REPORT OF THE FINAL PANEL

BOARD OF REGENTS SUPPORT FUND R&D PROGRAM

RESEARCH COMPETITIVENESS SUBPROGRAM

FISCAL YEAR 2010-11

March 11-12, 2011

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BACKGROUND INFORMATION

One-hundred fifty-one research proposals requesting a total of $8,548,959, in first-year funds were submitted for funding consideration in fiscal year (FY) 2010-11 to the Research Competitiveness Subprogram (RCS) of the Board of Regents Support Fund (BORSF) R & D Program. Eight disciplines were eligible, including agricultural sciences, biological sciences, computer and information sciences, earth and environmental sciences, engineering "A" (i.e., chemical, civil, electrical and electronics), mathematics, physics and astronomy, and social sciences.

THE REVIEW PROCESS

To conduct as thorough, objective, and expert a review as possible on such a large number of applications within the Board's monetary constraints and time frame, a three-phase review process was adopted.

Phase I: In-Depth Mail Review

During mid-to-late November 2010, the Board of Regents' Sponsored Programs staff solicited the assistance of three hundred two reviewers to accomplish Phase I of the review process. Each proposal was subjected to in-depth mail reviews for scientific and technical merit by two out-of-state professionals possessing expertise in the specific field of the proposal under review. Reviewers also evaluated the principal investigator's potential for achieving national competitiveness in the proposed research area, as well as the PI's and the institution's existing capabilities to implement the project. These evaluations were available for each subject-area panel.

Phase II: In-Depth Review by Subject-Area Panel

In Phase II of the review process the one hundred fifty-one proposals were assigned to nine subject-area panels, corresponding to the eight general disciplines eligible for funding consideration in FY 2010-11. Two biological sciences panels were used because a large number of proposals were submitted in this subject area. One biological sciences subject area panel reviewed proposals related (but not limited) to human biology, cell/molecular biology, virology, and immunology; the other biological sciences proposals were related (but not limited) to ecology, pharmacognosy, microbiology, genetics and natural biology. Each panel was composed of two to four out-of-state professionals with broad expertise in the disciplines represented by the proposals, as well as familiarity with the goals and tenets of an EPSCoR-type program.[1] Using the criteria set forth in the FY 2010-11 R & D Request for Proposals (RFP), panel members worked individually and then collaboratively by telephone and email to decide which proposals in their subject area met all four eligibility requirements (i.e., the applicant and the proposal fit the EPSCoR mold; the proposal contained a significant research component; the proposal had the potential to make fundamental [basic] research contributions; and the research topic fit one of the eight eligible disciplines as defined in the RFP).

[1]RCS is modeled after the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR). NSF EPSCoR programs currently exist in 24 states, the Virgin Islands, and Puerto Rico.

In this second phase of the review process, each subject-area panel member acted as "primary discussant" for an assigned portion of the proposals and completed an in-depth, consensus critique form for each of his/her assigned proposals after discussing its relative merits and shortcomings with the other panel members. Through a telephone conference, the subject-area panel members jointly ranked the proposals in the order in which they believed that the proposals should be funded. The panel carefully scrutinized the budgets of those proposals ranked high enough to merit serious consideration for funding and recommended modifications where appropriate.

Phase III: Final Panel Review and Interdigitation of Recommended Proposals

In Phase III of the review process a final panel (hereafter referred to as the "Panel"), composed of three senior out-of-state professionals whose expertise spans the eligible disciplines and who possess comprehensive experience with EPSCoR-type programs, convened during March 11 and 12, 2011, in Baton Rouge, Louisiana, in the offices of the Board of Regents to discuss and compare the various groups of top-ranked proposals and, ultimately, to interdigitate the rankings of the various proposals across the subject areas. None of these individuals was associated with any other phase of the review process.

The three principal criteria used by the Panel in making its funding recommendations were as follows: (1) the appropriateness of the applicant to this program; (2) the scientific and technical merit of the proposed research, utilizing national standards of excellence; and (3) the proposal's identification of barriers to the principal investigator's national competitiveness and presentation of a convincing plan for overcoming such barriers. Additional factors considered by the Panel included the current national pool of funds available for the type of research being proposed, the appropriateness of the budget request, and the relevance of the proposed research to the State of Louisiana. Sixty proposals were discussed at length during this two-day meeting.

The Panel was informed that approximately $1,350,000 had been budgeted to fund the first year of work of the RCS projects. Utilizing the criteria described previously, the Panel recommended thirty proposals, totaling $1,240,439 in first-year funds, which it strongly believed were worthy of support and placed them in the "Priority One" category in **Appendix A**. The first fourteen proposals in Appendix A are ranked "1" (i.e., first). In the Panel's opinion, these proposals are of nearly equal merit, and the order in which these proposals are listed is arbitrary. Proposals ranked fifteen through thirty are listed in descending order of merit for funding.

The budgets for each of the thirty proposals rated as "Priority One" were scrutinized closely and, in most cases, adjusted downward to reflect the minimum amount of funds necessary to accomplish the proposed research. The Panel emphasizes, however, that in no case was a budget reduced to the point where the scientist or engineer could not accomplish the research proposed in the application.

Several other highly meritorious proposals considered at the final panel meeting but, for a variety of reasons, not recommended for funding, are listed in **Appendix B**. The fact that a proposal considered by the final panel was not recommended for funding should not, in itself, be interpreted to mean that the application fell just below the cutoff for funding. Each applicant whose proposal is listed in Appendix B should closely review the reviewers' comments (see Appendix F) before making the decision to resubmit a proposal to this program.

Appendix C lists those proposals that were ranked Priority Two by the subject-area panels but not recommended for funding by the final panel. In general, the proposals listed in **Appendix C** were considered scientifically sound, but possessed one or more problems that precluded a recommendation for funding, such as poor or unconvincing identification of barriers to national competitiveness; a scope of work either too broad or poorly defined; and/or research proposed in an area in which federal dollars are currently expended.

The Panel observes that several other proposals, although not recommended for funding by the Panel, deserve notice. **Appendix D** lists proposals that were considered meritorious (Priority Three) by the subject-area panels, but which were not rated highly enough to be included in the Priority Two list. Applicants whose projects are listed in **Appendices C and D** are encouraged to pay particular attention to the reviewers' comments and, if appropriate, revise their applications and resubmit them when their research topics are again eligible.

Appendix E gives comments and funding stipulations for each of the thirty proposals highly recommended for funding.

Appendix F provides specific comments made by the consultants applicable to those proposals listed in Appendix B, as mentioned above.

Appendix G lists the out-of-state experts who served as full members of the final and subject-area panels.

Appendix H summarizes all proposals submitted for funding consideration to the RCS and provides the following information for each proposal: proposal number, title, discipline, institution and department, principal and co-principal investigators, and BORSF funds requested.

FINAL PANEL COMMENTS AND RECOMMENDATIONS

The Research Competitiveness Subprogram of the Board of Regents Support Fund is designed to help those researchers in Louisiana who have strong potential to become nationally competitive for research funding from federal granting agencies. The Panel compliments the Board of Regents and the State of Louisiana on the establishment of such a quality program. It is the consensus of the Panel that this program has helped to establish a number of principal investigators who, in turn, have been able to support graduate students in their scientific and engineering studies through outside funding. It should be noted that through beneficial comments provided in each level of review, the process itself enhances the possibilities of success for proposals originating from researchers within the State of Louisiana who submit applications to a wide variety of funding sources. Moreover, the out-of-state scientists who reviewed and provided constructive criticism of this year's proposals are made aware of the scientific and engineering endeavors taking place in Louisiana and are impressed with the State's attempts to improve the research climate for its scientists and engineers through this program.

To the Applicants:

1. Barriers to Competitiveness. Despite the repeated emphasis placed on this criterion in the RFP, some applicants continue to ignore this program requirement. This year, as in past years, a number of applicants failed to present an argument indicating how a Board of Regents Support Fund award would remove the applicant's barriers to national competitiveness. In several proposals it appeared that the principal investigator was already nationally competitive and had significant external competitive funding. For other proposals, the barriers to national competitiveness were so great that funding the proposal would not overcome these barriers within the limits of the program (i.e., three years). The ratings of those proposals not in compliance with program guidelines were lowered accordingly.

2. Profile of Applicant. The Panel scrutinized the applicant's past funding levels and took into consideration the principal investigator's research productivity, particularly in the past three to five years. In some instances, proposals were submitted by nationally competitive faculty who had recently lost funding, but who gave no indication that they faced barriers to competitiveness that needed addressing. As stipulated in the RFP, junior researchers at the threshold of becoming competitive were given priority over senior researchers who are changing fields.

   In some cases, proposals ranked highly by reviewers during Phases I and II contained no information about the applicant or lacked a history of funding. In such cases, reviewers cannot sufficiently evaluate the applicant's profile for eligibility. Therefore, the Panel could not recommend these proposals for funding.

3. Format, Syntax, and Appearance of Application. In several cases, research ideas suffered greatly because the proposals were not well written. From the finished products presented to the Panel (i.e., the proposals), it also appears that some investigators did not sufficiently appreciate the competitive nature of the RCS. Applicants should be made aware that typically no more than twenty-five percent of the proposals submitted to this program will be funded with the money available, and that every year the number of excellent proposals far exceeds the funds available. Applications containing numerous spelling and typographical errors were viewed more critically than other applications, because an evident lack of care went into their preparation.

4. Requests for Equipment. As stated in the RFP, the R & D program is not an equipment grants program. Equipment may be requested only in the context of the particular research initiative proposed. It is the applicant's responsibility to justify the uniqueness of the equipment and/or software requested under the aegis of this program. With respect to computing equipment and software, it is the firm belief of the Panel that items such as personal computers, laptops, and standard word processing and data crunching software packages should be provided to faculty by their institutions. Board of Regents Support Fund money should be used only to support the acquisition of special peripherals and software that are specific to and justified by the proposed research.

5. Proposal Submission History. In several cases the Panel found it very helpful to have a detailed record tracking the submission of the proposal to other funding agencies. Also, as indicated in the RFP, if the project had been reviewed previously by another granting agency, it greatly enhanced the current proposal's chances of obtaining RCS funding if copies of these reviews were included, along with an explanation of any revisions that were made in the current application and a further explanation of how RCS support would help to overcome the problems identified by federal and/or other reviewers.

6. Funds Requested for Travel and Release Time. The Panel noted that requests for travel support and faculty release time frequently were poorly justified and itemized. Such requests should be carefully justified and detailed in future proposals.

7. Requests for Post-doctoral Researchers and Graduate Research Assistants. The subject-area panels noted that some proposals requested funds for post-doctoral researchers instead of graduate assistants, but did not provide an adequate explanation or justification of the need for the more expensive post-doctoral researchers. Because BORSF funds are quite limited, the Panel recommends that principal investigators request funding for less costly graduate assistants unless a compelling need for assistance from one or more post-doctoral researchers can be demonstrated.

8. General Comments.

a) The Panel agreed that, at a minimum, a successful proposal must contain the following:

(1) A precisely identified research problem or statement of a research hypothesis;

(2) A section describing the importance of solving the research problem;

(3) Evidence that the identified research problem is new and unresolved;

(4) A section describing the precise research methodology to be used;

(5) A section detailing expected results and future contributions;

(6) A discussion of the state and/or national implications of this research and identification of prospective future funding sources; and

(7) An assessment of the barriers that prevent the principal investigator from competing successfully for federal funding. This assessment should incorporate items 1-6 in a manner that will convince the reviewers that BORSF support of this investigator for up to three years will enable the PI to secure federal R & D dollars for the PI’s research endeavors.

b) Applicants whose proposals have been declined two or more times are encouraged to seek assistance in proposal/grant writing from a mentor or an established, nationally competitive investigator in the same field, perhaps at a nearby institution.

c) Applicants whose proposals were submitted and declined for the first time this year should look to the reviewer comments for guidance in strengthening future proposals.

d) Inexperienced principal investigators are helped by workshops on the preparation of research proposals. It would be beneficial if the institutions developed mentor programs, in which competitive scientists assisted these investigators in the preparation of good proposals. Mentors could also review the proposals prepared by junior investigators and suggest ways to strengthen these proposals. The Panel continues to be impressed by a marked improvement in the quality of proposals submitted by faculty from undergraduate teaching-oriented public and private institutions.

e) A number of top-ranked proposals were submitted by scientists who are clearly already nationally competitive. The Panel believes that it is inappropriate to use limited Board resources to support such scientists, even if these PIs were marginally changing research directions. It should also be noted that some highly ranked proposals were submitted by scientists who had already received three years of BORSF R & D support. In those cases where three years of previous BORSF R&D support did not enable the PI to become nationally competitive, the Panel found it difficult to recommend or justify additional support when so many other equally worthy applicants had yet to receive BORSF R & D funds. In the Panel's view, three years of BORSF R & D support should enable a scientist to become nationally competitive, if the research area is capable of attracting support from national funding agencies. All proposals recommended for funding by the Panel are believed to have strong potential for overcoming the barriers that have prevented the submitting scientists from achieving national competitiveness.

To the Board of Regents:

1. Limitations on Salary Requests and Requests for Post-Doctoral Researchers. The panel strongly believes that the investigators funded through the RCS should be involved actively (i.e., play a "hands on" role) in their research. For this reason, some requests for post-doctoral researchers were declined when budgets were reviewed. In most cases the Panel recommended Board funding for only one month's summer salary for principal investigators. The Panel believes that the institutions should be strongly encouraged to provide release time to their investigators. The institutional provision of release time provides tangible evidence to reviewers and the Board that the institution is committed to the research endeavors of its investigators and frees up Board funds that would otherwise be committed to salary support, thereby helping to ensure that the maximum number of excellent projects will be funded.

2. Limitations on Overall Funding Requests. In no year of the RCS's operation have the funds available sufficed to fund all proposals worthy of support. The Panel must cut proposal budgets significantly each year to ensure that the maximum possible number of worthy projects is funded. Therefore, the Panel strongly recommends that the Board maintain the existing overall cap on the amount of funds that may be requested ($200,000 over a three-year period).

APPENDIX A

RCS PROPOSALS HIGHLY RECOMMENDED FOR FUNDING (PRIORITY ONE)

Rank	Proposal No.	Institution	Recommended BORSF 1st Year Funds	Recommended BORSF 2nd Year Funds	Recommended BORSF 3rd Year Funds
1	039A	LSU-BR	$35,948	$35,948	$35,948
1	126A	ULL	$38,839	$38,839	$34,810
1	076A	LA-TECH	$26,713	$26,713	$26,713
1	040A	LSU-BR	$55,000	$55,000	-----
1	132A	ULL	$44,900	$44,900	$44,900
1	027A	LSU-BR	$15,954	$15,954	$15,954
1	052A	LSU-BR	$32,673	$32,673	$32,673
1	020A	LSU-BR	$40,037	$38,046	-----
1	082A	LA-TECH	$43,012	$40,899	-----
1	060A	LSUHSC-NO	$54,141	$54,141	$54,141
1	115A	TULANE	$49,674	$47,674	$14,713
1	112A	TULANE	$49,363	$49,363	$49,363
1	095A	Southeastern	$32,953	$32,900	$27,953
1*	055A	LSU-BR	$47,854	$47,854	$47,854
15	109A	TULANE	$48,886	$48,886	$48,886
16	078A	LA-TECH	$43,811	$43,811	$43,811
17	023A	LSU-BR	$44,014	$44,014	$35,214
18	147A	XAVIER	$17,351	$17,351	$17,351
19	015A	LSU-AG	$37,000	$37,000	-----
20	054A	LSU-BR	$36,508	$35,800	-----

***Note: Availability of funds for those proposals below the line is uncertain at this time.**

APPENDIX A (continued)

RCS PROPOSALS HIGHLY RECOMMENDED FOR FUNDING

21	075A	LA-TECH	$40,361	$38,661	$38,661
22	028A	LSU-BR	$50,126	$49,171	$47,897
23	086A	LOYOLA	$17,890	$16,890	-----
24	030A	LSU-BR	$45,462	$43,775	$43,775
25	077A	LA-TECH	$46,700	$46,700	$46,700
26	025A	LSU-BR	$61,064	$59,214	$37,214
27	113A	TULANE	$55,578	$55,578	$55,578
28	079A	LA-TECH	$40,000	$40,000	------
29	134A	ULL	$36,619	$31,384	$27,784
30	008A	LSU-AG	$52,008	$42,133	$37,163
	TOTALS		**$1,240,439**	**$1,211,272**	**$865,056**

APPENDIX B

MERITORIOUS PROPOSALS RANKED PRIORITY ONE BY THE SUBJECT-AREA PANELS AND CONSIDERED BY THE FINAL PANEL BUT NOT RECOMMENDED FOR FUNDING (12)

001A 003A 021A 031A 046A 066A 068A 070A 110A 130A 141A 148A

***Note*:** These proposals are not listed in rank order of merit. The Panel's comments on these proposals are provided in Appendix F. Mail and subject-area panel reviews for each proposal will also be provided to the applicants in July 2011.

APPENDIX C

**MERITORIOUS PROPOSALS RANKED PRIORITY TWO
BY THE SUBJECT-AREA PANELS AND CONSIDERED BY THE FINAL PANEL
BUT NOT RECOMMENDED FOR FUNDING (53)**

005A	032A	058A	088A	117A	140A
010A	035A	059A	091A	121A	144A
011A	037A	061A	092A	124A	149A
012A	038A	062A	093A	127A	-----
017A	043A	063A	094A	128A	-----
018A	048A	065A	096A	129A	-----
019A	049A	067A	100A	131A	-----
022A	050A	071A	101A	133A	-----
024A	051A	072A	105A	136A	-----
029A	056A	087A	114A	139A	-----

***Note*:** These proposals are not listed in rank order of merit. The mail and subject-area panel reviews for each proposal will be provided to the applicants in July 2011.

APPENDIX D

**PROPOSALS RANKED PRIORITY THREE OR DECLARED INELIGIBLE (*)
BY THE SUBJECT-AREA PANELS AND NOT RECOMMENDED FOR FUNDING (56)**

002A	047A	099A	137A
004A	053A	102A	138A
006A	057A	103A	142A
007A	064A	104A	143A
009A	069A	106A	145A
013A	073A	107A	146A
014A	074A	108A	150A
016A	080A	111A	151A
026A	081A	116A	----
033A	083A	118A	----
034A	084A	119A	----
036A	085A	120A	----
041A	089A	122A	----
042A	090A	123A	----
044A	097A	125A	----
045A	098A	135A	----

***Note*:** These proposals are not listed in rank order of merit. The mail and subject-area panel reviews for each proposal will be provided to the applicants in July 2011.

APPENDIX E
COMMENTS AND FUNDING STIPULATIONS
ON PROPOSALS HIGHLY RECOMMENDED FOR FUNDING
(PRIORITY ONE)

General Comments and Stipulations

This section provides comments and stipulations set forth as conditions of funding for the thirty proposals highly recommended for awards by the Panel. The Panel would again like to emphasize that it considered the first fourteen proposals to be of relatively equal merit and, therefore, the order in which they have been listed is arbitrary. Proposals ranked fifteen through thirty are listed in descending order of merit for funding.

In some instances the Panel deleted funds for research associates and post-doctoral researchers. The Panel believes that the principal investigators themselves should conduct a significant portion of the proposed research and that BORSF funds should first support graduate students who will benefit from scientific and/or engineering training.

The Panel strongly recommends that **prior to funding each proposal recommended for an award, the Board of Regents ascertain whether the principal investigator has obtained significant research support from another external funding source, such as a major foundation or federal granting agency.** Several scientists have proposals pending before such agencies or foundations. The Panel believes that some of these scientists are so close to achieving national competitiveness for research funding that they are likely to receive these requested funds. **In cases where a principal investigator obtains a commitment of significant external funding prior to receipt of an RCS award, the RCS award should be vacated and the funds thereby released should be used to support other deserving projects in the RCS or other component(s) of the Board of Regents Support Fund. Any principal investigator who receives notice of external funding after an award is contracted will be expected to report the notice of external funds in accordance with Section X of the RCS grant contract.**

Although the Panel reduced the budgets of most projects recommended for funding, the Panel did not reduce any budget to such an extent that achievement of a project's goals or execution of its work plan would be impaired. Therefore, **no reductions in the scope of work plans of projects recommended for funding should be allowed.** If the work plan submitted for a project does not correspond in scope to that of the original proposal, the award should be vacated and funds thereby made available should be used to fund other worthy projects in the RCS or other R&D subprogram(s) of the Board of Regents Support Fund.

The types and amounts of institutional match pledged in a proposal played a significant role in determining whether that proposal was recommended for funding. **Therefore, unless specifically stated in the funding stipulations of a project recommended for funding, no reductions in the types or amount of institutional match pledged in the original proposal should be permitted.** If the types or amounts of institutional match for a project recommended for funding are reduced, and unless such reductions are specifically authorized by the funding stipulations for that grant, the award should be vacated and funds thereby made available should be used to fund other worthy projects in the RCS or other R&D subprogram(s) of the Board of Regents Support Fund.

Appendix E (continued):

PROPOSAL NO. 039A ***RANK: 1***

TITLE: Function and Mechanism of DRH-1 in Worm Antiviral Innate Immunity

INSTITUTION: Louisiana State University and A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Rui Lu, Ph.D.

COMMENTS: Cellular organisms suppress viral infection using a wide variety of antiviral mechanisms that are often triggered upon the detection of the molecular pattern associated with an invading virus. RNA interference (RNAi) is one such antiviral mechanism found in fungi, plants and invertebrates that targets viral transcript for destruction in a sequence-dependent manner. Efficient virus silencing by RNAi requires an Argonaut (AGO) protein which cleaves the target RNA using virus derived siRNA (viRNA) as a sequence guide. In plants and worms, RNA dependent RNA polymerase (RdRP) potentiates RDVI by producing a secondary viRNAs. The PI's recent study suggests that DRH-1 is required for RNAi to target virus but appears dispensable in RNAi targeting non-viral transcript, suggesting a dedicated function of DRH-1 in RDVI. In order to better understand worm RDVI, the PI proposes to study the function and mechanism of DRH-1 in worm RDVI using a combination of cellular, genetic and immunological approaches.

It is recommended that the proposed budget be reduced to limit supply costs to $10,000 for a year one budget of $35,948. A similar budget of $35,948 is recommended for year two and year three**.**

The PI has (2) pending proposals:

- NIH - entitled "The Function and Mechanism of DRH-1 in RNAi Directed Viral Immunity" in the amount of $1,834,160.
- NSF – entitled "RNAi-directed Viral Immunity in Single-dicer Invertebrate" in the amount of $551,146.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $35,948 **Year 2: $35,948** **Year 3: $35,948**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 126A ***RANK: 1***

TITLE: Integrating Ecological and Evolutionary Theory to Understand the Epidemiology of Rapidly Evolving Viral Pathogens

INSTITUTION: University of Louisiana at Lafayette

PRINCIPAL INVESTIGATOR: Scott M. Duke-Sylvester, Ph.D.

COMMENTS: Ecological and evolutionary processes are often viewed as operating on vastly different time scales, with ecological dynamics playing out over the course of years to decades while measurable evolutionary changes occur over a span of millennia or more. As a result, research in these two areas has remained largely independent. However, viruses experience rapid rates of molecular substitution and may experience substantial neutral evolutionary change over the course of a single epidemic. The PI's objective is to develop an approach combining both ecological and evolutionary perspectives to explore contemporary epidemiological patterns neither approach can account for individually. Results from this research will form a foundation for subsequent research projects focusing on the interface between ecology and evolution.

It is recommended that the research project be funded at the level requested in year one, i.e., $38,839 with a similar budget of $38,839 in year two. Additionally, funding is recommended at the level requested in year three, i.e., $34,810.

Year 1: $38,839 **Year 2: $38,839** **Year 3: $34,810**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 076A ***RANK: 1***

TITLE: Novel Methods for Microarray Gene Expression Data Mining for Translational Bioinformatics

INSTITUTION: Louisiana Tech University

PRINCIPAL INVESTIGATOR: Prerna Dua, Ph.D.

COMMENTS: The growing healthcare burden and escalating cost of drug development present an overarching need for novel methods in translational bioinformatics and allied information-driven sciences to interpret gene expression data from large genotype databases. An important analysis aim is to identify sets of genes that are correlated, share similar pattern and biological properties such as regulation and function, and can be correlated to a disease. In this study, the PI will focus on research and development of algorithmic techniques for subspace unsupervised learning to discover gene correlations under controlled sets of conditions by using methods of isomorphic discovery for gene expression mining and linking them back to their phenotypes by using statistically mature methods.

This research, besides yielding important research results, will enhance and develop collaborative research and mentoring relationships with established and senior researchers at LSU Health Sciences Center, New Orleans and Louisiana Tech.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, $9,600 for one graduate student and limited travel support of $1,500 for a year one budget of $26,713. A similar budget of $26,713 is recommended for year two and year three.

Year 1: $26,713 **Year 2: $26,713** **Year 3: $26,713**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 040A ***RANK: 1***

TITLE: Remobilisation and Bioaccumulation of Polonium-210 in the Gulf of Mexico Hypoxia

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Kanchan Maiti, Ph.D.

COMMENTS: ^{210}Po is a naturally occurring radioisotope that is especially enriched in proteinaceous tissues of marine organisms. Human consumers of seafood receive their largest dose of natural radiation (~70%) from ^{210}Po due to bioaccumulation of polonium in the marine food web. Estimates suggest that consumption of ~4 kg of scallop flesh would be sufficient enough to reach the annual permissible intake limit of 1 mSv of ^{210}Po for humans. Thus, it is important to understand the processes that may result in large increases in dissolved Po species in the water column. A number of studies suggest that ^{210}Po can be remobilized from bottom sediments under low oxygen conditions. In order to test this suggestion, water column and sediment core samples will be collected and analyzed for ^{210}Po along with other ancillary data by the PI. The proposed research is a necessary first step towards understanding the sources, distribution, and accumulation of ^{210}Po in the Gulf of Mexico.

It is recommended that the proposed budget be reduced by deleting $7,000 in undergraduate student support and $500 in printing charges, and limiting travel and supply costs to $2,500 and $15,494, respectively, for a year one budget of $55,000. A similar budget of $55,000 is recommended for year two.

The PI has (1) pending proposal:

- NSF – entitled “Remobilization of Polonium-210 Under Low Oxygen Conditions and its Bioaccumulation” in the amount of $462,453.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $55,000 **Year 2: $55,000**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 132A ***RANK: 1***

TITLE: Multi-body Tracking and Structure from Video Sequence

INSTITUTION: University of Louisiana at Lafayette

PRINCIPAL INVESTIGATOR: Michael Pratt, Ph.D.

COMMENTS: The PI proposes solutions to multi-body tracking, segmentation, and 3D recovery problems based on a video sequence captured by a camera undergoing 3D motion. The PI proposes a system in which feature tracking, segmentation into static background and dynamic foreground objects, and 3D reconstruction are integrated. The 3D reconstruction will use information from the feature tracking and segmentation, taking into account the 3D structure of the background landscape. The general context is a scene containing a static background of buildings, roads, other man-made objects, as well as natural objects such as trees and shrubbery. The scene will contain foreground objectives such as vehicles that can move about on the ground plane. The research result should contribute to video processing in tracking and segmentation of multiple moving objects.

The PI has experience, as part of a research group at the University of Louisiana at Lafayette, in analyzing image and video data.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, and limit travel support to $1,500 for a year one budget of $44,900. A similar budget of $44,900 is recommended for year two and year three.

Year 1: $44,900 **Year 2: $44,900** **Year 3: $44,900**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 027A ***RANK: 1***

TITLE: Geometric and Asymptotic Properties of Groups

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Pallavi Dani, Ph.D.

COMMENTS: A central theme in geometric group theory is to treat groups as metric spaces, and study *quasi-isometry invariants*, i.e. properties invariant under a coarse equivalence of metric spaces. The primary focus of the PI in this research is a particular class of quasi-isometry invariants, collectively called *filling invariants*. These invariants can distinguish non-quasi-isometric groups, and are also intrinsically interesting: they provide insight into the geometry of the group and have potential to provide algebraic information about it.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, limit travel and supply costs to $1,500 and $1,000, respectively, for a year one budget of $15,954. A similar budget of $15,954 is recommended for year two and year three.

The PI has (1) pending proposal:

- NSA – entitled "Asymptotic and Geometric Properties of Infinite Groups" in the amount of $40,000.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $15,954 **Year 2: $15,954** **Year 3: $15,954**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 052A ***RANK: 1***

TITLE: Neutrino Oscillations with High Intensity Beams

INSTITUTION: Louisiana State University and A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Martin M. Tzanov, Ph.D.

COMMENTS: The objectives of this study are to evaluate the performance and to recommend design changes to the water Cherenkov detector for the Long Baseline Neutrino Experiment (LBNE). The main goal of the LBNE is to measure precisely all oscillation parameters including the CP violation phase and the matter effects. It will employ a high intensity neutrino beam produced at the Fermilab and aimed at the Homestake mine where the far detector will detect neutrino transmutations. The role of the PI will be to lead the development of the detector simulation and the event reconstruction of neutrino events in the water Cherenkov detector. Based on the results, recommendations for changes in the detector design and for detector calibration options will be made.

It is recommended that the proposed budget be reduced by deleting $20,000 in equipment costs and limiting travel support to $1,500 for a year one budget of $32,673. Computer equipment should be provided by the university and not funded by the RCS program. A similar budget of $32,673 is recommended for year two and year three.

Year 1: $32,673 **Year 2: $32,673** **Year 3: $32,673**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 020A ***RANK: 1***

TITLE: Examining Physical Activity as an Enhancement to Traditional Treatment for Children with Anxiety Disorders

INSTITUTION: Louisiana State University and A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Birgitta L. Baker, Ph.D.

COMMENTS: Anxiety disorders are the most prevalent psychological disorders among children and adolescents and can impair social, educational, and psychological functioning. Cognitive-Behavior Therapy (CBT) is effective in reducing anxiety symptoms in the majority of cases, although further research is needed before CBT can be considered well established as an efficacious treatment for childhood anxiety disorders. Several studies have provided support for using physical activity as an adjunct or alternative treatment for anxiety disorders in adults and exercise programs have the added advantage of health benefits, including improved body composition and cardiovascular functioning. Research regarding the efficacy of physical activity for youth with anxiety disorders is, however, lacking. Therefore, the purpose of this study is to explore the efficacy of a 12-week physical activity program on anxiety diagnosis and symptoms in children and adolescents ages 8-16 years.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, $12,000 in graduate student support, a $10,193 subcontract (one month summer salary for the co-PI, same as offered to the PI), and limited travel support of $2,000 for a year one budget of $40,037. A budget of $38,046 is recommended for year two of the project.

The PI has (1) pending proposal:

- USDA-NIFA-AFRI A2111 – entitled “Greaux Smart Bodies! An Evidence-Based Comprehensive Childhood Obesity Prevention Program to Grow Healthy Bodies and Active Minds” in the amount of $1,000,000.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $40,037 **Year 2: $38,046**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 082A ***RANK: 1***

TITLE: Metabolic Acclimation and Carbon-use Efficiency of Short-rotation Woody Crop Species Grown on Marginal Agricultural Land on the Lower Mississippi Alluvial Valley

INSTITUTION: Louisiana Tech University

PRINCIPAL INVESTIGATOR: Michael C. Tyree, Ph.D.

COMMENTS: Short-rotation woody crops (SRWC) have the potential to provide large quantities of woody material for biofuels across the Lower Mississippi Alluvial Valley (LMAV) and the larger southeastern United States. However, the role of intensive management and changing climate on SRWC productivity is poorly understood and needs further study before accurate energy and crop budgets can be predicted. The goal of the proposed study is to determine how management intensity and environment influence plant gas exchange and crop use efficiency. The PI proposes in year one and year two to investigate seedlings pre-coppice and after coppicing, respectively. Findings from this study will be combined with a sister study funded by the US Forest Service; Southern Research Station, which will focus on total soil respiration to scale findings to the stand level. This field study will provide insight into the ability of short-rotation woody crops to sequester and store carbon while also providing a source of biomass for the production of sustainable bioenergy.

It is recommended that the proposed budget be reduced to provide $4,000 in undergraduate student support and $3,000 in "other expenses" (in-state tuition $7,036 deleted) for a year one budget of $43,012. A budget of $40,899 is recommended for year two.

The PI has (2) pending proposals:

- USDA Agriculture and Food Research Initiative – entitled "Net Ecosystem C Exchange and Leaf Physiology in Short-rotation Wood Crops Planted on a Latitudinal Transect Along the Mississippi Alluvial Valley" in the amount of $249,781.44.
- US Forest Service, Center for Bottomland Forest Research Unit – entitled "The Influence of Establishing Native Short-Rotation Woody Crops on Carbon Cycling Planted on Retired Agricultural Lands of the Lower Mississippi Alluvial Valley" in the amount of $103,924.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $43,012 **Year 2: $40,899**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 060A ***RANK: 1***

TITLE: Molecular Control of Pump Function in Contractile Lymphatic Vessels

INSTITUTION: Louisiana State University Health Sciences Center - New Orleans

PRINCIPAL INVESTIGATOR: Jerome W. Breslin, Ph.D.

COMMENTS: The mammalian lymphatic system has important functions in fluid homeostasis, lipid absorption, and immune function. To achieve these functions, lymphatic vessels must transport lymph through the lymphatic network and lymph nodes and eventually to the great veins of the central circulation. In contrast to blood vessels, lymphatic vessels propel lymph using a contractile cycle with combined characteristics of cardiac and vascular smooth muscle. Lymphatic smooth muscle contractile responses to stretch have been characterized, and involve calcium-dependent activation of myosin light chain kinase, myosin light chain phosphorylation, and actin-myosin-mediated contraction. The PI proposes to investigate how distinct calcium-dependent and calcium-sensitizing mechanisms leading to contraction are affected by stretch in isolated, perfused rat mesenteric collecting lymphatics. Completion of this work will substantially advance understanding of lymphatic contractile mechanisms and provide a basis for future investigations directed at studying overall lymphatic function.

It is recommended that the proposed budget be reduced to limit supply costs to $10,000 and delete $600 in printing charges for a year one budget of $54,141. A similar budget of $54,141 is recommended for year two and year three.

The PI has (3) pending proposals:

- NIH/NHLBI – entitled “Regulatory Mechanisms for Resolution of Inflammatory Microvascular Leakage” in the amount of $250,000/year.
- NIH/NIAAA – entitled “Impact of Alcohol Intoxication on Hemorrhagic Shock-Induced Microvascular Dysfunction” in the amount of $125,000/year.
- ABMRF/The Foundation for Alcohol Research – entitled “Impact of Alcohol Intoxication on Hemorrhagic Shock-Induced Microvascular Dysfunction” in the amount $86,956 Direct Cost.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $54,141 **Year 2: $54,141** **Year 3: $54,141**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 115A ***RANK: 1***

TITLE: Effects of Climate and Host Behavior on the Interaction Between Amphibians and an Emerging Fungal Pathogen, Batrachochytrium dendrobatidis

INSTITUTION: Tulane University

PRINCIPAL INVESTIGATOR: Corinne L. Richards-Zawacki, Ph.D.

COMMENTS: The seasonal cycles of many diseases are a reminder of the effects of climate on host-pathogen interactions. The mechanisms linking environmental changes to epidemiological patterns remain unclear in many cases. A better understanding of climate's impact on host-pathogen interactions is needed to predict and mitigate the risks infectious diseases pose for humans and other organisms.

The PI proposes to quantify the relationship between climate, behavior and *Bd* susceptibility, and how it varies among four amphibian hosts. An important outcome of this study will be an improved understanding of, and ability to mitigate, threats to amphibian biodiversity. The study should also demonstrate how integrating laboratory, field and modeling approaches can elucidate the effects of climate change on other infectious diseases.

It is recommended that the proposed budget be reduced to limit supply costs to $10,000 for a year one budget of $49,674. A budget of $47,674 is recommended in year two and $14,713 in year three, wherein printing charges of $2,000 are deleted.

The PI has (1) pending proposal:

- NSF – entitled "Effects of Climate and Thermoregulatory Behavior on the Interaction Between Amphibian Hosts and an Emerging Fungal Pathogen, Batrachochytrium dendrobatidis" in the amount of $634,702.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $49,674 **Year 2: $47,674** **Year 3: $14,713**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 112A ***RANK: 1***

TITLE: Parallel Algorithms for the Simulation of Cellular Deformation and Adhesion

INSTITUTION: Tulane University

PRINCIPAL INVESTIGATOR: Damir B. Khismatullin

COMMENTS: The goal of the PI is to develop highly efficient parallel algorithms for the three- dimensional numerical simulation of deformable cell adhesion and migration. Cellular deformation in these computational models will be described by a multiphase flow approach, i.e., the cell will be treated as a dispersed mixture of deformable particles embedded in a reactive viscoelastic fluid and enclosed within a semipermeable boundary that has surface-bound receptors. The PI will examine several mechanisms of active force generation in migrating cells such as polymerization force, swelling force, and elastic Brownian ratchets. Their basis will be the computational fluid dynamics solver for multiphase viscoelastic flow problems, previously developed by the PI.

It is recommended that the proposed budget be reduced to delete $3,750 in equipment cost (computers should be provided by the university) and limit supplies ($1,000 PC workstation deleted) and travel costs to $2,000 and $1,500 respectively, for a year one budget of $49,363. A similar budget of $49,363 is recommended for year two and year three.

The PI has (3) pending proposals:

- NSF – entitled "GOALI: Development of a Double Concentric Cylinder Rheometer with Slotted Rotor" in the amount of $513,251.
- NSF – entitled "Collaborative Research: Noncontact Method for Rheological Characterization of Biological Materials" in the amount of $201,150.
- NSF – entitled "Release and Delivery of Encapsulated Proteins from Pickering Double Emulsions" in the amount $414,017.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $49,363 **Year 2: $49,363** **Year 3: $49,363**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 095A ***RANK: 1***

TITLE: Development of Exposure Assessment Models to Estimate Occupational Exposures and Health Risks to Engineered Nanoparticles [ENPs] During Environmental Remediation of Superfund Sites

INSTITUTION: Southeastern Louisiana University

PRINCIPAL INVESTIGATOR: Ephraim A. Massawe, Ph.D.

COMMENTS: The novel chemical and physical properties of nanomaterials produced from nanotechnology have made these materials potential candidates for various applications. For example, engineered nanoparticles (ENPs) have been used successfully for environmental remediation of the Superfund sites. However, little is known about their environmental and the health impacts.

The goal of this research is to investigate work practices at twenty Superfund sites that have used or continue to use ENPs.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, $6,000 in undergraduate student support, limited travel and supply costs of $6,265 and $2,000, respectively for a year one budget of $32,953. It is also recommended that funding for the year three workshop be moved to year two (consistent with the RFP requirement regarding funding for each successive year of the project) for a year two budget of $32,900. A budget of $27,953 is recommended for year three.

The PI has (1) pending proposal:

- EPA – entitled "Integrating Pollution Prevention Practices into the Decision Making Process to Minimize Impacts of Emerging Technologies" in the amount of $124,000.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $32,953 **Year 2: $32,900** **Year 3: $27,953**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 055A ***RANK: 1***

TITLE: Novel Solar Cell Design and Fabrication for High Energy Conversion Efficiency

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Ying Wang, Ph.D.

COMMENTS: The long-term goal of this multidisciplinary project is to obtain the *fundamental understanding* needed to design, fabricate, and ultimately validate prototype *photonic-crystal-based dye-sensitized solar cells* (DSSCs) with high energy conversion efficiency. An effective strategy to enhance the light collection in solar cells is to incorporate photonic crystals to manipulate the light flow.

The PI proposes to synthesize a new bilayer photo-electrode consisting of a photonic crystal layer chemically bonded to the oxide nanostructure layer, using novel atomic layer deposition and solution processing methods. The proposed research is the first effort to fabricate and systematically investigate photonic-crystal-based DSSCs consisting of a photonic crystal layer chemically bonded to the oxide nanostructure layer.

It is recommended that the proposed budget be reduced to delete $300 in printing charges, limit travel and supply costs to $1,500 and $5,000, respectively for a year one budget of $47,854. A similar budget of $47,854 is recommended for year two and year three.

Year 1: $47,854 **Year 2: $47,854** **Year 3: $47,854**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 109A ***RANK: 15***

TITLE: Combinatorics of Variety of Complete Quadrics

INSTITUTION: Tulane University

PRINCIPAL INVESTIGATOR: Mahir Bilen Can, Ph.D.

COMMENTS: The main purpose of this research is to contribute to the emerging field of combinatorial, geometric representation theory. The PI proposes to study several themes on the compactifications of the symmetric spaces using enumerative and algebraic combinatorics at various degrees of generality. A common important aspect of the proposed investigations is that they lie on the intersection of several different fields of mathematics and aim to advance the interactions between these fields: topology of group embeddings, semigroup theory, representation theory, algebraic geometry and combinatorics.

It is recommended that the proposed budget be reduced to provide $3,000 in travel support and delete $5,000 in consultant charges for a year one budget of $48,886. A similar budget of $48,886 is recommended for year two and year three.

The PI has (1) pending proposal:

- NSF – entitled “Gelfand Paris, Rooks, Quadric, Supersolvable Representations” in the amount of $289,686.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $48,886 **Year 2: $48,886** **Year 3: $48,886**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 078A ***RANK: 16***

TITLE: Artificial Optical Materials For Molding the Flow of Light

INSTITUTION: Louisiana Tech University

PRINCIPAL INVESTIGATOR: Dentcho A. Genov, Ph.D.

COMMENTS: Artificial optical materials exhibiting complex electric and magnetic responses, i.e., electromagnetic metamaterials (EMMs), have been the focus of recent efforts to create negative index media, invisibility devices and lenses with super resolution. The PI will seek to achieve a national level of competitiveness in the area of EMMs, by developing the fundamental knowledge base for realization of low trap light. The PI will pursue low observability stealth technology (LOST) at visible and infrared frequencies relying on low-dissipative and low-dispersive composite materials. Using the same approach, a class of EMMs will be designed to serve as optical attractors for light or to provide new functionalities such as Lyapunov-stable ray trajectories, thus presenting a new route toward high Q-factor photon traps. This will represent three orders of magnitude improvement compared to the current state-of-the-art.

It is recommended that the proposed budget be reduced to limit travel support to $1,500 for a year one budget of $43,811. A similar budget of $43,811 is recommended for year two and year three.

The PI has (2) pending proposals:

- NSF – entitled "CAREER: Artificial Electromagnetic Materials and Active Plasmonics".
- NSF – entitled "Research and Education on Plasmonically Enhanced Solar Photovoltaic Devices" in the amount of $299,931.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $43,811 **Year 2: $43,811** **Year 3: $43,811**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 023A ***RANK: 17***

TITLE: Listening as Supportive Communication: Exploring the Behavioral Correlates, Emotional Consequences, and Social Capacity of Supportive Listening

INSTITUTION: Louisiana State University and A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Graham D. Bodie, Ph.D.

COMMENTS: Social support is one of the most fundamental and beneficial aspects of interpersonal relationships. When people are stressed and receive high quality support, the negative impact of stress can be mitigated. Unfortunately, many support attempts fail to provide relief, and some attempts actually exacerbate stress. Although various communicative actions influence support quality, one of the most frequently listed is listening. The current proposal serves to carve out a conceptual space for the study of listening as supportive communication and offer grounded guidance for practical application. In addition to refining theories of supportive communication and developing applications for ameliorating stress in everyday life, the proposed research will improve the PI's competitiveness for a federally funded grant.

It is recommended that the proposed budget be reduced to provide $3,000 in undergraduate student support for a year one budget of $44,014. In year two supply costs should be limited to $5,500 in lieu of the $13,311 requested for a similar budget of $44,014. In year three it is recommended that the project be funded at the level requested, i.e., $35,214.

Year 1: $44,014 **Year 2: $44,014** **Year 3: $35,214**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 147A ***RANK: 18***

TITLE: A Role of Bcl2-inhibitor of Transcription (Bit1) in the Survival, Anoikis Insensitivity, and Anchorage-Independent Growth of Pancreatic Cancer Cells

INSTITUTION: Xavier University of Louisiana

PRINCIPAL INVESTIGATOR: Hector R. Biliran, Ph.D.

COMMENTS: Pancreatic cancer is a highly aggressive form of malignancy that is associated with dire prognosis and poor response to chemotherapy. Pancreatic cancer cells exhibit high survival and resistance to undergo apoptosis, at least in part due to mutations in key apoptotic genes such as p53, the Bcl family of proteins, or other effectors of caspase-dependent signaling. The major challenge therefore in combating this deadly disease is to find new modalities that can induce apoptosis in pancreatic cancer cells, such as triggering the caspase-independent pathway. The goal of this project is to examine the role of the novel caspase-independent apoptotic effector, Bcl2-inhibitor of transcription (Bit1), in apoptosis resistance and survival of pancreatic cancer cells. Data derived from these studies will provide information regarding the pathobiology of pancreatic cancer and the mechanisms underlying the resistance of pancreatic cancer cells to apoptosis.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, and delete $1,000 in printing charges for a year one budget of $17,351. A similar budget of $17,351 is recommended for year two and year three.

The PI has (1) pending proposal:

- NIH/NCI – entitled "A Role of Bit1 in the Apoptosis Resistance, Anoikis Insensitivity, and Chemoresistance in Non-small Cell Lung Cancer (NSCLC) Cells" in the amount of $362,000.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $17,351 **Year 2: $17,351** **Year 3: $17,351**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 015A ***RANK: 19***

TITLE: Genetic Population Structure in Threatened Louisiana Bachman's Sparrows

INSTITUTION: Louisiana State University And A&M College - Agricultural Center

PRINCIPAL INVESTIGATOR: Sabrina S. Taylor, Ph.D.

COMMENTS: Bachman's sparrow is a species at risk that has declined from fire suppression, timber harvesting, and fragmentation of the open longleaf pine savannahs that they occupy.

The PI will examine the genetic population structure of Bachman's sparrows, specifically: whether populations east and west of the Mississippi should be managed separately to preserve potentially separate lineages; the degree of gene flow, population structure and genetic variation among habitat fragments; and whether DRD4 gene variants are associated with dispersal. This information will be particularly helpful for identifying common patterns of speciation, managing habitat fragments to preserve reservoirs of genetic variation, and re-establishing gene flow in areas where it has been lost.

It is recommended that the proposed budget be reduced to provide $4,000 in undergraduate student support for a year one budget of $37,000. A similar budget of $37,000 is recommended for year two.

The PI has (1) pending proposal:

- NSF CAREER – entitled "Relationships Among Mhc Variation, Microsatellite Variation and Fitness in Wild Populations" in the amount of $835,050.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $37,000 **Year 2: $37,000**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 054A ***RANK: 20***

TITLE: Flood Hazard Resiliency and Accessibility of Retail Infrastructure in New Orleans

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Lei Wang, Ph.D.

COMMENTS: Curbing the risk of disaster, bolstering preparedness, and planning for post-disaster recovery should be conducted according to a strategic plan in which the sectors with direct and salient impacts on short-term and long-term recovery are assigned a top priority. Previous researchers have indicated that the retail sector is an essential component of disaster recovery. A systematic study is needed for guiding a disaster-resilient retail infrastructure to facilitate government-supported disaster recovery plans and entrepreneurial development.

The goal of this proposed interdisciplinary research is to provide a scientific solution to disaster-resilient retail infrastructure by integrating approaches from geographic information systems (GIS), flood hazard study, and social and behavioral sciences.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, $18,000 in support for one graduate student, and limited travel costs of $1,500 for a year one budget of $36,508. A budget of $35,800 is recommended for year two.

The PI has (1) pending proposal:

- NSF – entitled “Collaborative Research: Investigating Spatio-Temporal Variability of Antartic Surface Melt for Climate Change Analysis” in the amount of $237,810.

Should the PI receive funding for the pending proposal he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $36,508 **Year 2: $35,800**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 075A ***RANK: 21***

TITILE: Statistical Methods for Fractional Birth-Death Processes

NSTITUTION: Louisiana Tech University

PRINCIPAL INVESTIGATOR: Dexter Cahoy, Ph.D.

COMMENTS: The birth-death process is one of the widely used continuous-time Markov chains. It has been used to model random phenomena in several disciplines including evolutionary genomics, computer science, demography, queuing theory, performance engineering, and growth stocks.

In this study, the principal investigator will address major statistical issues (e.g., parameter estimation, path simulation, etc.) and properties (e.g., state, event and inter-event time, etc.) of some fractional birth-death processes. The parameter estimation procedures and the algorithms to simulate the sample paths are the major expected outputs. More specifically, the PI will deal with the fractional death, and the fractional birth-death processes. Fractional generalizations of some variants will be developed and implemented.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits and limited travel support of $1,500, and delete $500 in printing charges for a year one budget of $40,361. A budget of $38,661 is recommended for year two and year three.

Year 1: $40,361 **Year 2: $38,661** **Year 3: $38,661**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 028A ***RANK: 22***

TITLE: Nanoscale Electronic Characterization of Hybrid Electronic Materials

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Theda Daniels-Race, Ph.D.

COMMENTS: In the discovery of new materials and their application to alternative energy systems, technology faces two major challenges: 1) conventional lithography-based approaches to device/circuit fabrication are reaching their limits in the nanoscale, and 2) decreasing dimensions and the operative requirements of traditional semiconductor devices now incur substantially increasing costs of production, outweighing the oftentimes incremental benefit to the given application. Thus, "new" or *hybrid* (organic-inorganic) electronic materials (HEMs) are needed to address the aforementioned challenges.

In this study, the PI proposes to investigate a new form of HEM known as GUMBOS or a **G**roup of **U**niform **M**aterials **B**ased on **O**rganic **S**alts. Representative of a first-time synthesis of nanoparticles composed of ionic liquid species in the frozen state, GUMBOS will be used to explore potential means for energy generation, transmission, and storage.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits for a year one budget of $50,126. A budget of $49,171 and $47,897 is recommended for year two and year three, respectively.

Year 1: $50,126 **Year 2: $49,171** **Year 3: $47,897**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 086A ***RANK: 23***

TITLE: Numerical Explorations of the Cyclic Inflationary Model of the Early Universe

INSTITUTION: Loyola University New Orleans

PRINCIPAL INVESTIGATOR: Tirthabir Biswas, Ph.D.

COMMENTS: Cosmic Microwave Background Radiation (CMBR) provides us with a remarkable opportunity to unlock the mysteries of the "Early Universe", and indeed to test and constrain the different models in vogue. From the latest satellite data the spectrum of the fluctuations in CMBR has now been obtained. It is now believed that these fluctuations were created during a phase of inflation in the Early Universe, when the universe expanded by a huge factor in a very short amount of time. The near scale-invariance of the observed CMBR spectrum is precisely what the inflationary theory had predicted. Recently, inspired by Cyclic Cosmology, the PI has proposed a new way of realizing inflation. This model has the potential to significantly impact both Cosmology and String Theory.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits, $3,000 for undergraduate students, $1,500 for travel, $2,000 for consultants, and $1,000 for equipment for a year one budget of $17,890. A budget of $16,890 is recommended for year two.

Year 1: $17,890 **Year 2: $16,890**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 030A ***RANK: 24***

TITLE: Climate Change and Disease Transmission: Shifts in Host-pathogen Ranges

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Bret D. Elderd, Ph.D.

COMMENTS: As global temperatures rise, considerable research effort has focused on how changing temperatures will affect the range of isolated species. Shifts in a species' range may not be due to environmental factors alone. Range shifts can also be tied to biotic interactions.

The PI will use experiments to construct Bayesian hierarchical models to determine how the interaction between the fall armyworm *Spodoptera frugiperda* and its species-specific nucleopolyhedrovirus changes as a result of increasing temperatures. Armyworm population dynamics and spread are linked to temperature such that increased temperature decreases development time and increases migration distance northward. When fall armyworm populations increase to levels that cause widespread defoliation, epizootic outbreaks occur. These traits make the fall armyworm system ideal for studying the effects of a warming climate on the range of species, disease transmission rates, and epizootic spread.

It is recommended that the year one budget be funded at the level requested, i.e., $45,462. It is also recommended that $1,000 in "other expense" charges be deleted for a year two budget of $43,775. A similar budget of $43,775 is recommended for year three.

Year 1: $45,462 **Year 2: $43,775** **Year 3: $43,775**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 077A ***RANK: 25***

TITLE: ***Glutathionylation Profiling in a Transgenic Mouse Model of Alzheimer's Disease Using a Microfluidic Electrophoresis Chip: A Novel Approach to AD Screening***

INSTITUTION: ***Louisiana Tech University***

PRINCIPAL INVESTIGATOR: ***June Feng, Ph.D.***

COMMENTS: Alzheimer's Disease (AD), the most common form of dementia in the elderly, may manifest as neuropathological changes long before it is diagnosed. Oxidative stress induced by Reactive Oxygen Species has been implicated as a contributing factor to AD. Protein glutathionylation formation is considered as a marker of oxidative stress in AD.

The overall goal of the proposed research is to develop a process of quantitative and highly sensitive two-dimensional micro-electrophoretic (2D-μCE) profiling of biomarkers from very small amounts of blood or/and brain tissue taken from an Alzheimer's transgenic mouse model. To achieve this goal the PI will develop a 2D microfluidic electrophoresis device with laser induced fluorescence (LIF) detection. This will allow the quantitative characterization of 2D-μCE profiling of glutathionylated proteins at different stages of AD development using specific fluorescence labeling.

It is recommended that the research project be funded at the level requested in year one, i.e., $46,700. A similar budget of $46,700 is recommended for year two and year three.

The PI has (2) pending proposals:

- NSF CAREER – entitled "Subproteome Purification Using Functional Polymer-Based Microfluidics" in the amount of $414,315.
- NSF – entitled "Modular Microfluidic System Development with Both Subproteome Affinity Extraction and 2D Micro-Electophoresis for Protein Profiling" in the amount of $298,972.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $46,700 **Year 2: $46,700** **Year 3: $46,700**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 025A ***RANK: 26***

TITLE: Understanding Ancient Urban Lifeways in Coastal Peru: Perspectives from Caylan, Nepeña Valley

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: David Chicoine, Ph.D.

COMMENTS: The proposed research aims at understanding urban lifeways in ancient Peru as seen through the analysis of architectural, material, faunal, botanical, and fecal remains excavated at the ancient city of Caylán (800-10 BCE), Nepeña Valley, Coastal Ancash. The first millennium BCE corresponds to a time of increasing social complexity and transition to large-scale urban states. In continuity with the PI's long-term interest in the region, in 2009, a multi-year excavation project was undertaken at Caylán, the largest site of the region preliminarily interpreted as the center of an important regional polity. Results of the mapping and excavation operations indicate that the site was organized as a planned city composed of several co-resident groups that built and used distinct walled compounds.

The PI will analyze the architectural setting and materials associated with the different social groups at Caylán. The results of the specialized carbon, fecal, faunal and botanical analyses will be integrated to the archaeological interpretations with the objective of understanding the variability in urban lifeways on the north-central coast of Peru.

It is recommended that the proposed budget be reduced to provide $7,000 in travel, $16,850 for "other expenses" and deletion of $200 in printing charges for a year one budget of $61,064. It is also recommended that travel support be limited to $8,000 in year two and $1,500 in year three for budgets of $59,214 and $37,214, respectively.

Year 1: $61,064 **Year 2: $59,214** **Year 3: $37,214**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 113A ***RANK: 27***

TITLE: Electrical Transport at Interfaces of Self-assembled Oxide Nano-structures for Solid Electrolytes and Thermoelectrics

INSTITUTION: Tulane University

PRINCIPAL INVESTIGATOR: Dae Ho Kim, Ph.D.

COMMENTS: To meet the energy challenge of the future, solid oxide fuel cells (SOFC) and thermoelectric power have been widely studied. The races to improve the efficiency of SOFC and thermoelectrics come down to a drastic increase in the ionic and electronic conductions in solid electrolytes and thermoelectrics, respectively. These seemingly unrelated tasks can both be achieved by enhanced two-dimensional conductivities at the interfaces between complex oxides. The objective of the PI is to understand the mechanism of such electronic and ionic conductions. The activity will strengthen materials research at Tulane University, adding rich diversity to New Orleans' research community mostly dominated by medical/biological-oriented researches.

It is recommended that the proposed budget be reduced to limit supply and travel costs to $10,000 and $1,500, respectively for a year one budget of $55,578. A similar budget of $55,578 is recommended for year two and year three.

The PI has (2) pending proposals:

- NSF CAREER – entitled "The Perpendicular ionic and electronic conductions in Curved Interfaces of Heteroepitaxial Vertical Nanocomposites of Complex Oxides" in the amount of $739,230.

- DOE CAREER – entitled "Ionic Conductions and Thermoelectric Effects at the Curved Interfaces in Self-Assembled Epitaxial Vertical Nanopillars of Metal Oxides" in the amount of $845,086.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $55,578 **Year 2: $55,578** **Year 3: $55,578**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 079A ***RANK: 28***

TITLE: Innovative Diabetes Self-Management Intervention Through Technology

INSTITUTION: Louisiana Tech University

PRINCIPAL INVESTIGATOR: Heather R. Haberman, Ph.D.

COMMENTS: The purpose of this two-year pilot project is to design, implement, and evaluate multidisciplinary research to assess the effect of three different delivery modalities on dietary and exercise behavior and knowledge in a low-income rural population. This technology-driven intervention will be delivered in three distinct modalities: education and support through self-administered educational DVDs, face-to-face education, and on-line education and support. The significance of implementing lifestyle intervention using varying modalities is to help rural participants understand the importance of actively seeking lifestyle modification to achieve healthy diets, including low glycemic index diets, and increase physical activity.

This budget is unusually large and exceeds the request for funding guidelines as set forth by the RCS RFP. It is the Panel's recommendation that this project be funded only as a pilot study rather than the extensive study requested, at a level of $40,000 per year for year one and year two.

Year 1: $40,000 **Year 2: $40,000**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. 134A ***RANK: 29***

TITLE: ***The 'Me' I See: Verbal Learning Processes in Body Image Disturbance***

INSTITUTION: ***University of Louisiana at Lafayette***

PRINCIPAL INVESTIGATOR: ***Emily K. Sandoz, Ph.D.***

COMMENTS: Body image disturbance has been associated with significant problems in mental health, physical health, and social functioning. The goal of the proposed research is to develop a scientific understanding of how an individual's experience of his or her body can come to disrupt living so broadly. This will involve clarifying the basic learning processes involved in body image inflexibility and subsequent dysfunction. Using Relational Frame Theory (RFT) as a theoretical basis, the PI aims to: 1) develop an analysis of body image inflexibility in terms of verbal learning processes; 2) empirically demonstrate the relevance of verbal learning processes to body image disturbance; 3) develop and validate a behavioral, computer-based measure of body image flexibility; and 4) examine body image inflexibility as a mediator of the impact of body image on dysfunction, and of the outcomes of mindfulness and acceptance-based body image intervention. The proposed research would take place in two phases over three years, and would result in the development of a broad and solid foundation for a nationally competitive program of research.

It is recommended that the proposed budget be reduced to provide one month summer salary for the PI including fringe benefits and $3,000 in undergraduate student support for a year one budget of $36,619. A budget of $31,384 is recommended for year two and a budget of $27,784 for year three.

Year 1: $36,619 **Year 2: $31,384** **Year 3: $27,784**

The Institutional Match pledged in the proposal should be maintained in full.

Appendix E (continued):

PROPOSAL NO. ***008A*** ***RANK: 30***

TITLE: ***Development of Quick Ethanol Feedstock Evaluation Method Using In Vitro Fermentation Gas Measurement***

INSTITUTION: ***Louisiana State University and A&M College - Agricultural Center***

PRINCIPAL INVESTIGATOR: ***Kun-Jun Han, Ph.D.***

COMMENTS: Biofuels such as ethanol and butanol can be produced from the polysaccharides present in biomass. Lignocellulose from various plant biomass materials differs in the degree of lignification, hence conversion efficiencies differ for each feedstock. An emerging ethanol industry based on biomass conversion will need a robust evaluation system to determine realistic values for convertible carbohydrates (fiber) for various biomass materials.

Measuring fermentation gas during the incubation of a sample with rumen fluid is a means of determining energy value in animal nutrition research. Since conversion analysis and rumen fermentability share the common requirements of polysaccharide degradation and substrate fermentation, this project will endeavor to develop a rapid prediction method for ethanol production from various feedstocks by substituting the rumen fermentation gas method for the complicated and time-consuming ethanol conversion analysis.

It is recommended that two years of the research project be funded at the level requested, i.e., $52,008 for year one, and $42,133 for year two. It is also recommended that $4,500 in "other expense" charges be deleted for a year three budget of $37,163.

The PI has (4) pending proposals:

- USDA – entitled "A Regional Program for Production of Multiple Agricultural Feedstocks and Processing to Biofuels and Biobased Chemicals" in the amount of $309,870.
- USDA Sustainable Agriculture Research and Education Grant – entitled "Maximizing Legume Nitrogen Contribution for Specialty Forage System" in the amount of $227,380.
- DOE – entitled "Development and Economic and Environmental Impacts Assessment of Converting Plant Residues and Livestock Waste to Liquid Hydrocarbons" in the amount of $9,423,437.
- DOE – entitled "Biomass Research and Development Initiative" in the amount of $321,168.

Should the PI receive funding for any one of the pending proposals he/she should be considered nationally competitive and the requested funds from the BORSF program should not be awarded.

Year 1: $52,008 **Year 2: $42,133** **Year 3: $37,163**

The Institutional Match pledged in the proposal should be maintained in full.

APPENDIX F
COMMENTS ON PROPOSALS RANKED PRIORITY I BY THE
SUBJECT AREA PANELS AND CONSIDERED BY THE FINAL PANEL
BUT NOT RECOMMENDED FOR FUNDING

PROPOSAL NO. 001A

TITLE: Development of IPM Tactics to Improve Management Programs for the Production of Seed Cones

INSTITUTION: Louisiana State University and A&M College - Agricultural Center

PRINCIPAL INVESTIGATOR: Jeremy D. Allison, Ph.D.

COMMENTS: The goals of this research are: (1) to demonstrate the utility of an existing degree-day model for improving the timing of insecticide applications for Dioryctria amatella control in seed orchards in the southeastern US; (2) to identify the sex pheromone of the major coneworm pest Dioryctria merkeli; and (3) to determine if the leaffooted pine seed bug is attracted to infrared radiation emitted from conifer cones.

The PI currently holds a USDA grant in the amount of $193,270 for the period 1/9/2010 – 8/31/2013. The PI also has a history of being quite successful at obtaining external funding for important projects. For this reason the PI is considered nationally competitive, and therefore ineligible for RCS funding.

PROPOSAL NO. 003A

TITLE: Identification of Genes in Sugarcane Toward Development of Functional Markers to Provide More Effective Breeding for Resistance to Brown Rust

INSTITUTION: Louisiana State University and A&M - Agricultural Center

PRINCIPAL INVESTIGATOR: Niranjan Baisakh, Ph.D.

COMMENTS: In Louisiana, brown rust (caused by the fungus Puccinia melanocephala) can cause severe epidemics leading to reductions in both cane tonnage and total sucrose yield exceeding 20%. Development of rust resistant cultivars is one of the most important objectives of sugarcane breeding. Genes identified through this study will be used to mine SNP-based markers that segregate with the rust resistance phenotype in the Louisiana sugarcane population through quantitative trait loci (QTL) and association mapping.

The PI of this project is listed as an Assistant Research Professor which is not considered a permanent position with long-term institutional interest. For this reason RCS funding is not recommended.

Appendix F (continued):

PROPOSAL NO. 021A

TITLE: A Novel Genetic Screen to Enhance Production of Commodity Products in Microalgae

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Michael G. Benton, Ph.D.

COMMENTS: Ideal substitutes for fossil fuels must be produced in sustainable and environmentally acceptable ways, but more importantly must perform as well as, and have similar cost to, the fossil fuels themselves. Microalgae are emerging alternatives to fossil fuels. In this project, the PI proposes a new genetic assay, capable of rapidly screening algal cells for their ability to produce commodity products, including biofuel precursors and bioplastics.

The PI currently holds a NSF BRIGE grant in the amount of $174,616 for the period 9/1/10 – 8/31/2012. The need for RCS funding (2nd seed grant) is unwarranted. For this reason RCS funding is not recommended.

PROPOSAL NO. 031A

TITLE: Role of Brain Glycogen Synthase Kinase 3 beta in Hypertension

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Joseph Francis, Ph.D.

COMMENTS: Evidence has been accumulating in the last several years that inflammatory molecules play a critical role in the initiation and development of cardiovascular diseases. It is has been shown that the balance between proinflammatory cytokines (PIC) and anti-inflammatory cytokines (AIC) is an important determinant in the outcome of cardiovascular disease. The PI's preliminary data suggest that ANGII increases oxidative stress and increases pGSK3β in the paraventricular nucleus (PVN) and contributes to the hypertensive response.

The PI of this proposal is an Associate Professor in Comparative Biomedical Science at LSU with NIH funding of $250,000/year for the period 8/1/2005 – 7/31/2010. He currently holds (2) NIH subcontracts in the amount of $250,415 (Tulane University) and $276,683 (University of Florida). Finally, the PI is a past RCS award recipient, LEQSF(2005-07)-RD-A-06. For this reason, the PI is considered nationally competitive and ineligible for RCS funding.

Appendix F (continued):

PROPOSAL NO. 046A

TITLE: Developments in Electron Diffraction Methodology for the Study of Correlated Electronic Materials Surfaces

INSTITUTION: Louisiana State University And A&M College - Baton Rouge

PRINCIPAL INVESTIGATOR: Von B. Nascimento, Ph.D.

COMMENTS: The lack of translational symmetry at a solid surface can induce lattice distortions in the top atomic layers and create physical and chemical properties very distinct from bulk. The manifestations of the surface structural distortions are more dramatic in the case of complex many-component materials, especially correlated electronic materials (CEMs). This project will focus on developing low energy electron diffraction (LEED) methodology for the study of transition metal oxides (TMOs) and other CEMs: i) non-spherical potentials to describe atomic scattering; ii) global search methods for structure determination; and iii) new high performance methods for theoretical calculations.

The PI of this project is listed as an Assistant Research Professor which is not considered a permanent position with long-term institutional interest. For this reason RCS funding is not recommended.

PROPOSAL NO. 066A

TITLE: Roles of miRNAs in Regulating FoxP2 Expression and Vocal Learning in the Zebra Finch

INSTITUTION: Louisiana State University Health Sciences Center - New Orleans

PRINCIPAL INVESTIGATOR: XiaoChing Li, Ph.D.

COMMENTS: The long term goal of this study is to better understand the molecular mechanisms underlying speech and language development in humans by studying neural development, plasticity, and vocal learning in the animal model, the zebra finch. Specific goals of the proposed experiments are to investigate whether FoxP2 (a gene important for language functions in humans) expression is regulated by miRNAs by in vitro cell culture studies and by correlation studies.

The PI currently holds a National Institute of Mental Health (NIMH) grant in the amount of $275,000 for the period 7/1/2009 – 6/30/2011. For this reason the PI is considered nationally competitive, and therefore ineligible for RCS funding.

Appendix F (continued):

PROPOSAL NO. 068A

TITLE: Epigenetic Regulation of the HSV-1 Genome During Reactivation

INSTITUTION: Louisiana State University Health Sciences Center - New Orleans

PRINCIPAL INVESTIGATOR: Donna M. Neumann, Ph.D.

COMMENTS: Recurrent episodes of ocular HSV-1 are the number one cause of blindness due to an infectious agent in industrialized countries, yet the development of treatments for individuals who do not respond to traditional viroptic therapy has been hampered by limited understanding of the molecular mechanisms that govern HSV-1 reactivation. The major goal of this proposal is to characterize the functional properties of these insulator elements and to determine their roles in HSV-1 reactivation.

The PI of this project is listed as an Assistant Research Professor which is not considered a permanent position with long-term institutional interest. For this reason RCS funding is not recommended.

PROPOSAL NO. 070A

TITLE: Development of Small Molecule Inhibitors of the Malaria Parasite Life Cycle

INSTITUTION: Louisiana State University Health Sciences Center - New Orleans

PRINCIPAL INVESTIGATOR: Edward Wojcik, Ph.D.

COMMENTS: Cancer drug targeting of the human Kinesin-5 family member, HsEg5, has proven to be a productive strategy for the development of new anti-cancer therapeutics. The PI proposes to apply these same strategies to identify similar anti-mitotic compounds targeting the Kinesin-5 family member of the malaria parasite, Plasmodium falciparum.

The PI currently holds a NIH National Institute of General Medical Sciences (NIGMS) grant in the amount of $250,000/year for the period 7/1/2001 – 7/1/2011. For this reason the PI is considered nationally competitive, and therefore ineligible for RCS funding.

Appendix F (continued):

PROPOSAL NO. 110A

TITLE: Interactions Between Commutative Algebra and Combinatorics

INSTITUTION: Tulane University

PRINCIPAL INVESTIGATOR: Tai H. Ha, Ph.D.

COMMENTS: The proposed research will investigate the interactions between commutative algebra and combinatorics. The main themes are square-free monomial ideals and hypergraphs. The PI proposes to study algebraic properties of square-free monomial ideals via combinatorial data of corresponding hypergraphs and, conversely, to examine hypergraph structures by investigating algebraic invariants of associated square-free monomial ideals.

The PI currently holds a National Security Agency (NSA) grant in the amount of $52,719 for the period 1/1/2011 – 12/31/2013. In addition, the PI is a past RCS award recipient, LEQSF(2007-10)-RD-A-30, extended through 6/30/2011. For this reason, the PI is considered nationally competitive and ineligible for RCS funding.

PROPOSAL NO. 130A

TITLE: Lateral Impact Behavior of Pressurized Pipelines at Multi-Length Scales and Influence of Internal Pressure

INSTITUTION: University of Louisiana at Lafayette

PRINCIPAL INVESTIGATOR: Yucheng Liu, Ph.D.

COMMENTS: In this research, the PI proposes to obtain a complete description of plasticity mechanisms that govern low-velocity impact behavior of pressurized pipelines at multi-length scales from macroscopic to atomic scale and to determine the influence of internal pressure of the pipelines on their impact behaviors.

The PI currently holds a US DOE grant in the amount of $350,000 for the period 2010 – 2012. For this reason, the PI is considered nationally competitive and ineligible for RCS funding.

Appendix F (continued):

PROPOSAL NO. 141A

TITLE: Excellence in Undergraduate Education through the Praxis of Collaborative Ethnography: Translating Six Years of Neighborhood Story Project Experience into a Research & Publishing Curriculum

INSTITUTION: University of New Orleans

PRINCIPAL INVESTIGATOR: Rachel S. Breunlin, M.S.

COMMENTS: The University of New Orleans Neighborhood Story Project Service Center (NSP) is requesting three years of support to develop an undergraduate curriculum committed to interdisciplinary teaching and research in the field of collaborative ethnography - an important national development in anthropology and other social sciences.

The PI of this project is listed as an Instructor of Anthropology since 2004 which is not considered a permanent position with long-term institutional interest. For this reason RCS funding is not recommended.

PROPOSAL NO. 148A

TITLE: The Interface between Linear and Nonlinear Effects in the Creation of Freak Waves

INSTITUTION: Xavier University of Louisiana

PRINCIPAL INVESTIGATOR: Jessica Graber, Ph.D.

COMMENTS: Freak waves of great height can appear out of nowhere from ordinary rough seas. Understanding the cause of freak waves will help predict dangerous conditions and engineer structures better able to withstand such waves. Mechanisms studies as the source of freak waves include linear dispersion, refraction through a potential field, and nonlinear effects.

Although this proposal was listed as a Priority I by the subject-area panel, funding is not recommended due to the lack of science. Clearly, the physical barriers described by the PI have made it difficult to become nationally competitive. However, it is essential that the quality of the initial research have the potential of making the PI nationally competitive within a three year period, thus justifying RCS funding.

APPENDIX G

OUT-OF-STATE EXPERTS WHO SERVED AS FINAL AND FULL SUBJECT AREA PANELISTS

FINAL PANEL

James R. Durig, Ph.D., Chair
Professor, Department of Chemistry and Geosciences
University of Missouri at Kansas City
Former Chair and Project Director, South Carolina EPSCoR Program

J. Michael Rigsbee, Ph.D.
Professor, Department of Materials Science and Engineering
North Carolina State University

Richard Vulliet, Ph.D., D.V.M.
Professor, Laboratory of Veterinary Cytotherapeutics
Department of Veterinary Molecular Biosciences
University of California at Davis

Appendix G (continued):

Subject Area Panels

BIOLOGICAL SCIENCES I (Human Biology, Immunology, Virology and Microbiology)

Alan Kaplan, Ph.D., Chair
Professor and Chair
Department of Microbiology, Immunology, and Molecular Genetics
University of Kentucky College of Medicine

Subbarao Bondada, Ph.D.
Professor
Department of Microbiology, Immunology and Molecular Genetics
University of Kentucky College of Medicine

Robert F. Diegelmann, Ph.D.
Professor
Department of Biochemistry & Molecular Biophysics
Medical College of Virginia

BIOLOGICAL SCIENCES II (Natural Sciences, Ecology, Microbiology, Genetics)

Gary Ervin, Ph.D., Chair
Associate Professor
Department of Biological Sciences
Mississippi State University

F. Wayne Outten, Ph.D.
Associate Professor
Department of Chemistry and Biochemistry
University of South Carolina

Appendix G (continued):

COMPUTER & INFORMATION SCIENCES

Sartaj Sahni, Ph.D., Chair
Distinguished Professor
Department of Computer & Information Sciences and Engineering
University of Florida

Oscar H. Ibarra, Ph.D.
Professor
Department of Computer Science
University of California at Santa Barbara

EARTH & ENVIRONMENTAL SCIENCES

Charles J. Wurrey, Ph.D., Chair
Associate Dean, College of Arts and Sciences
Professor, Department of Chemistry
University of Missouri at Kansas City
Consultant, U.S. Environmental Protection Agency

Donn S. Gorsline, Ph.D.
W. and D. Zinsmeyer Professor Emeritus of Marine Sciences
Department of Earth Sciences
University of Southern California

Appendix G (continued):

ENGINEERING A

Michael E. Prudich, Ph.D., Chair
Professor and Chair, Department of Chemical Engineering
Ohio University

William A. Hyman, Sc.D.
Professor of Bioengineering
Biomedical Engineering Program
Texas A & M University

Samir Ahmed, Ph.D.
Professor, School of Civil & Environmental Engineering
Oklahoma State University

D. Mitchell Wilkes, Ph.D.
Associate Professor
Department of Electrical Engineering & Computer Science
Vanderbilt University

MATHEMATICS

Kenneth I. Gross, Ph.D., Chair
Professor
Department of Mathematics & Statistics
University of Vermont

Homer F. Walker, Ph.D.
Professor
Department of Mathematical Sciences
Worcester Polytechnic Institute

Raymond Chin, Ph.D.
Professor
Department of Computer & Information Sciences
Indiana University Purdue University Indianapolis

Appendix G (continued):

PHYSICS & ASTRONOMY

Richard John Creswick, Chair
Professor
Department of Physics & Astronomy
University South Carolina

Frank T. Avignone, Ph.D.
Endowed Professor of Physics & Astronomy
University of South Carolina

SOCIAL SCIENCES

Claire B. Kopp, Ph.D., Chair
Consultant Developmental Psychology
Los Angeles, CA

M. Stephen Weatherford, Ph.D.
Professor
Department of Political Science
University of California, Santa Barbara

APPENDIX H

RESEARCH COMPETITIVENESS SUBPROGRAM
FY 2010-11
SUMMARY OF PROPOSALS

151 TOTAL PROPOSALS

15	AGR	Agricultural Sciences
21	BS I	Biological Sciences I
29	BS II	Biological Sciences II
10	C/IS	Computer and Information Sciences
9	EAR	Earth and Environmental Sciences
30	ENG A	Engineering A
10	MATH	Mathematics
12	PHY	Physics & Astronomy
15	SS	Social Sciences

TOTAL FIRST-YEAR FUNDS REQUESTED: $8,548,959

Proposals Submitted to theResearch and Development Program - RCS
for the FY 2010-11 Review Cycle

Proposal #	PI Name	Discipline	Institution	Project Title	Amount Requested				Confidential Info
					Year 1	Year 2	Year 3	Total	
001A-11	Allison,Jeremy	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Development of IPM Tactics to Improve Management Programs for the Production of Seed Cones	$50,500	$48,500	$38,500	$137,500	No
002A-11	Aryana,Kayanush	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Improving the beneficial characteristics of yogurt culture and other probiotic bacteria.	$64,714	$65,214	$64,714	$194,642	No
003A-11	Baisakh,Niranjan	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Identification of genes in sugarcane toward development of functional markers to provide more effective breeding for resistance to brown rust	$43,826	$40,449	$35,744	$120,019	No
004A-11	Davis,Jeffrey	Biological Sciences	Louisiana State University And A&M College - Agricultural Center	Elucidation of Biochemical Factors Affecting the Green Stem Syndrome of Soybean	$68,000	$59,500	$51,000	$178,500	No
005A-11	Gaston,Lewis	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Biofuel Grass Cropping on the Louisiana Coast Plain	$42,000	$36,000	$24,000	$102,000	No
006A-11	Gentry,Glen	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Effect of rubusoside on the bioavailability of orally administered progesterone in beef cattle	$74,750	$74,487	$50,038	$199,275	No
007A-11	Hall,Steven	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Value, Scale and Sustainability of Compost Systems for Waste Management and Agriculture	$69,462	$64,781	$22,818	$157,061	No
008A-11	Han,Kun-Jun	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Development of Quick Ethanol Feedstock Evaluation Method Using In Vitro Fermentation Gas Measurement	$52,008	$42,133	$41,633	$135,774	No
009A-11	Johnson,Richard	Social Sciences	Louisiana State University And A&M College - Agricultural Center	A COMPARISON OF EDUCATIONAL ASPIRATIONS BETWEEN HISPANIC AND CAUCASIAN CRAWFISH FARM EMPLOYEES	$23,285	$0	$0	$23,285	No
010A-11	Kongchum,Manoch	Earth/Environment Sciences	Louisiana State University And A&M College - Agricultural Center	Establishment of soil fertility and optimum nutrient level for smooth cordgrass [Spartina alterniflora] in Louisiana Coastal ecosystem	$60,550	$66,036	$65,226	$191,812	No
011A-11	Moreira,Vinicius	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Establishing parameters of bone remodeling markers in response to phosphorus supplementation after the peak of lactation	$62,204	$0	$0	$62,204	No
012A-11	Pan,Hui	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Agricultural Center	Study on the mechanism of lignin demethylation to improve its reactivity as a phenol substitute in phenol-formaldehyde resin synthesis	$65,100	$65,100	$64,100	$194,300	No
013A-11	Piao,Cheng	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Agricultural Center	A Fundamental Investigation on Molecular and Nano Particle Diffusion in Cell Wall of Natural Fibers	$43,920	$41,920	$40,920	$126,760	No
014A-11	Scaglia,Guillermo	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Spatial and temporal allocation of high quality pastures to improve the efficiency of nutrient utilization by beef steers and the sustainability of grazing systems	$53,800	$49,850	$44,950	$148,600	No
015A-11	Taylor,Sabrina	Biological Sciences	Louisiana State University And A&M College - Agricultural Center	Genetic population structure in threatened Louisiana Bachman's Sparrows	$47,000	$45,000	$0	$92,000	No
016A-11	Williams,Cathleen	Agricultural Sciences	Louisiana State University And A&M College - Agricultural Center	Characterization of Developmental Changes in Energy Metabolism in Dairy Cattle	$36,900	$36,910	$34,760	$108,570	No

Proposal #	PI Name	Discipline	Institution	Project Title	Amount Requested				Confidential Info
					Year 1	Year 2	Year 3	Total	
017A-11	Xue,Qinggang	Biological Sciences	Louisiana State University And A&M College - Agricultural Center	Development of a proteomics approach for analyzing oyster responses to environmental stressors and pathogens	$40,625	$38,625	$0	$79,250	No
018A-11	Yao,Fei	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Agricultural Center	Performance optimization of fiber reinforced wood plastic composite through modeling and long-term creep analysis	$52,050	$49,050	$0	$101,100	No
019A-11	Zheng,Jolene	Biological Sciences	Louisiana State University And A&M College - Agricultural Center	Dietary phytochemical lectins may be an "unknown etiology" in Parkinson`s disease	$67,408	$60,743	$59,243	$187,394	Yes
020A-11	Baker,Birgitta	Social Sciences	Louisiana State University And A&M College - Baton Rouge	Examining Physical Activity as an Enhancement to Traditional Treatment for Children with Anxiety Disorders	$54,548	$50,648	$0	$105,196	No
021A-11	Benton,Michael	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	A Novel Genetic Screen to Enhance Production of Commodity Products in Microalgae	$64,800	$66,813	$67,865	$199,478	No
022A-11	Bilinski,Mark	Mathematics	Louisiana State University And A&M College - Baton Rouge	Unavoidable structures in trees of large bandwidth	$41,254	$41,254	$0	$82,508	No
023A-11	Bodie,Graham	Social Sciences	Louisiana State University And A&M College - Baton Rouge	Listening as Supportive Communication: Exploring the Behavioral Correlates, Emotional Consequences, and Social Capacity of Supportive Listening	$45,701	$77,757	$35,214	$158,672	No
024A-11	Cheng,Henrique	Biological Sciences	Louisiana State University And A&M College - Baton Rouge	Enhancement of bone marrow stem cell homing and differentiation into pancreatic beta cells	$65,000	$59,689	$70,311	$195,000	No
025A-11	Chicoine,David	Social Sciences	Louisiana State University And A&M College - Baton Rouge	Understanding Ancient Urban Lifeways in Coastal Peru: Perspectives from Caylan, Nepeña Valley	$62,964	$62,114	$39,414	$164,492	No
026A-11	Clopton,Aaron	Social Sciences	Louisiana State University And A&M College - Baton Rouge	Anchoring Community: Examining the Role of Social Anchor Institutions in Community Development	$62,218	$52,143	$61,868	$176,229	No
027A-11	Dani,Pallavi	Mathematics	Louisiana State University And A&M College - Baton Rouge	Geometric and asymptotic properties of groups	$31,906	$30,551	$31,754	$94,211	No
028A-11	Daniels-Race,Theda	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Nanoscale Electronic Characterization of Hybrid Electronic Materials	$70,000	$60,100	$59,900	$190,000	No
029A-11	Dutrow,Barbara	Earth/Environment Sciences	Louisiana State University And A&M College - Baton Rouge	Geochronology and Tectonic Evolution of the Selway Terrane: A Key Component in Proterozoic Crustal Development	$88,880	$76,939	$0	$165,819	No
030A-11	Elderd,Bret	Biological Sciences	Louisiana State University And A&M College - Baton Rouge	Climate change and disease transmission: Shifts in host-pathogen ranges	$45,462	$44,775	$45,577	$135,814	No
031A-11	Francis,Joseph	Biological Sciences	Louisiana State University And A&M College - Baton Rouge	Role of brain glycogen synthase kinase 3 beta in Hypertension	$85,000	$75,000	$0	$160,000	No
032A-11	Giesel,Kristina	Physics/Astronomy	Louisiana State University And A&M College - Baton Rouge	Dynamics of the Quantum Einstein Equations	$50,306	$46,806	$42,681	$139,793	No
033A-11	Hassan,Marwa	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Extraction of Bio-binder from Energy Cane Biomass residue as a replacement to air-blown asphalt for residential roofing applications	$54,216	$50,890	$48,096	$153,202	No
034A-11	Hayes,Daniel	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Modulation of Adult, Adipose Derived Stem Cell Cell Function by Nanocomposite Scaffold Composition	$65,000	$64,000	$63,000	$192,000	No
035A-11	Henry,Darrell	Earth/Environment Sciences	Louisiana State University And A&M College - Baton Rouge	High Resolution Provenance using Tourmaline: Crystal Chemical and Classification Tree Statistical Approach	$51,148	$52,425	$0	$103,573	No
036A-11	Henry,James	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Evaluating sugar-peptide complexes for use in treating Alzheimer’s disease	$61,511	$59,261	$58,049	$178,821	No

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037A-11	Huang,Haosheng	Earth/Environment Sciences	Louisiana State University And A&M College - Baton Rouge	Downscaling Circulation Models from Global and Regional Scales to the Coastal Ocean: An Application to the Louisiana-Texas Shelf	$50,000	$50,000	$40,000	$140,000	No
038A-11	Kim,Yunjung	Social Sciences	Louisiana State University And A&M College - Baton Rouge	Effect of Vocal Quality on Scaling Speech Intelligibility in Neurogenic Speech Disorders: Using a Speech Resynthesis Technique	$55,316	$58,368	$0	$113,684	No
039A-11	Lu,Rui	Biological Sciences	Louisiana State University And A&M College - Baton Rouge	Function and mechanism of DRH-1 in worm antiviral innate immunity	$53,948	$50,948	$46,725	$151,621	No
040A-11	Maiti,Kanchan	Earth/Environment Sciences	Louisiana State University And A&M College - Baton Rouge	Remobilisation and bioaccumulation of Polonium-210 in the Gulf of Mexico Hypoxia	$79,135	$69,525	$0	$148,660	No
041A-11	Martin,Michael	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Direct numeric simulation of feed-back control in systems with non-linear damping	$48,229	$46,469	$45,871	$140,569	No
042A-11	McRoberts,Lisa	Agricultural Sciences	Louisiana State University And A&M College - Baton Rouge	Sustainable Approach to Promote the Product Development and Economic Potential of Louisiana Agricultural Product s - A Case of Grade 3 Alligator Hides	$100,000	$100,000	$0	$200,000	No
043A-11	Mehraeen,Shahab	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Management and Control of Smart Grids by Employing Thermal Storages; Load Management, Demand Response, and grid stability Improvements	$50,408	$0	$0	$50,408	No
044A-11	Mukhopadhyay,Supratik	Computer and Information Sciences	Louisiana State University And A&M College - Baton Rouge	Model-based Techniques for Static and Dynamic Analysis of Java Programs with Applications to Android Security	$44,115	$42,115	$42,115	$128,345	No
045A-11	Nandakumar,Krishnaswamy	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Advanced modeling of Rock-Fluid interaction and surface property characterization	$53,075	$53,075	$53,075	$159,225	No
046A-11	Nascimento,Von	Physics/Astronomy	Louisiana State University And A&M College - Baton Rouge	Developments in Electron Diffraction Methodology for the Study of Correlated Electronic Materials Surfaces	$35,329	$35,329	$35,329	$105,987	No
047A-11	Ragains,Justin	Biological Sciences	Louisiana State University And A&M College - Baton Rouge	Chemical Genetic Studies on Chemoperception in the Model Organism Caenorhabditis elegans	$50,000	$50,000	$50,000	$150,000	No
048A-11	Sanders,Meghan	Social Sciences	Louisiana State University And A&M College - Baton Rouge	Morality and the Media: How Far is Too Far?	$50,983	$40,983	$0	$91,966	No
049A-11	Singh,Parampreet	Physics/Astronomy	Louisiana State University And A&M College - Baton Rouge	Big bang and the quantum nature of spacetime	$51,181	$49,736	$48,871	$149,788	No
050A-11	Smith,Aaron	Biological Sciences	Louisiana State University And A&M College - Baton Rouge	Manipulating plant phosphate transporters to block arsenic contamination of crops	$49,186	$48,253	$47,329	$144,768	No
051A-11	Smith,Heather	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	The Role of Vegetation on Wave Attenuation and Sediment Transport	$56,853	$55,646	$53,548	$166,047	No
052A-11	Tzanov,Martin	Physics/Astronomy	Louisiana State University And A&M College - Baton Rouge	Neutrino Oscillations with High Intensity Beams	$55,673	$56,906	$56,906	$169,485	No
053A-11	Wahab,Muhammad	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Mechanistic behavior on crack-bridging and self-healing for damages in human dental-implant tooth layers	$71,165	$71,075	$49,239	$191,479	No
054A-11	Wang,Lei	Earth/Environment Sciences	Louisiana State University And A&M College - Baton Rouge	Flood hazard resiliency and accessibility of retail infrastructure in New Orleans	$61,411	$53,711	$0	$115,122	No
055A-11	Wang,Ying	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana State University And A&M College - Baton Rouge	Novel Solar Cell Design and Fabrication for High Energy Conversion Efficiency	$50,654	$49,654	$48,654	$148,962	No
056A-11	Xiong,Yimin	Physics/Astronomy	Louisiana State University And A&M College - Baton Rouge	Search for New High-temperature Superconductors	$61,259	$60,090	$58,946	$180,295	No

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057A-11	Cvek,Urska	Computer and Information Sciences	Louisiana State University And A&M College - Shreveport	Coupling practice to comprehension in a predictive model of clinical performance	$56,181	$54,924	$49,424	$160,529	No
058A-11	Erickson,Amy	Biological Sciences	Louisiana State University And A&M College - Shreveport	Direct impacts of nutrient and hydrocarbon additions on resource allocation in mangrove leaves and their corresponding indirect effects on herbivore feeding behavior	$92,194	$45,154	$60,104	$197,452	No
059A-11	Alahari,Suresh	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Nischarin is a potential regulator of Neurofibromatosis	$70,000	$70,000	$60,000	$200,000	No
060A-11	Breslin,Jerome	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Molecular Control of Pump Function in Contractile Lymphatic Vessels	$60,000	$60,000	$60,000	$180,000	No
061A-11	Crabtree,Judy	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Regulation of Uterine Fibroid Pathogenesis by CARM1-Mediated Transcriptional Activation.	$67,892	$68,129	$68,373	$204,394	No
062A-11	Devier,Deidre	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Regional Brain Anatomy and Cognitive Profiles of Depression and Mild Cognitive Impairment	$59,300	$60,524	$0	$119,824	No
063A-11	Farris,Hamilton	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Processing complex mating calls in frogs: behavior and neurobiology	$60,794	$60,794	$60,794	$182,382	No
064A-11	Kelly,Ben	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Determining the molecular role of LACK, a critically important protein in the infectious life cycle of Leishmania parasites	$66,500	$68,000	$65,500	$200,000	No
065A-11	Knaus,Tracey	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Language and Motor Integration in Children with Autism Spectrum Disorder	$66,096	$51,328	$51,506	$168,930	No
066A-11	Li,XiaoChing	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Roles of miRNAs in regulating FoxP2 expression and Vocal Learning in the Zebra Finch	$70,529	$65,844	$61,169	$197,542	No
067A-11	MUSTO,ALBERTO	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	High Frequency Oscillation Mechanisms in the Brain	$94,602	$102,746	$0	$197,348	No
068A-11	Neumann,Donna	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Epigenetic Regulation of the HSV-1 Genome During Reactivation	$60,000	$70,000	$69,999	$199,999	No
069A-11	Venuti,Judith	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Characterization of neurosensory structures in the adult and regenerating sea urchin	$76,608	$62,983	$59,983	$199,574	No
070A-11	Wojcik,Edward	Biological Sciences	Louisiana State University Health Sciences Center - New Orleans	Development of small molecule inhibitors of the malaria parasite life cycle	$65,000	$65,000	$70,000	$200,000	No
071A-11	Li,Zhen	Biological Sciences	Louisiana State University Health Sciences Center - Shreveport	Mechanisms by which a hydrazone derivative increases iron uptake into mammalian cells	$61,815	$62,315	$65,565	$189,695	No
072A-11	Salvatore,Michael	Biological Sciences	Louisiana State University Health Sciences Center - Shreveport	GLAST and GLT-1: Allies in fighting against nigrostriatal dopamine loss	$91,517	$82,847	$0	$174,364	No
073A-11	Zhao,Yunfeng	Biological Sciences	Louisiana State University Health Sciences Center - Shreveport	The novel role of the tumor suppressor p53 in early skin carcinogenesis	$60,000	$56,250	$56,250	$172,500	No
074A-11	Atkison,Travis	Computer and Information Sciences	Louisiana Tech University	Efficient Dimensionality Reduction Techniques for Malicious Software Detection	$47,698	$48,525	$49,386	$145,609	No
075A-11	Cahoy,Dexter	Mathematics	Louisiana Tech University	Statistical methods for fractional birth-death processes	$48,791	$47,743	$48,421	$144,955	No
076A-11	Dua,Prerna	Computer and Information Sciences	Louisiana Tech University	Novel Methods for Microarray Gene Expression Data Mining for Translational Bioinformatics	$46,719	$47,499	$49,960	$144,178	No
077A-11	Feng,June	Biological Sciences	Louisiana Tech University	Glutathionylation profiling in a transgenic mouse model of Alzheimer`s disease using a microfluidic electrophoresis chip: a novel approach to AD screening	$46,700	$47,259	$47,839	$141,798	No
078A-11	Genov,Dentcho	Physics/Astronomy	Louisiana Tech University	Artificial Optical Materials For Molding The Flow Of Light	$45,311	$45,884	$46,479	$137,674	No
079A-11	Haberman,Heather	Social Sciences	Louisiana Tech University	Innovative Diabetes Self-Management Intervention Through Technology	$129,503	$104,121	$0	$233,624	No
080A-11	McDaniel,Janelle	Social Sciences	Louisiana Tech University	Chronic Intermittent Ethanol Exposure and Tolerance Development in Adolescent Rats	$44,608	$44,608	$44,608	$133,824	No
081A-11	Strimbu,Bogdan	Agricultural Sciences	Louisiana Tech University	Development of an analytical framework for mixed-species stands dynamics	$51,420	$54,720	$54,720	$160,860	No

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082A-11	Tyree,Michael	Agricultural Sciences	Louisiana Tech University	Metabolic acclimation and carbon-use efficiency of short-rotation woody crop species grown on marginal agricultural land on the Lower Mississippi Alluvial Valley	$55,248	$53,345	$0	$108,593	No
083A-11	Wasiuddin,Nazimuddin	Engineering A (Chemical, Civil, Electrical, etc.)	Louisiana Tech University	A Novel Moisture Conditioning Method for Asphalt-Aggregate Adhesion	$21,000	$21,000	$0	$42,000	No
084A-11	Wolf,William	Biological Sciences	Louisiana Tech University	EVALUATION OF TOXICITY AND GENE EXPRESSION PROFILES IN DEVELOPING FATHEAD MINNOWS EXPOSED TO METAL NANOPARTICLES	$28,236	$18,500	$0	$46,736	No
085A-11	Yule,Jeffrey	Biological Sciences	Louisiana Tech University	Modeling the Ecological and Evolutionary Causes and Consequences of Extinctions	$30,434	$30,534	$30,734	$91,702	No
086A-11	Biswas,Tirthabir	Physics/Astronomy	Loyola University New Orleans	Numerical Explorations of the Cyclic Inflationary Model of the Early Universe	$47,695	$46,765	$0	$94,460	No
087A-11	Thibodeaux,Jeremy	Mathematics	Loyola University New Orleans	Mathematical Modeling and Analysis of Blood Parasites	$19,155	$19,430	$19,714	$58,299	No
088A-11	Jackson,Kathyjo	Biological Sciences	McNeese State University	Atrazine effects on the endocrine system in Xenopus laevis	$19,750	$18,700	$16,700	$55,150	No
089A-11	Storer,William	Agricultural Sciences	McNeese State University	Evaluation of Glyphosate Resistant Giant Forage Soybeans as an Alternative Feed For Cattle	$44,250	$40,500	$36,500	$121,250	No
090A-11	Delabbio,Juliette	Biological Sciences	Northwestern State University	Understanding the Physiological Limitations of an Imperiled Species- Atractosteus spatula	$47,960	$15,100	$0	$63,060	No
091A-11	Aggarwal,Sita	Biological Sciences	Pennington Biomedical Research Center	Targeted Calorie Restricted Mimetic to Destroy Cancer Cells	$50,000	$50,000	$50,000	$150,000	Yes
092A-11	Kim,Hye-Young	Physics/Astronomy	Southeastern Louisiana University	Self-assembly of amphiphilic antioxidant molecules: implications in drug delivery	$30,980	$17,555	$17,555	$66,090	No
093A-11	Li,Yingchun	Engineering A (Chemical, Civil, Electrical, etc.)	Southeastern Louisiana University	Novel organic molecules or polymers as materials for organic electronic and photovoltaic devices	$47,099	$39,599	$39,599	$126,297	No
094A-11	Li,Zhengrong	Engineering A (Chemical, Civil, Electrical, etc.)	Southeastern Louisiana University	Sonochemical Synthesis of Graphene Nanosheets and Other Novel Nanostructures	$50,199	$34,199	$33,699	$118,097	No
095A-11	Massawe,Ephraim	Earth/Environment Sciences	Southeastern Louisiana University	Development of Exposure Assessment Models to Estimate Occupational Exposures and Health Risks to Engineered Nanoparticles [ENPs] During Environmental Remediation of Superfund Sites	$53,039	$44,204	$51,024	$148,267	Yes
096A-11	Wang,Linhong	Mathematics	Southeastern Louisiana University	Noetherian skew power series rings	$23,159	$21,451	$23,001	$67,611	No
097A-11	Bai,Shuju	Biological Sciences	Southern University and A&M College at Baton Rouge	Predicting the protein-substrate interactions in the lipoxygenase family	$62,170	$56,077	$56,077	$174,324	No
098A-11	Gwee,Nigel	Computer and Information Sciences	Southern University and A&M College at Baton Rouge	Development of Heuristic Computational Solutions to NP-Hard Problems	$48,932	$48,932	$48,932	$146,796	No
099A-11	Jana,Amitava	Physics/Astronomy	Southern University and A&M College at Baton Rouge	Research on novel composites: Energy and structural materials- using parallel molecular dynamics simulation and visualization in a CAVE	$33,254	$33,254	$33,254	$99,762	No
100A-11	Jones,Conrad	Earth/Environment Sciences	Southern University and A&M College at Baton Rouge	Silicates as Alternative Catalysts for Biodiesel Production	$33,078	$48,734	$0	$81,812	No
101A-11	Kaliba,Aloyce	Social Sciences	Southern University and A&M College at Baton Rouge	Trend and Prevalence of Obesity and Obesity Related Behavioral Risk Factors in the Louisiana Population: The role of individual, family and community level variables	$21,365	$12,692	$0	$34,057	No
102A-11	Kourouma,Mathieu	Computer and Information Sciences	Southern University and A&M College at Baton Rouge	A Novel Method for Email Authentication in Online Transaction Processing	$73,810	$73,810	$73,810	$221,430	No

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103A-11	Lacy,Fred	Engineering A (Chemical, Civil, Electrical, etc.)	Southern University and A&M College at Baton Rouge	Characterizing the Properties of Unique Temperature Sensing Metal Oxide Films	$70,615	$27,115	$0	$97,730	No
104A-11	Ogunkoya,Yetunde	Biological Sciences	Southern University and A&M College at Baton Rouge	Novel Garcinia cola based phytotherapy for human colorectal cancer	$168,780	$168,780	$181,780	$519,340	No
105A-11	Ouyang,Zhenyu	Engineering A (Chemical, Civil, Electrical, etc.)	Southern University and A&M College at Baton Rouge	Advanced Sandwich Panel with Hybrid and Functionally Graded Smart Foam for Impact Mitigation	$43,020	$38,520	$33,920	$115,460	No
106A-11	Salam,Md	Computer and Information Sciences	Southern University and A&M College at Baton Rouge	Wireless sensor network approach for monitoring home security system	$61,461	$57,461	$56,461	$175,383	No
107A-11	Vincent-Finley,Rachel	Computer and Information Sciences	Southern University and A&M College at Baton Rouge	Molecular Simulation - Implementation and Analysis in a Reduced Basis	$45,710	$45,710	$45,710	$137,130	No
108A-11	Ye,Zhengmao	Engineering A (Chemical, Civil, Electrical, etc.)	Southern University and A&M College at Baton Rouge	Practical Implementation of Advanced Visual Enhancement Technology	$62,545	$62,545	$62,545	$187,635	No
109A-11	Can,Mahir Bilen	Mathematics	Tulane University	Combinatorics of variety of complete quadrics.	$61,386	$59,919	$59,461	$180,766	No
110A-11	Ha,Tai	Mathematics	Tulane University	Interactions between commutative algebra and combinatorics	$57,421	$38,760	$39,496	$135,677	No
111A-11	Karubian,Jordan	Biological Sciences	Tulane University	Linking frugivore behavior and movement to seed dispersal outcomes	$62,658	$58,000	$0	$120,658	No
112A-11	Khismatullin,Damir	Computer and Information Sciences	Tulane University	Parallel algorithms for the simulation of cellular deformation and adhesion	$54,613	$54,014	$50,676	$159,303	Yes
113A-11	Kim,Dae Ho	Physics/Astronomy	Tulane University	Electrical transport at interfaces of self-assembled oxide nanostructures for solid electrolytes and thermoelectrics	$60,078	$60,388	$60,706	$181,172	No
114A-11	Kwasik,Slawomir	Mathematics	Tulane University	Research Group in Applied Topology	$47,409	$48,283	$49,183	$144,875	No
115A-11	Richards-Zawacki,Corinne	Biological Sciences	Tulane University	Effects of climate and host behavior on the interaction between amphibians and an emerging fungal pathogen, Batrachochytrium dendrobatidis	$56,714	$54,281	$16,713	$127,708	No
116A-11	Vasudevan,Nandini	Biological Sciences	Tulane University	Relevance of non-genomic signaling by estrogen in neuromorphology and behavior	$67,140	$69,194	$62,368	$198,702	No
117A-11	Collins-Burow,Bridgette	Biological Sciences	Tulane University Health Sciences Center	Novel therapeutic targeting of MicroRNA regulation of the Mesenchymal Phenotype Axis in Triple Negative Breast Cancer	$56,937	$56,100	$55,200	$168,237	No
118A-11	Feng,Yumei	Biological Sciences	Tulane University Health Sciences Center	Role of brain (pro)renin receptor in central regulation of blood pressure.	$64,000	$64,000	$54,000	$182,000	No
119A-11	Kalueff,Allan	Biological Sciences	Tulane University Health Sciences Center	New zebrafish models of comorbidity between affective disorders and drug abuse	$57,500	$59,225	$61,002	$177,727	No
120A-11	Lawson,Louise	Engineering A (Chemical, Civil, Electrical, etc.)	Tulane University Health Sciences Center	Dissolvable Polymer Films for Sublingual Vaccine Delivery	$53,687	$53,761	$53,836	$161,284	No
121A-11	Thiyagarajah,Arunthavarani	Earth/Environment Sciences	Tulane University Health Sciences Center	Mixtures of BP Oil and Dispersants, Fish Reproduction and Development	$68,546	$65,449	$65,965	$199,960	No
122A-11	Wang,He	Biological Sciences	Tulane University Health Sciences Center	Determining Dispersant Use with the Information of Biological Effects Induced by Oil Dispersant and Crude Oil/Dispersant Mixtures on Human Cells in Oil Spill	$66,160	$66,773	$66,405	$199,338	No
123A-11	Brown,Amy	Social Sciences	University of Louisiana at Lafayette	Reducing sexual assault on campus: A preliminary study to assess prevalence, assault characteristics, social reactions, and recovery	$49,791	$48,479	$40,010	$138,280	No
124A-11	Carroll,James	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	The Effect of Vertical Casting Position on Transfer and Development Length in Prestressed Concrete	$60,880	$74,055	$52,256	$187,191	No

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125A-11	Chirdon,William	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	Research and development of co-products for the biodiesel industry.	$52,166	$66,338	$51,453	$169,957	No
126A-11	Duke-Sylvester,Scott	Biological Sciences	University of Louisiana at Lafayette	Integrating ecological and evolutionary theory to understand the epidemiology of rapidly evolving viral pathogens.	$38,839	$40,336	$34,810	$113,985	No
127A-11	Fekih,Afef	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	Developing Autonomous Fault Tolerant Control Technology for Complex Systems	$57,098	$57,678	$58,281	$173,057	No
128A-11	Gang,Daniel	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	Development of Nano-Scale Mesoporous Sorbents (NSMS) for Space Lightweight Contingency Water Recovery Systems (LWC-WRS)	$46,921	$45,503	$44,406	$136,830	No
129A-11	Khattab,Ahmed	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	Process Development, Evaluation and Characterization of Smart Polymer Nanocomposites	$77,031	$67,418	$0	$144,449	No
130A-11	Liu,Yucheng	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	Lateral Impact Behavior of Pressurized Pipelines at Multi-Length Scales and Influence of Internal Pressure	$75,591	$37,748	$37,748	$151,087	No
131A-11	Maor,Irit	Physics/Astronomy	University of Louisiana at Lafayette	Learning from our errors	$37,795	$38,251	$38,728	$114,774	No
132A-11	Pratt,Michael	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	Multi-body Tracking and Structure from Video Sequence	$51,850	$57,123	$57,929	$166,902	No
133A-11	Salceanu,Paul	Mathematics	University of Louisiana at Lafayette	Uniform Persistence in Discrete and Continuous Dynamical Systems Arising in Population Biology	$28,963	$27,663	$27,663	$84,289	No
134A-11	Sandoz,Emily	Social Sciences	University of Louisiana at Lafayette	The 'Me' I See: Verbal Learning Processes in Body Image Disturbance	$47,451	$42,981	$40,178	$130,610	No
135A-11	Srivastava,Radhey	Engineering A (Chemical, Civil, Electrical, etc.)	University of Louisiana at Lafayette	Catalytic Conversion of Cellulose-Derived Carbohydrates to Fuels and Value-Added Chemicals	$96,038	$93,950	$0	$189,988	No
136A-11	Wang,Yi-Hong	Agricultural Sciences	University of Louisiana at Lafayette	Identification of Genes Controlling Cellulosic Ethanol Yield in Sorghum Using Genomewide Pool-Based Association Mapping	$60,786	$50,166	$38,056	$149,008	No
137A-11	Xu,Wu	Biological Sciences	University of Louisiana at Lafayette	Function of A Hypothetical Protein Slr0110 of Synechocystis sp. PCC 6803 in Light- and Glucose-induced Signal Transduction	$51,286	$46,723	$48,225	$146,234	No
138A-11	Dupre,Yolanda	Social Sciences	University of Louisiana at Monroe	Teen Dating Violence Project	$62,519	$60,949	$0	$123,468	No
139A-11	Jackson,Debra	Biological Sciences	University of Louisiana at Monroe	Identification and Characterization of a Novel Caulobacter species	$62,239	$62,246	$62,365	$186,850	No
140A-11	Liu,Yong-Yu	Biological Sciences	University of Louisiana at Monroe	Cancer stem cells and drug resistance in breast cancer	$55,658	$50,969	$0	$106,627	No
141A-11	Breunlin,Rachel	Social Sciences	University of New Orleans	Excellence in Undergraduate Education through the Praxis of Collaborative Ethnography: Translating Six Years of Neighborhood Story Project Experience into a Research & Publishing Curriculum	$55,885	$56,176	$56,176	$168,237	No
142A-11	DeVries,Philip	Biological Sciences	University of New Orleans	Butterfly flight at the boundary layer: kinematics, behavior and wing evolution	$52,141	$53,847	$51,241	$157,229	No
143A-11	Kura,Bhaskar	Engineering A (Chemical, Civil, Electrical, etc.)	University of New Orleans	Quantification of Hazardous Air Pollutant (HAP) Emissions from the BP Oil Spill Using Inverse Dispersion Modeling	$65,700	$65,830	$65,830	$197,360	No

Proposal #	PI Name	Discipline	Institution	Project Title	Amount Requested				Confidential Info
					Year 1	Year 2	Year 3	Total	
144A-11	Lailvaux,Simon	Biological Sciences	University of New Orleans	Total sexual selection and whole-organism performance in dung beetles: an integrative approach to understanding genetic quality	$68,000	$66,000	$66,000	$200,000	No
145A-11	Sridhar,Vaniyambadi	Biological Sciences	University of New Orleans	Regulation of transcription by co-repressors during abiotic stress in plants.	$52,500	$54,250	$56,023	$162,773	No
146A-11	Taylor,Christopher	Computer and Information Sciences	University of New Orleans	A Framework for Analysis of Metagenomic Sequencing Data	$44,534	$44,648	$44,648	$133,830	No
147A-11	Biliran,Hector	Biological Sciences	Xavier University	A Role of Bcl2-inhibitor of transcription (Bit1) in the survival, anoikis insensitivity, and anchorage-independent growth of pancreatic cancer cells	$35,551	$35,551	$35,551	$106,653	No
148A-11	Graber,Jessica	Physics/Astronomy	Xavier University	The Interface between Linear and Nonlinear Effects in the Creation of Freak Waves	$56,305	$57,912	$59,583	$173,800	No
149A-11	Kocic,Vlajko	Mathematics	Xavier University	Dynamics of Non-autonomous Nonlinear Discrete Systems with Applications	$34,505	$35,195	$62,423	$132,123	No
150A-11	Norris,Claire	Social Sciences	Xavier University	Healing New Orleans East: Examining the Health Dynamics of a Severely Damaged and Underrecovered Area in Post-Katrina New Orleans	$61,016	$61,936	$66,808	$189,760	No
151A-11	Ratnayaka,Harish	Biological Sciences	Xavier University	"Evaluation of oil stress tolerance and phytoremediation effectiveness of smooth cordgrass genotypes, black mangrove and beach morning glory	$97,013	$70,861	$0	$167,874	No

Total Number of Proposals submitted	151
Total Funds Requested for First Year	$8,548,959.00
Total Funds Requested	$22,457,423.00