geometry |
| **Physics** | | |
| Bhaskar Dutta, chair | Texas A&M University | High Energy Physics |
| Hui Deng | University of Michigan | Condensed Matter |
| **Social Sciences** | | |
| Matthew Brashears, chair | University of South Carolina | Sociology |
| Thomas Holtgraves | Ball State University | Social Psychology |

**Research Competitiveness Subprogram**
**FY 2022-23 Competitive Cycle**

**Agricultural Sciences**
**Priority Ranking of Proposals Highly Recommended for Funding**

| | |
|---|---|
| **Rank** | 1 (Agricultural Sciences) |
| **Proposal #** | 005A-23 |
| **Institution** | Louisiana State University Agricultural Center |
| **PI** | Jeb Fields |
| **Title** | Improving Root Growth, Resource Efficiency, and Crop Productivity with Soilless Substrate Stratification |
| **Requested** | $69,800<br>(Y1: $41,300; Y2: $18,500; Y3: $10,000) |
| **Recommended** | $69,800<br>(Y1: $41,300; Y2: $18,500; Y3: $10,000) |

The PI seeks to assist Louisiana growers with more efficient and cost-effective production strategies through soilless substrate research. This proposal fills a critical gap in controlled environmental agriculture research. The goals are straightforward and technically sound. It is a reasonable request that is low cost but will have high returns if successful. The research is likely to garner external dollars from the horticultural community and industries and aligns closely with the USDA's urban agriculture initiatives. Full funding is recommended.

| | |
|---|---|
| **Rank** | 2 (Agricultural Sciences) |
| **Proposal #** | 003A-23 |
| **Institution** | Louisiana State University Agricultural Center |
| **PI** | Maria Bampasidou |
| **Title** | Farm Labor Supply and Demand Adapting to Labor Market Shocks |
| **Requested** | $165,903<br>(Y1: $62,971; Y2: $56,560; Y3: $46,372) |
| **Recommended** | $152,372<br>(Y1: $53,000; Y2: $53,000; Y3: $46,372) |

The PI seeks funds to study the effects of immigration policy on agricultural labor markets. Farm labor is a critical area of research both regionally and nationally. The proposal is well organized and strongly argued. It highlights the deficiencies and knowledge gaps in our understanding of farm labor and how it is impacted by markets. The proposed research should yield important new discoveries regarding the effects of markets and policy on the availability of farm labor. The results of this project should position the investigator to secure additional research support from the USDA. Given funding constraints in the RCS program, partial funding of $53,000 is recommended in years one and two, with full funding in year three. Reductions to graduate student support are not allowable. Further reductions may be made at the discretion of the PI.

**Biological Sciences I**
**Priority Ranking of Proposals Highly Recommended for Funding**

| | |
|---|---|
| **Rank** | 1 (Biological Sciences I) |
| **Proposal #** | 099A-23 |
| **Institution** | University of New Orleans |
| **PI** | Cheng Shi |
| **Title** | Regulation of Somatic Aging and Lipid Metabolism by the Hyperactive Germline |
| **Requested** | $195,779<br>(Y1: $66,766; Y2: $64,255; Y3: $64,758) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

The PI proposes to investigate how Hedgehog signaling regulates lipid metabolism and somatic aging. The proposal is well written and based on strong preliminary data. A detailed plan is provided for making the team competitive for federal funding, with barriers to success and plans to overcome them identified. The PI has already published high-impact papers in Hedgehog signaling and somatic aging, so is experienced in this line of investigation. The environment at the University of New Orleans is conducive for the proposed studies. The project has the potential to generate novel concepts in our understanding of somatic aging. There is a strong chance that the proposed studies can be developed into extramural support applications to both NIH and NSF. The proposed budget appears to be somewhat high and available dollars in RCS are constrained, so reduced funding of $53,000 in all three years is recommended. No reductions may be made to graduate student support, though further reductions may be made at the discretion of the PI.

| | |
|---|---|
| **Rank** | 2 (Biological Sciences I) |
| **Proposal #** | 047A-23 |
| **Institution** | Louisiana State University Health Sciences Center - New Orleans |
| **PI** | Ben Kelly |
| **Title** | Regulation of Cytochrome C Oxidase Subunit Expression in Leishmania |
| **Requested** | $150,000<br>(Y1: $50,000; Y2: $50,000; Y3: $50,000) |
| **Recommended** | $150,000<br>(Y1: $50,000; Y2: $50,000; Y3: $50,000) |

This project will investigate the regulation of Cytochrome C oxidase in Leishmania. The barriers to federal funding have been appropriately identified and the PI plans to address directly NIH reviewer comments and cited weaknesses related to a previously submitted proposal. This approach is logical and will strengthen the three aims of the planned R01 application. The PI has sufficient resources and facilities to complete this project if supported by RCS, as well as a promising track record. A large body of preliminary data has been generated to support the hypotheses, premise and rationale related to the aims of the project. If successful, the proposed studies will identify potential targets for therapy and diagnosis of Leishmaniosis, with strong potential to obtain NIH or NSF funding to continue this research. An additional strength of this project is the inclusion of collaborators with expertise in ubiquitin biology. Full funding is recommended.

| | |
|---|---|
| **Rank** | 3 (Biological Sciences I) |
| **Proposal #** | 008A-23 |
| **Institution** | Louisiana State University Agricultural Center |
| **PI** | Constantine Simintiras |
| **Title** | The Mechanisms of Uterine Gland Formation and Behavior in Health and Disease |
| **Requested** | $199,898<br>(Y1: $59,150; Y2: $87,449; Y3: $53,299) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

In this project, the PI plans to investigate the molecular details of uterine gland formation and related disorders. The outcomes will include preliminary data and publications, the lack of which creates barriers to federal competitiveness. The necessary institutional resources and facilities are identified. The PI is an expert in reproductive biology and has a proven scholarship record, publishing 19 papers, nine as first author. The potential for the PI to establish an independent and funded laboratory is high. Early pregnancy loss is a significant problem and research addressing underlying mechanisms has a strong prospect for funding via NIH-NICHD. Using a 3D organoid model to determine mechanisms of adenogenesis and uterine luminal fluid (ULF) formation is innovative and will increase competitiveness. The project goals and objectives are complementary, feasible, and have a strong likelihood for advancing the field. The proposal is ambitious and the potential impact of the proposed studies is high. The addition of collaborators who could help with human tissue studies would strengthen this and subsequent applications. Other areas for addition include a discussion of and studies regarding the similarity/dissimilarity (pros vs. cons) of the in vitro 3D model compared to the situation in vivo. While an in vitro 3D organoid model is exciting, addressing potential concerns of in vivo relevance is important, especially when thinking about future extramural grant applications. Reduced funding of $53,000 in each year is recommended. No reductions may be made to graduate student support, though other reductions may be made at the discretion of the PI.

| | |
|---|---|
| **Rank** | 4 (Biological Sciences I) |
| **Proposal #** | 042A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Anastasios Vourekas |
| **Title** | tRNA Fragments as Guides of mRNA Regulation by RNase P |
| **Requested** | $147,255<br>(Y1: $55,000; Y2: $50,000; Y3: $42,255) |
| **Recommended** | $145,255<br>(Y1: $53,000; Y2: $50,000; Y3: $42,255) |

In this project the PI will investigate mRNA regulation by RNase P. This is a focused application designed to generate key preliminary data, which, together with current data, will form the basis of an extramural R01 application. The barriers to competitiveness are well described and have been identified based on feedback from mentors. The PI has been productive, publishing high-impact papers in the field. The institution has the necessary resources and facilities required for the research. The project is significant and if successful will further knowledge of tRNA biology and understanding of the basic science of gene regulation. This research plan is well described. The aims follow the logic of the preliminary data, which are strong and support feasibility of the hypothesis. Intentional efforts addressing scientific rigor are also proposed. Areas in which the proposal could be improved include defining the

significance and importance of the research proposed. This will be particularly important when applying for federal funding and competing with applications that have made a strong case for research significance. The budget is somewhat high, so partial funding of $53,000 is recommended in year one, with full funding recommended in subsequent years. The budget reduction may be made at the PI's discretion.

**Biological Sciences II**
**Priority Ranking of Proposals Highly Recommended for Funding**

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|---|---|
| **Rank** | 1 (Biological Sciences II) |
| **Proposal #** | 040A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Jiaqi Tan |
| **Title** | Investigation of the Ecological Impacts of Nanomaterial Stress on Species Interactions in Freshwater Ecosystems |
| **Requested** | $158,846<br>(Y1: $62,167; Y2: $59,479; Y3: $37,200) |
| **Recommended** | $143,200<br>(Y1: $53,000; Y2: $53,000; Y3: $37,200) |

This study will examine environmental nanomaterials in freshwater ecosystems. The PI identifies barriers to competitiveness and presents a clear plan for overcoming them. There is a high likelihood of new discoveries and contributions to basic science through the research proposed. The data generated are likely to make the project competitive for federal funding. The experiments are well described, and the study system is remarkably well suited to the proposed manipulations. The goals are clear. The budget is somewhat high, so partial funding of $53,000 is recommended in years one and two, and full funding in year three. Funding may not be reduced for graduate student support, though other reductions may be made at the discretion of the PI.

| | |
|---|---|
| **Rank** | 2 (Biological Sciences II) |
| **Proposal #** | 029A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Karen Maruska |
| **Title** | Hormone-Mediated Muscle Plasticity to Facilitate Extreme Parental Care in a Mouthbrooding Cichlid Fish |
| **Requested** | $20,000 |
| **Recommended** | $20,000 |

This project will use Diffusible Iodine-based Contrast-enhanced Computed Tomography (DiceCT) to study the reproductive cycle in maternal mouthbrooding cichlid fish. This one-year award will enable a new research focus for the applicant and establish a new technique in their lab. The proposed project is well developed, logical, clear, and feasible. The PI has previously held an NSF grant in a different research area and does not currently have funding. There is a strong chance of obtaining new NSF support with the data generated through this project. Full funding is recommended.

| | |
|---|---|
| **Rank** | 3 (Biological Sciences II) |
| **Proposal #** | 085A-23 |
| **Institution** | University of Louisiana at Lafayette |
| **PI** | Emily Kane |
| **Title** | Sculpting Sculpins: Form and Function of Pectoral Fin Specialization in Intertidal Fishes |
| **Requested** | $190,363<br>(Y1: $67,519; Y2: $64,752; Y3: $58,092) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

The PI proposes a study of the pectoral fin structure of fish in multiple habitats. The applicant has already submitted an NSF proposal, and this RCS project would enable them to address reviewer feedback. This is an interesting interdisciplinary, integrative project with clear aims. It has the potential to become a premier example of niche partitioning, competitive exclusion, and life-history evolution. Gathering additional preliminary data is likely to make the project highly competitive for NSF funding. Costs could be reduced by paying the graduate student at the local departmental funding rate rather than the NSF GRF rate (potentially saving up to $6,000 a year). Considerable travel funds are requested. The grant should provide for fewer people to attend conferences and instead redirect released travel funds to a second field season, to mitigate the risks of not obtaining sufficient data from one field season. The budget is high given the limitations on this program, and partial funding of $53,000 is recommended in all three years, with reductions to be made at the discretion of the PI.

| | |
|---|---|
| **Rank** | 4 (Biological Sciences II) |
| **Proposal #** | 041A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Gregory Thom |
| **Title** | The Genomic Architecture Behind the Obligatory Army-Ant Following Behaviour in Birds |
| **Requested** | $151,807<br>(Y1: $88,697; Y2: $63,110; Y3: $0) |
| **Recommended** | $106,000<br>(Y1: $53,000; Y2: $53,000; Y3: $0) |

This proposal aims to study the adaptive mechanism allowing species interactions. This is a very interesting project with a high likelihood of generating new discoveries and fundamental advances. The proposal is well written with a strong articulation of the big-picture importance of the proposed research and the associated broader impacts. This project should be fundable by NSF if the PI is able to gather preliminary data as proposed and write a somewhat less ambitious proposal. The requested budget is extremely high, so partial funding of $53,000 is recommended in years one and two. No reductions may be made to graduate student support, though further reductions may be made at the discretion of the PI.

| | |
|---|---|
| **Rank** | 5 (Biological Sciences II) |
| **Proposal #** | 034A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Olalekan Ogundele |
| **Title** | Decoding Hypertension in the Hypothalamus-Brainstem Circuit |
| **Requested** | $20,000 |
| **Recommended** | $20,000 |

The PI proposes research that will increase the understanding of neural control of systemic cardiovascular function and neural response to systemic cardiovascular changes in hypertensive states. This one-year proposal would enable the applicant to use a cutting-edge research method in which they are already proficient to address a new area of research, and should position them well for federal support. Full funding is recommended.

**Computer and Information Sciences**
**Priority Ranking of Proposals Highly Recommended for Funding**

| | |
|---|---|
| **Rank** | 1 (Computer and Information Sciences) |
| **Proposal #** | 084A-23 |
| **Institution** | University of Louisiana at Lafayette |
| **PI** | Aminul Islam |
| **Title** | Improving the Training Time and Learning Capacity of a Deep Learning Model |
| **Requested** | $153,134<br>(Y1: $56,783; Y2: $50,295; Y3: $46,056) |
| **Recommended** | $149,351<br>(Y1: $53,000; Y2: $50,295; Y3: $46,056) |

The proposed research seeks to improve deep learning (DL) training efficiency by estimating the learning capacity of DL models. This is a timely and important topic, as DL models often require enormous amounts of training data and there is no universal standard to measure when adequate training is achieved (i.e., when adding more training data would only introduce marginal performance improvements). If the project is successful, it will have a significant impact on the field of artificial intelligence/machine learning by reducing training effort without sacrificing model performance. Federal funding agencies such as NSF and DoD have active portfolios supporting research in this area. The barriers to competitiveness and plan to overcome them are clearly articulated, including improving collaboration opportunities, experience in managing multi-year grants, and support of graduate students. Developing a guideline/procedure/algorithm for determining the learning capability of DL models for a specific set of use scenarios is extremely valuable. Many other research teams in the nation are pursuing this topic, given its importance. The PI is encouraged to thoroughly study ongoing cutting-edge research, particularly those projects supported by NSF, DoD, DoE, NIH, etc., to improve competitiveness and ensure contributions are unique. Due to limited funds available, partial funding of $53,000 is recommended in year one with full funding in years two and three.

| | |
|---|---|
| **Rank** | 2 (Computer and Information Sciences) |
| **Proposal #** | 073A-23 |
| **Institution** | Tulane University |
| **PI** | Mahir Bilen Can |
| **Title** | Applications of Representation Theory to Quantum Error Correction |
| **Requested** | $187,417<br>(Y1: $96,240; Y2: $91,177; Y3: $0) |
| **Recommended** | $106,000<br>(Y1: $53,000; Y2: $53,000; Y3: $0) |

The proposed work will produce quantum error correcting codes on the equivariant embeddings of algebraic groups. The end product can be used to reduce errors in quantum computing, which in turn would have significant implications in the application of quantum computing in cryptography and cybersecurity. This research topic matches well with Quantum Leap, one of NSF's ten big ideas, which aims at "preparing future scientists to implement the discoveries of the next quantum revolution into technologies that will benefit the average consumer." The proposal presents a reasonable plan to overcome existing barriers to achieve national competitiveness. Ultimately, the PI intends to use this work to create chips that decode the error-correcting codes and to establish a Quantum Information Science Institute. The PI is well prepared and possesses necessary knowledge and skills to conduct the proposed work. The budget is extremely high and should be substantially reduced. The panel deemed the use of $10,000 to purchase laptops for the PI and students, as well as the organization of an international conference, to be problematic uses of these funds and funding is disallowed for these items. Partial funding of $53,000 is recommended in years one and two. No reductions may be made for graduate student support, with other reductions to be made at the discretion of the PI.

**Earth and Environmental Sciences**
**Priority Ranking of Proposals Highly Recommended for Funding**

| | |
|---|---|
| **Rank** | 1 (Earth and Environmental Sciences) |
| **Proposal #** | 086A-23 |
| **Institution** | University of Louisiana at Lafayette |
| **PI** | Davide Oppo |
| **Title** | Advanced Time-Lapse Seismic Characterization of a Methane Hydrate-Bearing System |
| **Requested** | $103,935<br>(Y1: $39,384; Y2: $33,301; Y3: $31,250) |
| **Recommended** | $103,935<br>(Y1: $39,384; Y2: $33,301; Y3: $31,250) |

The PI seeks funds to perform seismic analysis in the Woolsey Mound system (Gulf of Mexico). The proposal is well-written with clear objectives, implementation plan, and tasks. The PI identified major barriers, including a lack of reliable data and the need to build a collaborative network, and has put in place a plan to address them throughout the project duration. If the results from this study can be extended into global implications of methane behavior in the oceans, this study has the potential to make the PI very competitive for future grants. Full funding is recommended.

| | |
|---|---|
| **Rank** | 2 (Earth and Environmental Sciences) |
| **Proposal #** | 069A-23 |
| **Institution** | Nicholls State University |
| **PI** | Jonathan Willis |
| **Title** | Quantifying the Contribution of Dwarf Palmetto [Sabal minor] to Carbon Sequestration in Louisiana Bottomland Hardwood Habitats |
| **Requested** | $117,711<br>(Y1: $38,700; Y2: $39,959; Y3: $39,052) |
| **Recommended** | $117,711<br>(Y1: $38,700; Y2: $39,959; Y3: $39,052) |

The PI seeks to support research to address knowledge gaps regarding Sabal minor carbon cycling to better inform carbon sequestration strategies. This is a well-conceived proposal with a clear plan to help the PI develop a needed skill set to increase competitiveness in national-level funding programs. Barriers to competitiveness, including the lack of a research "brand", are adequately identified, with a plan to demonstrate productivity in that specialty via RCS funding to increase prospects for federal research funding. The panel notes that the budget, particularly the PI summer salary request of only one week each year, was conservative for the scope of the work, and suggests that the PI consider rebudgeting to provide additional salary support. The panel also recommends that the PI push the research beyond observation into clear experimental design that supports testing the research hypotheses. This will increase the quantitative nature of the work and its impact. Full funding is recommended.

| | |
|---|---|
| **Rank** | 3 (Earth and Environmental Sciences) |
| **Proposal #** | 021A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Achim Herrmann |
| **Title** | Hafnium Isotopes of Detrital Zircons |
| **Requested** | $12,675 |
| **Recommended** | $12,675 |

The proposed research project seeks to build the PI's competence in advanced isotope systems that are currently not available in their lab. The shift in focus to laser ablation-based methods is necessary for the PI because the outdated infrastructure of the institution's facilities will not allow further work in the current research field. It is highly likely that the proposed analyses will generate preliminary data needed to enhance future federal proposals. The PI is using a world-class laboratory for the analyses, deploying appropriate methods. The proposal highlighted some potential issues with the PI's lack of lab space at the home institution, but the panel notes that these issues are outside the scope of the proposal review process. It is sufficient for the PI to state that the lab space is not available. Full funding is recommended.

**Engineering A**
**Priority Ranking of Proposals Highly Recommended for Funding**

| | |
|---|---|
| **Rank** | 1 (Engineering A) |
| **Proposal #** | 011A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Yaxin An |
| **Title** | Computational Investigation of Nanoparticles for Targeted Drug Delivery |
| **Requested** | $159,000<br>(Y1: $55,000; Y2: $54,000; Y3: $50,000) |
| **Recommended** | $156,000<br>(Y1: $53,000; Y2: $53,000; Y3: $50,000) |

This proposed project will study the translocation of lipid and/or polymer nanoparticles and build a computational platform. The research is related to cancer treatment and highly relevant to multiple funding agencies, particularly NIH. The work builds on the PI's background in simulations and machine learning, expands into simulation of new complex materials (nanoparticles and cell membranes), and begins to establish collaborations with experimentalists. The project is compelling, well justified, and technically sound. Preliminary data that would be generated would likely contribute toward success in obtaining federal research funding. The applicant identifies valid barriers to success, including a lack of experience with simulating nanoparticles and cell membranes and a lack of adequate data storage capability. RCS funding would help to overcome these barriers by providing the missing simulation experience and funding multiple SSD cards to use for data storage. The general approach is sound and is very likely to uncover fundamental mechanisms for drug delivery to cancer cells via endocytosis. The proposed simulations are important as they would provide insights that would be challenging to gain through experimentation. Given funding constraints in RCS, partial funding of $53,000 is recommended in years one and two, and full funding in year three.

| | |
|---|---|
| **Rank** | 2 (Engineering A) |
| **Proposal #** | 056A-23 |
| **Institution** | Louisiana Tech University |
| **PI** | M Shafiqur Rahman |
| **Title** | Conformal Additive Friction-Stir Deposition Process for Multi-Scale Structural and Repair Applications |
| **Requested** | $169,754<br>(Y1: $55,671; Y2: $56,408; Y3: $57,675) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

The PI proposes to look at small-scale AFSD (additive friction stir deposition), which is an additive manufacturing process for metals. The technical approach appears solid, and the importance and novelty of the project are well described. The project combines experimental work with computational simulations on temperature distribution and material deposition. The PI identifies three main barriers to competitiveness: 1) the need for preliminary data given the limited existing experimental research on the proposed process; 2) a lack of collaboration with data scientists/machine learning experts; and 3) a lack of funding to purchase heavy equipment. The plan to overcome these barriers primarily addresses the need for preliminary data and mentions engaging with collaborators. As described, the research is likely to lead

to federal support as it is relevant to multiple agencies and is likely to generate fundamental insights and develop new technology. Given funding constraints in RCS, partial funding of $53,000 is recommended for all three years.

| | |
|---|---|
| **Rank** | 3 (Engineering A) |
| **Proposal #** | 017A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Kofi Christie |
| **Title** | Investigation of Inorganic Fouling in Membrane-Based Water Purification |
| **Requested** | $195,000<br>(Y1: $75,000; Y2: $65,000; Y3: $55,000) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

The proposed research is focused on understanding fundamental mechanisms that drive crystal nucleation on desalination membranes. The topic is of relevance to NSF, DOE, USGS, and the US Department of the Interior. The proposed work is compelling, well justified, and in an important research area. The main barriers cited in the proposal are lack of preliminary data and the need for funding to recruit postdoctoral researchers. The proposal would be stronger if the specific preliminary data needed were identified and a discussion included of how securing additional data relates to future funding. The work plan will generate useful preliminary data to draft research proposals. The proposed work is likely to generate fundamental data on governing mechanisms on methods to reduce crystal nucleation and will address this topic from multiple angles. The work has the potential to be relevant to other membrane applications besides desalination. The funding requested is high given the funding demands in RCS, so partial funding of $53,000 is recommended in all three years. No funding may be reduced for graduate student support, though other reductions may be made at the discretion of the PI.

| | |
|---|---|
| **Rank** | 4 (Engineering A) |
| **Proposal #** | 098A-23 |
| **Institution** | University of New Orleans |
| **PI** | Elnaz Safapour |
| **Title** | Improving Adaptability and Resiliency of Rural Communities: Development of an ANP-Based Decision Support System for Post-Hurricane Recovery Activities |
| **Requested** | $163,310<br>(Y1: $53,585; Y2: $54,429; Y3: $55,296) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

The proposed project aims to improve the adaptability and resiliency of rural communities that may be affected by hurricanes. This work is likely to have a positive impact on this research field as well as on society in general, and on the Gulf Coast in particular. The proposal is technically sound. The authors identified the following areas as barriers to funding: a lack of resources to recruit graduate students and establish a research group; lack of a history of funded grants; lack of preliminary data; and lack of funding to travel to conferences and NSF workshops. With RCS support, the project team plans to directly address these barriers by recruiting graduate students, establishing a productive research group, acquiring preliminary data, applying for federal grants, publishing results, and attending professional events. This project's strong team and realistic timeline are key to its high likelihood of success. The

budget should be slightly reduced to accommodate RCS budget constraints. The panel recommends partial funding of $53,000 in all three years.

| | |
|---|---|
| **Rank** | 5 (Engineering A) |
| **Proposal #** | 023A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Amirhosein Jafari |
| **Title** | Developing a Smart Occupant-Centric Energy Management System for Office Buildings |
| **Requested** | $174,668<br>(Y1: $62,806; Y2: $56,556; Y3: $55,306) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

This project seeks to develop an Occupant-Centric Energy Management System (OCEMS) able to sustain energy reduction in operation of commercial buildings while maintaining appropriate comfort levels for occupants. This project has a technically sound approach and a strong publication plan. As a result, it will very likely contribute to basic science. Valid barriers to federal competitiveness are clearly identified, including the lack of preliminary data and proof of concepts as well as a lack of project management experience. The plan to overcome the barriers includes targeting regional and federal funding opportunities, improving visibility of research work, developing strategies to perform outreach activities, and establishing an energy-smart office lab. The proposal has a strong likelihood of success because of the team expertise, past research, and facilities, but the budget is somewhat high given RCS funding constraints. Partial funding of $53,000 is recommended in each year, with no reductions to graduate student support and all others taken at the PI's discretion.

## Mathematics
## Priority Ranking of Proposals Highly Recommended for Funding

| | |
|---|---|
| **Rank** | 1 (Mathematics) |
| **Proposal #** | 053A-23 |
| **Institution** | Louisiana Tech University |
| **PI** | Nathan Green |
| **Title** | Multiple Zeta Values in Function Fields using a Motivic Framework |
| **Requested** | $153,103<br>(Y1: $54,938; Y2: $56,056; Y3: $42,109) |
| **Recommended** | $148,109<br>(Y1: $53,000; Y2: $53,000; Y3: $42,109) |

This proposed research will study the transcendence of function field multiple zeta values. The mathematics outlined are of high quality and there is a clear research plan and strong PI track record. Plans for outreach to the broader community are provided, which is an additional positive. Potential barriers to federal funding are identified and a clear plan to overcome them is provided. The proposal is strong and coherent, providing convincing evidence for the likelihood of success. Given the funding constraints of RCS, partial funding of $53,000 is recommended in years one and two, with full funding in year three.

| | |
|---|---|
| **Rank** | 2 (Mathematics) |
| **Proposal #** | 077A-23 |
| **Institution** | Tulane University |
| **PI** | Xiang Ji |
| **Title** | Molecular Epidemiology through Scalable Statistical Phylogenetic Modelling |
| **Requested** | $199,867<br>(Y1: $65,744; Y2: $66,614; Y3: $67,509) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

The proposed study will research the development of Bayesian statistical algorithms and software to study rapidly evolving pathogens. Potential barriers to federal funding were identified. A plan to overcome the barriers is presented, though the timeline for achieving competitiveness for extramural funding lacks details. The proposal is otherwise well written and tells a compelling story of the importance of the research. The project has a strong likelihood of success. The budget is somewhat high given the constraints on RCS support. Partial funding of $53,000 in all three years is recommended, with reductions to be taken at the PI's discretion.

**Physics and Astronomy**
**Priority Ranking of Proposals Highly Recommended for Funding**

| | |
|---|---|
| **Rank** | 1 (Physics and Astronomy) |
| **Proposal #** | 012A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Xiaojian Bai |
| **Title** | Probing, Modeling and Tuning Hybridized Quasi-particles in Quantum Magnets |
| **Requested** | $180,070<br>(Y1: $63,010; Y2: $59,530; Y3: $57,530) |
| **Recommended** | $159,000<br>(Y1: $53,000; Y2: $53,000; Y3: $53,000) |

This research project seeks to develop a fundamental understanding of hybridized quasi-particles resulting from coupling. The PI is very qualified, given their status as a junior faculty member just starting their career, and has excellent institutional support. Barriers to federal competitiveness are identified and a reasonable plan to overcome them is presented. The PI proposes a comprehensive approach to grow the material, perform in-house characterization, perform neutron scattering at Oakridge, and study the physics through both numerical and theoretical tools, which is a strength. The proposed work is technically sound with a high likelihood of achieving interesting and potentially impactful results within the field of basic research on magnet materials and magnetic phenomena, as well as in broader condensed matter physics. The proposal could have been improved by discussing the broader context of the proposed work, such as the current state of the field beyond the specific crystals the PI studies, and comparison with similar efforts in terms of novelty of the approaches and the PI's competitiveness. The budget is somewhat high given funding constraints in RCS, and partial funding of $53,000 is recommended in all three years. Reductions may be determined by the PI.

| | |
|---|---|
| **Rank** | 2 (Physics and Astronomy) |
| **Proposal #** | 010A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Ivan Agullo |
| **Title** | Global Time Distribution via Satellite Constellations Using Entangled Photons |
| **Requested** | $125,786<br>(Y1: $62,993; Y2: $62,793; Y3: $0) |
| **Recommended** | $106,000<br>(Y1: $53,000; Y2: $53,000; Y3: $0) |

The proposed project will study clock synchronization based on entangled photon distribution by a network of orbiting satellites. This is a new focus area for the PI, and the barriers to federal competitiveness are identified. The work plan includes establishing graduate student support and obtaining preliminary results on route to publications. The proposal is well supported by analysis and comparison with the current state of the field, and feasibility analysis of the proposed method. The project plan is well thought out and detailed and could generate results of substantial interest and impact to quantum technology. The funding prospects in the general area are excellent. Partial funding of $53,000 is recommended is years one and two.

**Social Sciences**
**Priority Ranking of Proposals Highly Recommended for Funding**

| | |
|---|---|
| **Rank** | 1 (Social Sciences) |
| **Proposal #** | 038A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Kevin Smiley |
| **Title** | Understanding Governance Challenges from Climate Change and Extreme Weather Events in South Louisiana |
| **Requested** | $20,000 |
| **Recommended** | $20,000 |

The PI proposes a mixed methodological, multidisciplinary research project that takes a fresh approach to the study of climate change and flooding. This is a new and interesting line of research for the PI. The project design will allow the PI to develop useful contacts for future efforts, which in turn will substantially increase the PI's ability to secure funding and overcome the identified barriers to competitiveness. The PI has a strong publication and funding record, which increases confidence in the success of the proposed work as well as the potential to translate the project results into additional federal grants. Moreover, the PI identifies appropriate federal grant opportunities in agencies that are likely to be interested in funding this work. Full funding is recommended.

| | |
|---|---|
| **Rank** | 2 (Social Sciences) |
| **Proposal #** | 016A-23 |
| **Institution** | Louisiana State University and A&M College |
| **PI** | Kellie Brisini |
| **Title** | Linking Relationship Parameters, Partner Communication, and Mental Health during Major Life Transitions |
| **Requested** | $189,559<br>(Y1: $81,767; Y2: $80,645; Y3: $27,147) |
| **Recommended** | $133,147<br>(Y1: $53,000; Y2: $53,000; Y3: $27,147) |

This multidisciplinary project will study communication strategies of married family caregivers. The PI identifies barriers to competitiveness and presents a solid plan to address them, responding to reviewer criticism from an unfunded NSF proposal. The proposed work will validate the research procedures needed for subsequent funding and will support the PI in working with a more senior colleague who can mentor them to improve subsequent grant proposals. The PI is relatively early in their career but has an active research agenda and has published in a number of quality outlets. The PI has dedicated research facilities and some matching funds are available. The project is ambitious, but the proposed sample size appears adequate. The research is not likely to be transformative (which is a basic NSF criterion) but includes a strong applied component with societal benefits and has the potential to increase our knowledge in the area. Ultimately, this is a reasonable proposal from a talented researcher that will help overcome several barriers to competitiveness and is well aligned with the goals of RCS. The budgets for the first two years are very high given the demands on RCS. Partial funding of $53,000 is recommended in years one and two, with full funding in year three. No reductions may be made to graduate student support, though all other reductions may be made at the discretion of the PI.

# ATTACHMENT A

(Form 6.4, rev. 2022)

**SUBJECT-AREA PANEL PROPOSAL EVALUATION FORM**

**2-3 YEAR RCS PROJECT DURATION**

**BOARD OF REGENTS SUPPORT FUND RESEARCH COMPETITIVENESS SUBPROGRAM (RCS)**

**A. EXISTING CAPACITY/CAPABILITIES TO IMPLEMENT PROJECT (25 points) _____**

How effectively are the following items addressed?
-Identification and substantiation of barriers to competitiveness
-Adequacy of institutional capabilities as base for building competitiveness
-Training, past performance, and potential of investigators

**COMMENTS:**

**B. SCIENTIFIC MERIT (40 points)**

How effectively are the following items addressed?
-Technical soundness
-Likelihood of new discoveries or fundamental advances within field
-Impact on progress in this or other fields
-Contribution to basic science
-Utility or relevance of research to improved technology or society

**COMMENTS:**

**C. POTENTIAL FOR COMPETITIVENESS (25 points) _____**

How effective is the plan to overcome existing barriers? How likely is it that the project will result in competitive status for Federal support? What are the funding prospects for this area of research by Federal agencies?

**COMMENTS:**

**D. APPROPRIATENESS OF BUDGET (10 points) _____**

Was the budget reasonable for scope of work to be performed, appropriate for personnel costs, and appropriate for equipment/supply costs?

**COMMENTS:**

**Total Score (out of 100):_____**

**OVERALL RATING OF PROPOSAL**

| POOR | FAIR | GOOD | VERY GOOD | EXCELLENT |
|---|---|---|---|---|
| _____ | ____ | _____ | _____ | _____ |

**Funding Recommendation:**

Year One _____
Year Two _____
Year Three _____

**Funding Stipulations**:

(Form 6.41, rev. 2022)

**RCS One-Year Funding for New Research Component**
**Proposal Evaluation Form for TENURED Applicants**

| Criteria | Points |
|---|---|
| 1. Does the proposed research project appear to be technically and scientifically sound? Does the proposed research indicate a significant shift in the applicant's research focus? (50 points) | _____ |
| 2. Do the proposed research and supporting materials provide convincing evidence of the potential to attract federal funding in the near term? (40 points) | _____ |
| 3. Are the budget, timeline, and infrastructure reasonable? (10 points) | _____ |
| 4. Total Score (of a possible 100 points) | _____ |

**COMMENTS:**

(Form 6.42, rev. 2022)

**RCS One-Year Funding for New Research Component**
**Proposal Evaluation Form for TENURE-TRACK Applicants**

| **Criteria** | **Points** |
|---|---|
| 1. Does the proposed research project appear to be technically and scientifically sound? Will the proposed research significantly enhance the applicant's research focus, substantially advance the exploration of new ideas, and/or enable the applicant to become proficient in utilizing cutting-edge techniques? (50 points) | _____ |
| 2. Do the proposed research and supporting materials provide convincing evidence of the potential to attract federal funding in the near term? (40 points) | _____ |
| 3. Are the budget, timeline, and infrastructure reasonable? (10 points) | _____ |
| 4.Total Score (of a possible 100 points) | _____ |

**COMMENTS:**

# ATTACHMENT B

**Proposals Submitted to the Research and Development Program - Research Competitiveness Subprogram (RCS)**
**FY 2022-23 Review Cycle**

| Proposal # | PI Name | Category | Institution | Duration | Project Title | Amount Requested | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Year 1 | Year 2 | Year 3 | Total |
| 001A-23 | Prof. Haeyeon Yang | Physics/Astronomy | Grambling State University | 3 Years | Study of the interaction of laser plasma with laser pulses | $56,912 | $52,208 | $52,108 | $161,228 |
| 002A-23 | Dr. Damon Abdi | Earth/Environmental Sciences | Louisiana State University Agricultural Center | 3 Years | Optimizing Green Infrastructure for Urban Runoff Water Retention, Remediation, and Recycling | $50,000 | $35,000 | $20,000 | $105,000 |
| 003A-23 | Dr. Maria Bampasidou | Agricultural Sciences | Louisiana State University Agricultural Center | 3 Years | Farm labor supply and demand adapting to labor market shocks. | $62,971 | $56,560 | $46,372 | $165,903 |
| 004A-23 | Dr. Jeffrey Beasley | Agricultural Sciences | Louisiana State University Agricultural Center | 2 Years | Evaluating LIDAR technology as a tool for inspecting levees in Louisiana | $56,138 | $53,188 | $0 | $109,326 |
| 005A-23 | Dr. Jeb Fields | Agricultural Sciences | Louisiana State University Agricultural Center | 3 Years | Improving Root Growth, Resource Efficiency, and Crop Productivity with Soilless Substrate Stratification | $41,300 | $18,500 | $10,000 | $69,800 |
| 006A-23 | Dr. Lewis Gaston | Agricultural Sciences | Louisiana State University Agricultural Center | 3 Years | Degradation and Recovery of Louisiana Coastal Plain Forest Soils | $43,500 | $41,500 | $21,750 | $106,750 |
| 007A-23 | Dr. Anurag Mandalika | Agricultural Sciences | Louisiana State University Agricultural Center | 3 Years | Real-time Monitoring of Massecuite Crystals for Determination of Non-Sucrose Contamination in Sugarcane Juices | $80,343 | $44,223 | $44,223 | $168,789 |
| 008A-23 | Dr. Constantine Simintiras | Biological Sciences I | Louisiana State University Agricultural Center | 3 Years | The mechanisms of uterine gland formation and behavior in health and disease | $59,150 | $87,449 | $53,299 | $199,898 |
| 009A-23 | Dr. Xi Zhang | Agricultural Sciences | Louisiana State University Agricultural Center | 3 Years | How do conservation agriculture induced changes in soil physical environment drive variations in biogeochemical cycling and crop production in the Mid-South U.S.? | $56,400 | $51,000 | $51,000 | $158,400 |
| 010A-23 | Dr. Ivan Agullo | Physics/Astronomy | Louisiana State University and A & M College | 2 Years | Global time distribution via satellite constellations using entangled photons | $62,993 | $62,793 | $0 | $125,786 |
| 011A-23 | Dr. Yaxin An | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Computational Investigation of Nanoparticles for Targeted Drug Delivery | $55,000 | $54,000 | $50,000 | $159,000 |
| 012A-23 | Dr. Xiaojian Bai | Physics/Astronomy | Louisiana State University and A & M College | 3 Years | Probing, Modeling and Tuning Hybridized Quasi-particles in Quantum Magnets | $63,010 | $59,530 | $57,530 | $180,070 |
| 013A-23 | Dr. Sviatoslav Baranets | Physics/Astronomy | Louisiana State University and A & M College | 3 Years | Design and Characterization of Narrow-Bandgap Heteroanionic Oxypnictide Semiconducting Materials for Thermoelectric Applications | $66,150 | $55,356 | $52,224 | $173,730 |
| 014A-23 | Dr. Arup Bhattacharya | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Data-Driven Predictive Modeling for Occupant-Centric and Energy Efficient Ventilation Design | $62,826 | $52,275 | $46,625 | $161,726 |
| 015A-23 | Prof. Aaron Bivins | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Dissemination of Antibiotic Resistance in Aquatic Environments via the Plastisphere | $67,952 | $55,977 | $54,978 | $178,907 |
| 016A-23 | Dr. Kellie Brisini | Social Sciences | Louisiana State University and A & M College | 3 Years | Linking Relationship Parameters, Partner Communication, and Mental Health during Major Life Transitions | $81,767 | $80,645 | $27,147 | $189,559 |
| 017A-23 | Prof. Kofi Christie | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Investigation of Inorganic Fouling in Membrane-Based Water Purification | $75,000 | $65,000 | $55,000 | $195,000 |
| 018A-23 | Dr. Brittany Cook | Social Sciences | Louisiana State University and A & M College | 3 Years | The politics of wheat, seeds, food sovereignty, and changing climates in Jordan | $42,126 | $39,350 | $35,140 | $116,616 |
| 019A-23 | Dr. Rebeca de Jesus Crespo | Earth/Environmental Sciences | Louisiana State University and A & M College | 3 Years | The epidemiological significance of spatio-temporal segregation patterns of mosquito vectors in New Orleans, Louisiana | $48,980 | $40,115 | $35,681 | $124,776 |
| 020A-23 | Dr. Ipsita Gupta | Earth/Environmental Sciences | Louisiana State University and A & M College | 3 Years | Microbially Mediated Hydrogen-Brine-Cement-Rock Interactions for Environmentally Safe Subsurface Hydrogen Storage | $68,660 | $67,660 | $63,660 | $199,980 |
| 021A-23 | Dr. Achim Herrmann | Earth/Environmental Sciences | Louisiana State University and A & M College | 1 Year | Hafnium isotopes of detrital zircons | $12,675 | $0 | $0 | $12,675 |
| 022A-23 | Dr. Huanping Huang | Earth/Environmental Sciences | Louisiana State University and A & M College | 3 Years | Examining the decay of landfalling hurricanes in the northern Gulf of Mexico | $73,989 | $67,089 | $57,100 | $198,178 |
| 023A-23 | Dr. Amirhosein Jafari | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Developing A Smart Occupant-Centric Energy Management System for Office Buildings | $62,806 | $56,556 | $55,306 | $174,668 |
| 024A-23 | Dr. Soo Jeong Jo | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 1 Year | Evaluation of Building-Integrated Photovoltaics [BIPV] Systems for Residential Buildings in a Hot and Humid Climate | $19,975 | $0 | $0 | $19,975 |
| 025A-23 | Dr. Yong-ha Kim | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Post-Inhalation Behavior of Radioactive Particles in Human Respiratory Systems | $51,881 | $51,771 | $47,846 | $151,498 |
| 026A-23 | Prof. Gene Kopp | Mathematics | Louisiana State University and A & M College | 3 Years | Modular cocycles and quantum designs | $44,000 | $40,000 | $27,000 | $111,000 |
| 027A-23 | Prof. Kisung Lee | Computer and Information Sciences | Louisiana State University and A & M College | 1 Year | A comparative study on sentiment analysis for online social media analytics | $20,000 | $0 | $0 | $20,000 |

**Proposals Submitted to the Research and Development Program - Research Competitiveness Subprogram (RCS)**
**FY 2022-23 Review Cycle**

| Proposal # | PI Name | Category | Institution | Duration | Project Title | Amount Requested | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Year 1 | Year 2 | Year 3 | Total |
| 028A-23 | Dr. Chuanlan Liu | Social Sciences | Louisiana State University and A & M College | 1 Year | Promoting Industrial Hemp Economy: Exploring the Market for Hemp Fiber Textiles and Clothing | $19,999 | $0 | $0 | $19,999 |
| 029A-23 | Dr. Karen Maruska | Biological Sciences II | Louisiana State University and A & M College | 1 Year | Hormone-mediated muscle plasticity to facilitate extreme parental care in a mouthbrooding cichlid fish | $20,000 | $0 | $0 | $20,000 |
| 030A-23 | Dr. Nicholas Mason | Biological Sciences II | Louisiana State University and A & M College | 3 Years | Systematics of Andean Sky-islands: Comparative Phylogeography, Integrative Taxonomy, and Rapid Inventories of Polylepis Avifauna | $58,946 | $50,099 | $45,675 | $154,720 |
| 031A-23 | Dr. Xiangyu Meng | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Developing Eco-Driving Algorithms for Connected and Autonomous Vehicles Using Reinforcement Learning Approaches | $61,705 | $60,705 | $59,705 | $182,115 |
| 032A-23 | Dr. Bijoyaa Mohapatra | Biological Sciences II | Louisiana State University and A & M College | 2 Years | Designing and testing a structured intervention program to promote social engagement and participation during group storytelling in individuals with aphasia: Feasibility, acceptability, and preliminary outcomes | $61,406 | $60,806 | $0 | $122,212 |
| 033A-23 | Prof. Prosper Ngabonziza | Physics/Astronomy | Louisiana State University and A & M College | 3 Years | Quantum Transport and Magnetotransport Properties of Epitaxial Srn+1RnO3n+1 Thin Films and Heterostructures | $70,000 | $61,000 | $59,000 | $190,000 |
| 034A-23 | Dr. Olalekan Ogundele | Biological Sciences II | Louisiana State University and A & M College | 1 Year | Decoding hypertension in the hypothalamus-brainstem circuit | $20,000 | $0 | $0 | $20,000 |
| 035A-23 | Dr. Olufemi Olorode | Earth/Environmental Sciences | Louisiana State University and A & M College | 3 Years | A Study of the Multiscale Coupled Physical Mechanisms of Induced Seismicity | $56,623 | $53,436 | $46,436 | $156,495 |
| 036A-23 | Prof. Igor Schneider | Biological Sciences I | Louisiana State University and A & M College | 3 Years | The role of mTOR signaling in appendage regeneration | $78,824 | $58,824 | $48,824 | $186,472 |
| 037A-23 | Prof. Patricia Schneider | Biological Sciences I | Louisiana State University and A & M College | 3 Years | Molecular basis of eye remodeling in the four-eyed fish Anableps anableps | $83,824 | $68,824 | $44,411 | $197,059 |
| 038A-23 | Dr. Kevin Smiley | Social Sciences | Louisiana State University and A & M College | 1 Year | Understanding Governance Challenges from Climate Change and Extreme Weather Events in South Louisiana | $20,000 | $0 | $0 | $20,000 |
| 039A-23 | Prof. Yen-Fang Su | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana State University and A & M College | 3 Years | Development of 3D printable low carbon high durability cementitious materials for sustainable, resilience and eco-friendly coastal structures | $64,251 | $62,951 | $58,251 | $185,453 |
| 040A-23 | Dr. Jiaqi Tan | Biological Sciences II | Louisiana State University and A & M College | 3 Years | Investigation of the ecological impacts of nanomaterial stress on species interactions in freshwater ecosystems | $62,167 | $59,479 | $37,200 | $158,846 |
| 041A-23 | Prof. Gregory Thom | Biological Sciences II | Louisiana State University and A & M College | 2 Years | The genomic architecture behind the obligatory army-ant following behaviour in birds | $88,697 | $63,110 | $0 | $151,807 |
| 042A-23 | Dr. Anastasios Vourekas | Biological Sciences I | Louisiana State University and A & M College | 3 Years | tRNA fragments as guides of mRNA regulation by RNase P | $55,000 | $50,000 | $42,255 | $147,255 |
| 043A-23 | Prof. Clifton Wagner | Physics/Astronomy | Louisiana State University and A & M College | 3 Years | Phosphane and Silane Tethered Borazines as Precursors for Hexagonal Boron Nitride Derivatives | $70,800 | $69,200 | $60,000 | $200,000 |
| 044A-23 | Prof. Justin Wilson | Physics/Astronomy | Louisiana State University and A & M College | 3 Years | Active Feedback to Control Dynamic Quantum Phases | $51,561 | $50,130 | $49,230 | $150,921 |
| 045A-23 | Dr. Shaomian Yao | Biological Sciences I | Louisiana State University and A & M College | 1 Year | Molecular basis of loss of osteogenic differentiation capability in human bone marrow stem cells at in vitro expansion | $20,000 | $0 | $0 | $20,000 |
| 046A-23 | Dr. Fan Zhang | Biological Sciences I | Louisiana State University and A & M College | 3 Years | Mutually beneficial impact of microbiome in reproductive physiology of Caenorhabditis elegans | $56,625 | $51,625 | $45,625 | $153,875 |
| 047A-23 | Dr. Ben Kelly | Biological Sciences I | Louisiana State University Health Sciences Center - New Orleans | 3 Years | Regulation of cytochrome c oxidase subunit expression in Leishmania | $50,000 | $50,000 | $50,000 | $150,000 |
| 048A-23 | Dr. XiaoChing Li | Biological Sciences II | Louisiana State University Health Sciences Center - New Orleans | 3 Years | Roles of MeCP2 in Vocal Communication | $50,259 | $50,259 | $50,259 | $150,777 |
| 049A-23 | Dr. Krista Rodgers | Biological Sciences II | Louisiana State University Health Sciences Center Shreveport | 3 Years | Investigation of Age-Dependent BDNF-TrkB Signaling in Neuronal Repair and Functional Recovery Following Cerebral Ischemia | $50,000 | $50,000 | $50,000 | $150,000 |
| 050A-23 | Dr. Amy Erickson | Earth/Environmental Sciences | Louisiana State University in Shreveport | 3 Years | Controlling the invasive water fern Salvinia molesta by allelopathic effects of common aquatic plants | $64,245 | $63,725 | $58,620 | $186,590 |
| 051A-23 | Prof. Yun Chen | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana Tech University | 3 Years | Surfactant-driven Micro-scale Droplet Motion for the Manipulation of Biological Objects | $56,921 | $56,658 | $55,425 | $169,004 |
| 052A-23 | Dr. William Glisson | Computer and Information Sciences | Louisiana Tech University | 3 Years | Virtual & Mixed Reality Research | $78,956 | $60,366 | $60,366 | $199,688 |
| 053A-23 | Dr. Nathan Green | Mathematics | Louisiana Tech University | 3 Years | Multiple Zeta Values in Function Fields using a Motivic Framework | $54,938 | $56,056 | $42,109 | $153,103 |
| 054A-23 | Dr. Xiyuan Liu | Mathematics | Louisiana Tech University | 3 Years | A neural network pruning approach using conditional random fields | $55,733 | $55,021 | $44,171 | $154,925 |

**Proposals Submitted to the Research and Development Program - Research Competitiveness Subprogram (RCS)**
**FY 2022-23 Review Cycle**

| Proposal # | PI Name | Category | Institution | Duration | Project Title | Amount Requested | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Year 1 | Year 2 | Year 3 | Total |
| 055A-23 | Dr. Gergana Nestorova | Biological Sciences I | Louisiana Tech University | 1 Year | Protein engineering of mesenchymal stem cells-derived exosomes as a novel therapy for reducing Aβ in Alzheimer?s disease and related tauopathies | $16,300 | $0 | $0 | $16,300 |
| 056A-23 | Dr. M Shafiqur Rahman | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana Tech University | 3 Years | Conformal Additive Friction-Stir Deposition Process for Multi-Scale Structural and Repair Applications | $55,671 | $56,408 | $57,675 | $169,754 |
| 057A-23 | Dr. Hadi Salehi | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana Tech University | 3 Years | Post-disaster Recovery of Civil Infrastructure Systems Under Extreme Events | $51,421 | $50,158 | $50,925 | $152,504 |
| 058A-23 | Dr. Roya Solhmirzaei | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana Tech University | 3 Years | 3D-Printable Ultra High Performance Concrete for Resilient and Sustainable Infrastructure | $64,421 | $51,158 | $51,925 | $167,504 |
| 059A-23 | Dr. Tonya Vandenbrink | Social Sciences | Louisiana Tech University | 1 Year | The Influence of Executive Function & Divided Attention on Children's Eyewitness Memory | $13,180 | $0 | $0 | $13,180 |
| 060A-23 | Dr. Lingxiao Wang | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana Tech University | 3 Years | Vision and Olfaction Based Wildfire Monitoring System using Unmanned Aerial Vehicles | $53,711 | $38,711 | $38,711 | $131,133 |
| 061A-23 | Prof. Yang Xiao | Engineering A [Chemical, Civil, Electrical, etc.] | Louisiana Tech University | 3 Years | Advancing Catalytic Activation of Alkanes over Two-Dimensional Materials | $66,158 | $64,871 | $65,611 | $196,640 |
| 062A-23 | Dr. Jamileh Beik Mohammadi | Physics/Astronomy | Loyola University New Orleans | 3 Years | Investigating magnetic energy landscape in ferromagnetic/non-ferromagnetic multilayers | $59,517 | $37,668 | $28,523 | $125,708 |
| 063A-23 | Dr. Amrita Datta | Biological Sciences I | Loyola University New Orleans | 3 Years | Role of Protocadherins in Metastatic Breast Cancer | $47,986 | $51,361 | $47,986 | $147,333 |
| 064A-23 | Dr. Sarah Baker | Biological Sciences II | McNeese State University | 2 Years | Ecology of the Diamondback Terrapin | $45,700 | $27,596 | $0 | $73,296 |
| 065A-23 | Dr. Katherine Galloway | Biological Sciences II | Nicholls State University | 3 Years | Shell morphology as a tool to investigate phenotypic variations within and among invasive apple snail populations in southern Louisiana | $26,819 | $42,930 | $42,930 | $112,679 |
| 066A-23 | Dr. Himanshu Raje | Biological Sciences I | Nicholls State University | 3 Years | Elucidating the Effect of Aging on the Expression of Retroelement Based Drosophila Telomeres. | $49,456 | $49,756 | $49,756 | $148,968 |
| 067A-23 | Dr. Esra Tekdal Yilmaz | Engineering A [Chemical, Civil, Electrical, etc.] | Nicholls State University | 3 Years | Detection of Algal Bloom: A spatial approach using combination of satellite and UAV based remote sensing | $50,303 | $49,053 | $49,053 | $148,409 |
| 068A-23 | Dr. Himanshu Verma | Physics/Astronomy | Nicholls State University | 3 Years | Structural, compositional, and magnetic properties of multi-walled carbon nanotubes and barium ferrite hybrid | $40,000 | $20,000 | $20,000 | $80,000 |
| 069A-23 | Dr. Jonathan Willis | Earth/Environmental Sciences | Nicholls State University | 3 Years | Quantifying the contribution of dwarf palmetto [Sabal minor] to carbon sequestration in Louisiana bottomland hardwood habitats | $38,700 | $39,959 | $39,052 | $117,711 |
| 070A-23 | Dr. James Cho | Biological Sciences I | Southeastern Louisiana University | 3 Years | Thin Layer Coating Techniques with Genetically Engineered M13 Bacteriophage for Long-term Anti-Freezing Storages of Desired Biological Samples | $43,700 | $44,528 | $45,389 | $133,617 |
| 071A-23 | Dr. Ephraim Massawe | Biological Sciences II | Southeastern Louisiana University | 3 Years | Effects of Long-Term (Prolonged) Storage on Respirator Performance Against Viruses and Other Biological Aerosols | $47,853 | $37,728 | $37,004 | $122,585 |
| 072A-23 | Prof. DONGKEUN LEE | Engineering A [Chemical, Civil, Electrical, etc.] | Southern University and A&M College - Baton Rouge | 3 Years | Development of essential models for reinforced concrete walls strengthened with polyurea elastomer subject to impact force | $50,123 | $49,913 | $49,729 | $149,765 |
| 073A-23 | Prof. Mahir Bilen Can | Computer and Information Sciences | Tulane University | 2 Years | Applications of Representation Theory to Quantum Error Correction | $96,240 | $91,177 | $0 | $187,417 |
| 074A-23 | Dr. Benjamin Deen | Biological Sciences II | Tulane University | 3 Years | Probing the functional organization of the anterior temporal lobe with precision fMRI | $59,071 | $54,150 | $56,301 | $169,522 |
| 075A-23 | Prof. Allison Emmerson | Social Sciences | Tulane University | 3 Years | Excavating Sub-elite Pompeii | $58,734 | $56,278 | $56,278 | $171,290 |
| 076A-23 | Prof. Ryan Glasser | Physics/Astronomy | Tulane University | 3 Years | Optimizing optical neural networks with machine learning | $58,409 | $58,409 | $58,409 | $175,227 |
| 077A-23 | Dr. Xiang Ji | Mathematics | Tulane University | 3 Years | Molecular epidemiology through scalable statistical phylogenetic modelling | $65,744 | $66,614 | $67,509 | $199,867 |
| 078A-23 | Dr. Xin Jiang | Social Sciences | Tulane University | 2 Years | Understanding cyberhate toward Asian Americans during COVID-19 pandemic and its relationship with hate crime | $49,836 | $49,836 | $0 | $99,672 |
| 079A-23 | Dr. Laura McKinney | Social Sciences | Tulane University | 3 Years | The mental health effects of climate change | $41,877 | $41,877 | $25,970 | $109,724 |
| 080A-23 | Dr. Kalina Mincheva | Mathematics | Tulane University | 3 Years | Tropical adic spaces | $133,385 | $32,333 | $30,295 | $196,013 |
| 081A-23 | Dr. Qiuyang Zhang | Biological Sciences I | Tulane University Health Sciences Center | 3 Years | The Role of USP26 in Prostate Cancer | $68,592 | $68,020 | $63,387 | $199,999 |
| 082A-23 | Dr. Tanvir Faisal | Biological Sciences II | University of Louisiana at Lafayette | 3 Years | Sexual dimorphism of articular cartilage degraded with selected MMPs | $56,476 | $54,959 | $53,841 | $165,276 |
| 083A-23 | Dr. Farzad Ferdowsi | Engineering A [Chemical, Civil, Electrical, etc.] | University of Louisiana at Lafayette | 3 Years | AI-Enabled Approach To Enhance Utility-Scale Solar-Grid Integration And Coordination | $73,359 | $63,621 | $58,975 | $195,955 |

**Proposals Submitted to the Research and Development Program - Research Competitiveness Subprogram (RCS)**
**FY 2022-23 Review Cycle**

| Proposal # | PI Name | Category | Institution | Duration | Project Title | Amount Requested | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Year 1 | Year 2 | Year 3 | Total |
| 084A-23 | Dr. Aminul Islam | Computer and Information Sciences | University of Louisiana at Lafayette | 3 Years | Improving the Training Time and Learning Capacity of a Deep Learning Model | $56,783 | $50,295 | $46,056 | $153,134 |
| 085A-23 | Dr. Emily Kane | Biological Sciences II | University of Louisiana at Lafayette | 3 Years | Sculpting sculpins: form and function of pectoral fin specialization in intertidal fishes | $67,519 | $64,752 | $58,092 | $190,363 |
| 086A-23 | Dr. Davide Oppo | Earth/Environmental Sciences | University of Louisiana at Lafayette | 3 Years | Advanced time-lapse seismic characterization of a methane hydrate-bearing system | $39,384 | $33,301 | $31,250 | $103,935 |
| 087A-23 | Dr. Andi Petculescu | Physics/Astronomy | University of Louisiana at Lafayette | 1 Year | Acoustic Characteristics of the Martian Atmosphere Obtained from the Mars2020 Mission | $20,000 | $0 | $0 | $20,000 |
| 088A-23 | Dr. Ismatara Reena | Biological Sciences II | University of Louisiana at Lafayette | 3 Years | Increase Educators [K-12] Mental Health Literacy to Attain Health Equity | $53,253 | $47,924 | $47,244 | $148,421 |
| 089A-23 | Dr. Haley Barnett | Biological Sciences I | University of Louisiana at Monroe | 3 Years | Investigating the Influence of Extracellular Cues on Stem Cell Fate Utilizing Hydrogel Biomaterial Scaffolds | $51,646 | $49,646 | $47,646 | $148,938 |
| 090A-23 | Dr. Blake Farman | Mathematics | University of Louisiana at Monroe | 3 Years | Fourier-Mukai Partners in Noncommutative Algebraic Geometry | $47,793 | $54,993 | $39,255 | $142,041 |
| 091A-23 | Dr. Tyler Fricker | Earth/Environmental Sciences | University of Louisiana at Monroe | 2 Years | Measuring and Mapping Urban Extreme Temperatures in Northeast Louisiana | $30,813 | $31,960 | $0 | $62,773 |
| 092A-23 | Dr. Matthew Overturf | Biological Sciences II | University of Louisiana at Monroe | 1 Year | Transcriptomic and Steroid Biosynthetic Changes following Synthetic Progestin Exposure in Fathead Minnows | $19,500 | $0 | $0 | |
| 093A-23 | Dr. Charles Bell | Biological Sciences II | University of New Orleans | 3 Years | Does relatedness or distribution determine fungal endophyte communities in the annual plant genus Leptosiphon? | $55,289 | $72,115 | $55,659 | |
| 094A-23 | Dr. Yaojie Li | Social Sciences | University of New Orleans | 1 Year | Information Technology for Strategic Competition and Emergency Preparedness: An Empirical Inquiry into New Orleans Independent Hotel Businesses | $20,000 | $0 | $0 | |
| 095A-23 | Dr. Xueyan Liu | Mathematics | University of New Orleans | 3 Years | Novel distribution-based clustering and co-localization methods for spatial point processes | $56,989 | $61,488 | $60,031 | |
| 096A-23 | Dr. Abdullah Nur | Computer and Information Sciences | University of New Orleans | 3 Years | AS Level Collaborative Defense Against DDoS Attacks | $53,189 | $52,803 | $52,434 | $158,426 |
| 097A-23 | Dr. Abdullah Al Redwan Newaz | Computer and Information Sciences | University of New Orleans | 3 Years | A Cooperative Intelligent Multi-Robot Planning Framework for Disaster Recovery | $55,334 | $63,478 | $62,175 | $180,987 |
| 098A-23 | Dr. Elnaz Safapour | Engineering A [Chemical, Civil, Electrical, etc.] | University of New Orleans | 3 Years | Improving Adaptability and Resiliency of Rural Communities: Development of an ANP-Based Decision Support System for Post-Hurricane Recovery Activities | $53,585 | $54,429 | $55,296 | $163,310 |
| 099A-23 | Dr. Cheng Shi | Biological Sciences I | University of New Orleans | 3 Years | Regulation of somatic aging and lipid metabolism by the hyperactive germline | $66,766 | $64,255 | $64,758 | $195,779 |

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| Total Funds Requested for First Year | $5,298,569 |
| Total Funds Requested for Second Year | $4,600,530 |
| Total Funds Requested for Third Year | $3,736,681 |
| Total Funds Requested | $13,234,709 |