

**REPORT OF THE FINAL PANEL**  
**BOARD OF REGENTS SUPPORT FUND**  
**RESEARCH COMPETITIVENESS SUBPROGRAM**  
**FY 2004-05**

## **BACKGROUND INFORMATION**

One-hundred seventy-nine research proposals requesting a total of \$9,898,394 in first-year funds were submitted for funding consideration in fiscal year (FY) 2004-05 to the Research Competitiveness Subprogram (RCS) of the Board of Regents Support Fund (BORSF) R & D Program. Six disciplines were eligible, including the biological sciences, chemistry, computer and information sciences, earth and environmental sciences, engineering "B" (i.e., industrial, materials, mechanical, and other engineering), and health and medical sciences. A summary of all proposals submitted for funding consideration to the RCS is attached to this report and provides the following information for each proposal: proposal number, title, discipline, institution and department, principal and co-principal investigators, and BORSF funds requested. A three-phase evaluation process conducted exclusively by out-of-state experts was utilized to review these applications. A list of the out-of-state experts who served as full members of the subject area and final panels is appended to the report.

## **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 2004, the Board of Regents' Sponsored Programs staff solicited the assistance of three hundred fifty-eight 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 forwarded to each member of the appropriate subject area panel as soon as received by the Board's staff.

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

In Phase II of the review process the one hundred seventy-nine proposals were distributed among seven subject area panels, corresponding to the six general disciplines eligible for funding consideration in FY 2004-05. 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 experts with broad expertise in the disciplines represented by the

proposals, as well as familiarity with the goals and tenets of an EPSCoR-type program.<sup>1</sup> Using the criteria set forth in the FY 2004-05 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 six eligible disciplines as defined in the RFP). 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, consensual 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 in the top twenty percent 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, 2005, 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. One hundred seven proposals were discussed at length during this two-day meeting.

The Panel was informed that approximately \$1,400,000 would be available to fund the first year of work of the RCS projects. Utilizing the criteria described previously, the Panel recommended forty-four proposals, totaling \$1,780,939 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 forty-four are listed in descending order of merit for funding.

The budgets for each of the top-ranked forty-four proposals were scrutinized closely and, in most cases, were adjusted to reflect the minimum amount of funds necessary to accomplish

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<sup>1</sup>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.

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**. (See Appendix B, which lists proposals placed in the Priority One category by the subject area panels that were not recommended by the Panel). 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 consideration 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 where few 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 were listed in Appendices C and D are encouraged to review the consultants' and 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 forty-four 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 were 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 the proposal 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 no more than thirty per cent 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 support for travel 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 the 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 were clearly nationally competitive. The Panel believed that it was 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. Therefore, 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)

<u>Rank</u>	<u>Proposal No.</u>	<u>Institution</u>	<u>Recommended BORSF 1st Year Funds</u>	<u>Recommended BORSF 2nd Year Funds</u>	<u>Recommended BORSF 3rd Year Funds</u>
1	130A	TUL-HSC	\$25,830	\$25,830	\$25,830
1	165A	UNO	\$46,633	\$44,630	\$40,000
1	125A	TULANE	\$56,783	\$28,500	\$27,916
1	021A	LSU-BR	\$36,365	\$36,360	----
1	017A	LSU-BR	\$46,715	\$46,710	---
1	042A	LSU-BR	\$48,193	\$48,190	\$48,190
1	119A	TULANE & TUHSC	\$41,386	\$41,386	\$41,380
1	020A	LSU-BR	\$20,605	\$20,600	\$20,600
1	099A	NICHOLLS	\$38,613	\$38,610	\$38,610
1	044A	LSU-BR	\$38,450	\$38,450	\$38,450
1	168A	UNO	\$37,520	\$37,520	\$37,520
1	056A	LSU-BR	\$45,584	\$45,580	\$45,580
1	055A	LSU-BR	\$49,209	\$48,355	\$48,300
1	163A	ULM	\$50,196	\$32,540	----
15	004A	LSU-AG	\$41,468	\$41,460	---
16	023A	LSU-BR	\$44,744	\$44,744	---
17	013A	LSU-BR	\$36,935	\$36,935	\$36,935
18	157A	ULL	\$33,235	\$33,235	\$33,235
19	142A	ULL	\$43,127	\$30,202	\$25,821
20	116A	TULANE	\$40,479	\$40,475	\$40,475

**APPENDIX A (continued)**  
**RCS PROPOSALS HIGHLY RECOMMENDED FOR FUNDING**

21	039A	LSU-BR	\$61,115	\$61,115	\$61,115
22	060A	LSU-HSCNO	\$40,708	\$40,705	\$40,705
23	117A	TULANE	\$34,991	\$34,991	\$34,991
24	176A	UNO	\$54,996	\$34,900	\$34,900
25	095A	LaTECH	\$61,680	\$42,650	\$38,043
26	132A	TUL-HSC	\$46,274	\$44,000	\$44,000
27	072A	LSU-S	\$22,294	\$22,294	\$22,294
28	078A	LaTECH	\$30,371	\$30,370	\$30,370
29	134A	TUL-HSC	\$50,908	\$50,900	\$50,900
30	161A	ULM	\$38,064	\$28,000	\$16,000
31	105A	SLU	\$29,808	\$29,800	\$29,800
32	169A	UNO	\$33,466	\$33,400	\$33,400
33	128A	TULANE	\$44,078	\$43,160	\$41,275
34	082A	LaTECH	\$41,738	\$41,730	\$41,730
35*	093A	LaTECH	\$35,116	\$35,110	\$35,110
36	126A	TULANE	\$36,918	\$36,910	---
37	052A	LSU-BR	\$50,776	\$42,000	\$42,000
38	079A	LaTECH & LSU-HSCNO	\$36,874	\$33,500	---
39	065A	LSU-HSCS	\$35,376	\$35,375	\$35,375
40	054A	LSU-BR	\$36,043	\$33,543	\$28,395
41	061A	LSU-HSCS	\$36,000	\$36,000	---

**APPENDIX A (continued)**  
**RCS PROPOSALS HIGHLY RECOMMENDED FOR FUNDING**

42	064A	LSU-HSCS & CENTENARY	\$33,460	\$33,460	---
43	094A	LaTECH	\$34,951	\$34,370	\$34,370
44	049A	LSU-BR	\$32,864	\$32,864	---
<b>TOTALS</b>			<b>\$ 1,780,939</b>	<b>\$ 1,651,459</b>	<b>\$ 1,243,615</b>

**\*Note: The status of the availability of funds for those proposals below the line is uncertain at this time.**

**APPENDIX B**

**MERITORIOUS PROPOSALS RANKED PRIORITY ONE BY THE  
SUBJECT AREA PANELS AND CONSIDERED BY THE FINAL PANEL  
BUT NOT RECOMMENDED FOR FUNDING (3)**

051A

057A

156A

*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 2005.

## APPENDIX C

### MERITORIOUS PROPOSALS RANKED PRIORITY TWO BY THE SUBJECT AREA PANELS AND CONSIDERED BY THE FINAL PANEL BUT NOT RECOMMENDED FOR FUNDING (60)

008A	033A	068A	087A	106A	136A	162A
011A	037A	069A	088A	107A	138A	170A
012A	040A	070A	090A	110A	143A	171A
015A	043A	071A	091A	113A	146A	173A
022A	047A	073A	092A	118A	147A	177A
024A	048A	075A	096A	120A	149A	179A
027A	050A	076A	097A	121A	152A	*
029A	059A	080A	101A	123A	153A	*
030A	063A	085A	104A	127A	160A	*

**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 2005.

## APPENDIX D

### PROPOSALS RANKED PRIORITY THREE OR DECLARED INELIGIBLE (\*) BY THE SUBJECT AREA PANELS AND NOT RECOMMENDED FOR FUNDING (72)

001A	031A	077A	115A	151A
002A	032A	081A	122A	154A
003A	034A	083A	124A	155A
005A	035A	084A	129A	158A
006A	036A	086A	131A	159A
007A	038A	089A	133A	164A
009A	041A	098A	135A	166A
010A	045A	100A	137A	167A
014A	046A	102A	139A	172A
016A	053A	103A	140A	174A
018A	058A	108A	141A	175A
019A	062A	109A	144A	178A
025A	066A	111A	145A	*
026A	067A	112A	148A	*
028A	074A	114A	150A	*

**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 2005.

**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 forty-four 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 forty-four 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 Final 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 the Enhancement Program 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 the Enhancement Program 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 the Enhancement Program of the Board of Regents Support Fund.

Appendix E (continued):

**PROPOSAL NO. 130A**

**RANK: 1**

**TITLE:** *Molecular Dynamics Simulations of Positioned Nucleosomes*

**INSTITUTION:** Tulane University Health Sciences Center

**PRINCIPAL INVESTIGATOR:** Thomas C. Bishop

The nucleosome is a histone-DNA complex that organizes eukaryotic genomes into a fiber-like structure known as chromatin. Nucleosomes therefore play a central role in transcription, replication, repair, and regulation. Over 10% of the human genome is composed of 300 base pair transposable elements called *Alus*. They occur some 500,000 times and are known to affect nucleosome positioning. *Alus* are also linked to genetic disorders and recurrent chromosomal rearrangements in tumors. The Principal Investigator has developed molecular dynamics simulation techniques that quantify differences in the structure and dynamics of nucleosomal and free DNA. The proposed research will extend these techniques to analyze nucleosome stability and positioning associated with three *Alus*: Ya5a2, Ya8, and Yb9, and will capitalize on institutional capabilities.

The applicant appears to be well-qualified for the proposed studies. Institutional commitment is fair, but the support of the Center for Computational Science will be important for the applicant. The applicant has responded appropriately to previous critiques of this proposal and seems to be making good progress to overcoming previous barriers to funding. This area of research is extremely interesting and important, but highly competitive. The equipment request in year 1 will be crucial to the success of this project.

**Note: The budget does not reflect the University's 25% minimum cash match required for all equipment purchases using support fund dollars. As a condition of funding the University must provide \$5,000 cash in matching funds for the requested \$20,000 piece of equipment.**

The budget for year one should be reduced to provide one month's salary for the Principal Investigator, limit travel and equipment cost to \$1,000, and \$15,000, respectively, thus reducing overhead to \$1,666 for a total first year budget of \$25,830. A similar budget is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$25,830**

**Year 2: \$25,830**

**Year 3: \$25,830**

**PROPOSAL NO. 165A****RANK: 1****TITLE: *Comparative Phylogeography of Central African Duikers*****INSTITUTION: University of New Orleans****PRINCIPAL INVESTIGATOR: Nicola M. Anthony; E. Jean Wickings; P. Mickala**

This proposed study aims to test Pleistocene refuge hypotheses for Central Africa by comparing patterns of genetic variation in a group of sympatric duikers. These forest antelope are important forest frugivores and represent good models for testing hypotheses about ice age range changes in tropical forest cover. The comparative approach proposed for this study is powerful in that it allows us to test for concordant patterns across multiple taxa and assess whether such taxa share a common biogeographical history. The specific aims are to: (1) Design suitable molecular diagnostics for the sexing and species identification of DNA extracted from fecal samples; (2) Compare geographic patterns of mitochondrial DNA variation and test for congruent phylogeographic profiles; and (3) In a subset of species, contrast patterns of mitochondrial and nuclear gene flow using a combination of Y-chromosome markers and nuclear microsatellite loci. This is an excellent, well-written proposal. The background and significance to the work are well-documented, as is the Principal Investigator's prior work. The proposed experiments follow a logical process of discovery and are described in excellent detail. Dr. Anthony has clearly defined the barriers to national competitiveness, and she has outlined an appropriate plan for overcoming these barriers.

**The Principal Investigator of this proposal is approaching national competitiveness so it is possible that the proposals submitted to NSF or NIH may receive funding. The funding of either of these proposals would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. These funds should be used to support another investigator in overcoming barriers to national competitiveness.**

The suggested budget for this proposal can be significantly reduced to provide one month's salary for the Principal Investigator, delete undergraduate student support along with the publication cost of \$500. With these reductions, the recommended budget for year one is \$46,633, \$44,630 for year two, and \$40,000 for year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$46,633****Year 2: 44,630****Year 3: \$40,000**

**PROPOSAL NO. 125A****RANK: 1****TITLE: *Correlated Motion in Biomolecules. Dual-Frequency 2D IR Spectroscopy*****INSTITUTION: Tulane University****PRINCIPAL INVESTIGATOR: Igor V. Rubtsov**

Structural fluctuations are widely considered an important factor in determining how proteins and other biopolymers function. While the structure of a biopolymer fluctuates, the motions of different parts of the molecule are often highly correlated. These structural fluctuations provide an important opportunity to study the structure itself via observation of correlated motions. The degree of this correlation is related to local rigidity of the structure, which is one of the key factors for the biopolymers functionality.

This proposal is aimed at determining experimentally correlations in the motion of different parts of the molecule. Recently emerged two-dimensional infrared (2D-IR) spectroscopy methods allow determination of the correlations of the frequency distributions of interacting vibrational modes. Dual-frequency 2D-IR photon-echo methods, implemented in recent work by the PI, permit observation of interacting vibrational modes having widely separated central frequencies such as, for instance N-H and C-O or O-H and C-O. Several types of weak interactions, including hydrogen bonds of various types, hydrophobic and hydrophilic interactions, are essential for the structure of biopolymers. These weak interactions will be studied by dual-frequency 2D-IR.

It is recommended that the budget for the first year be funded at the level requested--\$56,783. The second year budget should be reduced to provide support for one graduate student, resulting in a budget of \$28,500, and \$27,916 for year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$56,783****Year 2: \$28,500****Year 3: \$27,916**

**PROPOSAL NO. 021A****RANK: 1****TITLE: *QoS and Secure Routing Protocol in Heterogeneous Sensor and Actor Networks*****INSTITUTION: Louisiana State University and A&M College****PRINCIPAL INVESTIGATOR: Arjan Durrezi**

The goal of this project is to develop a research plan and obtain preliminary results about the design of Routing Protocols that enable trade-offs among QoS, energy consumption, scalability and Security on heterogeneous Wireless Sensor and Actor Networks (WSANs). The components of the proposal are:

- a. A set of routing protocols based on integration of power management and geographic routing. The major advantage of the proposal is that it enables a wide range of trade-offs among energy consumption and low latency.
- b. RAW-E increases the life of the network by reducing the energy disparity among sensor nodes. A-RAW enables a flexible range of tradeoffs between packet delay and energy consumption.
- c. A new scheme for key establishment and trust setup based on previous results on Sub-vector key pre-distribution.
- d. A novel, very strong anonymity protocol, in which location information is diluted among many nodes, thereby making it difficult for attackers to locate the origin, destination and flow of data. It enables the user to grade-off overhead with anonymity, making the solution flexible to application requirements.

The budget for the proposed research can be significantly reduced to provide one month's salary for the Principal Investigator, and deleting undergraduate student support, resulting in \$28,292 for category A. The travel cost should be limited to \$1,000, resulting in a budget of \$36,365 for year one. A budget of \$36,360 is recommended for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$36,365****Year 2: \$36,360**

**PROPOSAL NO. 017A****RANK: 1****TITLE:** *Deciphering Controls on Contrasting Patterns of Regional Continental Extension: The Ertomiao and Waziyu Metamorphic Core Complexes, North China***INSTITUTION:** Louisiana State University and A&M College**PRINCIPAL INVESTIGATOR:** Brian J. Darby

This proposal, which represents a revision and re-submission from last year's RCS competition, has taken the comments of the subject area panel and comments from NSF reviewers into account and has substantially strengthened the project. The Principal Investigator of this proposal has sharpened his focus from last year, has established numerous links to appropriate colleagues in China, and has experience with that nation's geology. This proposal focuses on the most puzzling of the metamorphic core complexes (mmc's)—the Ertomiao and Waziyu mcc's where the Ertomiao mcc is located 700 km west of Beijing, has a perplexing extension direction—perpendicular to the regional extensional province—yet similar timing. The recently discovered Waziyu mcc is 300 km northeast of Beijing, has an extension direction that is consistent with regional patterns, but a master fault that dips to the northwest rather than the conventional southeast as with other mcc's in the province. Funding of this proposal will improve the Principal Investigator's competitiveness for national funding by generating a robust data set that will be the seed for larger NSF proposals and publishing results in peer-reviewed journals.

The budget for this proposal can be significantly reduced by eliminating travel support to China for the Master's students and restricting the rental to only one vehicle and one interpreter rather than two, thus reducing travel cost to \$5,000. The recommended budget is \$46,715 for year one, and \$46,710 for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$46,715****Year 2: \$46,710**

**PROPOSAL NO. 042A****RANK: 1****TITLE: *Control of Gene Function with Light Using Photoactivatable DNA*****INSTITUTION: Louisiana State University and A&M College****PRINCIPAL INVESTIGATOR: W. Todd Monroe**

This project focuses on engineering at the molecular level to demonstrate a light-based induction technique for controlling nucleic acid function *in vitro* and in cell culture assays. “Caging,” the attachment and subsequent photocleavage of small cage compounds, alters structure and blocks bioactivity of nucleic acids until exposed to light. This control over both the spatial and temporal activity of transgenes, DNA oligonucleotides, and eventually siRNA (small interfering RNA) will help elucidate both their kinetics and mechanisms, and also regulate developmental and other cellular processes, impacting both basic and clinical sciences. This is an excellent proposal with an exceptionally strong presentation of both background and the plan of work, along with suitable justification for its potential value. Only the potential clinical value is glossed over, with no example provided or delivery mechanism discussed. If there is a clinical application it is some ways off but this issue does not detract from the science component of the proposed work that is very interesting and potentially valuable. The Principal Investigator has strong potential for competitiveness and he has worked hard to establish his career. His discussion of these issues is exceptionally strong, as his plan to address them. He wisely has a number of other proposals pending, including national ones. If these are funded he would not need this RCS grant.

The budget for this research can be significantly reduced to provide one month’s salary for the Principal Investigator and limit supply cost to \$10,000, for a total budget of \$48,193 for year one. A budget of \$48,190 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$48,193****Year 2: \$48,190****Year 3: \$48,190**

**PROPOSAL NO. 119A****RANK: 1****TITLE:** *Sex Differences in Language Fluency, Auditory Processing, and Anatomy of the Planum Temporale***INSTITUTION:** Tulane University; Tulane University Health Sciences Center**PRINCIPAL INVESTIGATOR:** David M. Corey; Anne L. Foundas

The proposed research will test theoretical explanations of sex differences in verbal fluency among healthy individuals and individuals who stutter, with emphasis on the auditory processing component of language production. It is well-established that among people who stutter, males far outnumber females. Developmental stuttering is related to a variety of factors, including (a) verbal fluency, (b) anatomy of Planum Temporale (auditory association cortex), and (c) effects of delayed auditory feedback (DAF) on verbal fluency. Among (non-stuttering) people, sex differences in these three factors have also been reported. In Study 1, sex differences in DAF effects will be characterized. In Study 2, two alternatives to an auditory-processing theory of sex differences in DAF effects will be tested in adults. In Study 3, development of sex differences in DAF effects will be examined in a cross-section of fluent children and young adults. And finally in Study 4, magnetic resonance imaging (MRI) will be used to assess the relationship between Planum Temporale anatomy and the effects of DAF on verbal fluency.

Dr. Corey is the principal investigator for the proposal and he is in his second year of a tenure track appointment at Tulane University-Department of Psychology. Dr. Corey is poised for greater national recognition and would benefit from the funding of the current project. The budget of \$41,386 submitted for year one is realistic and should be funded at the level requested, with a similar amount for year two and \$41,380 for year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$41,386****Year 2: \$41,386****Year 3: \$41,380**

**PROPOSAL NO. 020A****RANK: 1****TITLE: *Outer Membrane Biogenesis in Gram Negative Bacteria*****INSTITUTION: Louisiana State University and A&M College****PRINCIPAL INVESTIGATOR: William T. Doerrler**

The envelope of the Gram-negative bacterium *Escherichia coli* consists of two distinct lipid membranes, an inner membrane (IM) and an outer membrane (OM), separated by a periplasmic space. The OM serves as a remarkable permeability barrier, providing resistance to a variety of toxins, antibiotics and detergents. The lipid and protein components of the OM are synthesized in the cytoplasm utilizing cytoplasmic precursors, then transported across the IM. Lipid transport across the IM requires MsbA, a conserved, essential ATP binding cassette protein. However, MsbA is not sufficient for transbilayer lipid transport *in vitro*. This suggests that other components may be required for efficient lipid transport *in vivo*. The focus of the proposed research is to identify other components required for lipid transport using the tools of genetics and biochemistry and will focus upon investigating the regulation of LPS synthesis.

The Principal Investigator is an extremely well trained young scientist who has published a series of high quality articles both as a graduate student and a postdoctoral fellow. The combined use of genetics, genomics and biochemistry in the manner proposed has been successful in obtaining significant and novel insight into biological processes. In addition there are potential aspects of the project that are unique to bacteria which may be useful in targeting new anti-microbial therapies.

The budget can be significantly reduced to provide one month's salary for the Principal Investigator, limit travel cost to \$1,000, and supplies to \$10,000, resulting in a budget of \$20,605 for year one. A similar budget of \$20,600 is recommended for year two and year three of the project.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$20,605****Year 2: \$20,600****Year 3: \$20,600**

**PROPOSAL NO. 099A****RANK: 1****TITLE:** *Effects of Molt-Inhibiting Organochlorine Compounds on Epidermal Expression of N-acetylglucosaminidase Gene in the Fiddler Crab, Uca pulilator, in vivo and in vitro***INSTITUTION:** Nicholls State University**PRINCIPAL INVESTIGATOR:** Enmin Zou

Aquatic environments have been increasingly contaminated with various endocrine-active organochlorine compounds. These compounds are in general environmentally persistent and readily accumulate in tissues of aquatic animals, including crustaceans. Several organochlorine compounds, such as the PCB mixture Aroclor 1242, 2,4,5-trichlorobiphenyl, endosulfan, kepone, heptachlor and methoxychlor, have been found to inhibit molting of crustaceans. This proposed research is aimed to make the endocrine control for molting in the fiddler crab as a model system for studying mechanisms of molting disruption and to look into the mechanism for molt-inhibition by these compounds using the fiddler crab as the model animal. The molting enzyme N-acetylglucosaminidase is a product of the gene regulated by the molting hormone in arthropods. The goal of the program is the development of a robust assay for the assessment of xenobiotics to inhibit molting by this mechanism. The Principal Investigator has presented a well-thought out plan for the program with nicely described experiments and clear benchmarks for progress. There is a clear program for publication of the results as they are generated. The impact of this program is significant, scientifically, and potentially economically.

It is recommended that the budget be slightly reduced to limit travel and supply cost to \$1000, and \$10,000 respectively, resulting in a first-year budget of \$38,613. A budget of \$38,610 is recommended for years two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$38,613****Year 2: \$38,610****Year 3: \$38,610**

**PROPOSAL NO. 044A****RANK: 1****TITLE:** *Novel Supramolecular Approach to Organic Photovoltaics: Study of Fundamental Principles and Molecular Design***INSTITUTION:** Louisiana State University and A & M College**PRINCIPAL INVESTIGATOR:** Evgueni E. Nesterov

Organic-based solar cells are an extremely important goal since these devices may benefit from inexpensive, high-volume production techniques. Despite some recent achievements, the light-to-current conversion efficiency of the currently available devices is very low. The goals of this proposal are to develop a totally new supramolecular approach to organic photovoltaics that will be free of drawbacks of traditionally used devices and will allow subsequent technological implementation.

The key design feature includes a new “bottom up” approach to organic photovoltaics based on a stepwise self-assembly of two types of molecular building blocks with rigid rod-like geometry and opposite electronic demands. Each building block consists of a central core equipped with a supramolecular connector. The supramolecular assembly of electronically opposite building blocks into a photovoltaic molecule occurs via multiple hydrogen bonds between two complimentary connectors, which utilize the complimentary “lock-key” structure to achieve correct nanoscale self-assembly. In order to build a macroscale device, these supramolecular aggregates will be connected to electrodes using a self-assembled monolayer technique. This approach is expected to yield a highly ordered and well-organized framework which incorporates a heterojunction between n- and p- sublayers on the intramolecular level.

The budget is only slightly reduced to delete undergraduate student support and the publication charge of \$500, for a total first year budget of \$38,450, with similar funding for years two and three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$38,450****Year 2: \$38,450****Year 3: \$38,450**

**PROPOSAL NO. 168A****RANK: 1****TITLE: *Human Histological Image Analysis and Retrieval Using Machine Learning and Statistical Modeling Approaches*****INSTITUTION: University of New Orleans****PRINCIPAL INVESTIGATOR: Yixin Chen**

Histology is the science concerned with the study of tissues, organ systems, and their cellular structure at the microscopic level. Histological images play a basic role in clinical diagnostics and therapy because the function of a tissue or organ is closely related to its cellular structure and composition. The main goal of this project is to acquire the fundamental knowledge and technologies required in computerized analysis and retrieval of human histological images. The research will focus on three targets: (a) Categorization, recognizing the organ of origin from a tissue section; (b) Annotation, associating pixels to tissues and identifying structural organization of a tissue; and (c) Retrieval, searching images with similar histological interpretations based on textual or visual query information. H&E-stained human tissue specimens will be digitized to develop high resolution images supporting the project. The research work will demonstrate that computer programs are capable of recognizing histological objects or concepts based on machine learning and statistical modeling techniques. The proposed research will introduce new requirements to the areas of statistical image modeling and image understanding.

It is recommended that the budget be funded at the level requested--\$37,520 for years one, two, and three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$37,520****Year 2: \$37,520****Year 3: \$37,520**

**PROPOSAL NO. 056A****RANK: 1****TITLE:** *Effect of Large Scale Surface Water Diversion on Wetland Biogeochemical Cycling and Water Quality***INSTITUTION:** Louisiana State University and A&M College**PRINCIPAL INVESTIGATOR:** John R. White; Ronald Delaune

Marshland restoration and subsequent large scale Mississippi River water diversions are integral for increasing sediment supply and nutrients to marshes which have been degraded from decades of hydrologic isolation. However, how the marshes will react to the diversions is still relatively unknown with respect to sediment composition and accretion, water quality, and nutrient availability. The PI proposes to statistically measure the change in soil biogeochemical parameters controlling nutrient availability and rates of soil accretion and organic matter decomposition over 3 years in areas receiving the surface water diversions in comparison with areas receiving no inputs. This study will provide information on the initial effects of the diversions on marsh function and a critical baseline of information from which future studies may build as the 50 year restoration project proceeds. Dr. White anticipates becoming nationally competitive for federal funding, and a solid plan for overcoming the barriers to this is provided. Primary among these barriers is the fact that, while he has considerable experience with freshwater wetlands, the Principal Investigator has not established himself in coastal wetlands. The project will provide fundamental knowledge about coastal wetlands that will serve the PI as the basis for future research efforts, and will also provide Louisiana with critical information about these vitally important aquatic systems.

The requested budget can be reduced significantly to provide one month's salary and deleting support for the post doc while providing funding for the graduate research assistant. Additionally, travel cost should be limited to \$3,400, supply cost to \$10,000, and the analytical service cost to \$2,000, for a final budget of \$45,584 in year one. A budget of \$45,580 is recommended for year two and three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$45,584****Year 2: \$45,580****Year 3: \$45,580**

**PROPOSAL NO. 055A****RANK: 1****TITLE: *Controllable Synthesis of Carbon Nanotube for Device Applications*****INSTITUTION: Louisiana State University and A&M College****PRINCIPAL INVESTIGATOR: Bingqing Wei**

The unique electronic and mechanical properties of carbon nanotubes and their superior thermal and chemical stability offer enormous potential for diverse applications. The most promising applications of nanotubes are those involving their use in electronic devices such as sensor devices, because of their fascinating electronic transport properties by virtue of their dimensions, electronic structure, anisotropic morphology, and structural helicity. However, nanotube-based sensor devices will become a reality only if the relationships among synthesis of nanotubes, their structural and hierarchical properties, and their electronic performance are fully understood. The PI proposes to fabricate carbon nanotube sensor devices and to test their applicability and performance in sensing various gases and gas flows. The drawbacks (identified and potential) in using nanotube devices for these purposes are clearly spelled out in the proposal. The PI hopes to overcome or, at least mitigate, some of these problems through the selective growth of patterned nanotube arrays and he is seeking to exploit the high electric fields that are generated in the vicinity of nanotube tips. Although the specific experiments to be performed and gases to be tested are not well described, the PI provides detail into the strategies to be used in fabricating candidate sensor devices. The successful fabrication and testing of these new carbon nanotube sensor devices would be a significant contribution to the technology. The barriers to national competitiveness common to new investigators (lack of money and track record) are claimed. The proposed work is in an area of current national and international interest. The successful completion of the proposed work will provide the preliminary data required for a successful federal proposal. This work should serve to make the PI competitive in the national research arena.

**The Principal Investigator of this proposal is approaching national competitiveness so it is possible that the two proposals submitted to NSF may receive funding. The funding of either of these proposals (dates for funding 2/1/05 and 5/1/05) would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. In that event, these funds should be used to support another investigator in overcoming barriers to national competitiveness.**

The budget for this proposal can be slightly reduced to limit supply cost to \$5,000, resulting in a year one budget of \$49,209. A budget of \$48,355 is recommended for year two and \$48,300 for year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$49,209****Year 2: \$48,355****Year 3: \$48,300**

**PROPOSAL NO. 163A****RANK: 1****TITLE: *Fiber Optics: Real time In Vitro characterization of lipid based drug Delivery Systems*****INSTITUTION: University of Louisiana at Monroe****PRINCIPAL INVESTIGATOR: Sami Nazzi; Paul W. Sylvester**

Lipid based drug delivery systems are blends of active therapeutics and lipid excipients. The potential of lipid formulations to improve bioavailability of poorly soluble drugs is well documented. Despite their benefits, absence of a standard compendial dissolution method for lipid formulations often leads to suboptimal formulation practices and poor *In-Vitro/In-Vivo* correlation. The objective of this proposal is to develop a modified lipolysis model and to investigate the potential of fiber optics for real-time *In Vitro* prediction of emulsion formation and hydrolysis. This objective will be accomplished by:

- (1) developing a physical testing method that utilizes standard dissolution apparatus combined with fiber optic system in a controlled lipolysis model; and
- (2) characterizing and correlating progress of emulsion formation and hydrolysis to the real-time spectral data generated within 200-1100 nm wavelength range. The outcome of these studies will serve as a basis for rational formulation development, provide guidelines for better *In-Vitro/In-Vivo* correlation, and satisfy USP compendial requirements for a quantitative dissolution method.

The approaches described by the Principal Investigator to overcome barriers are well thought out and achievable. Although no animal will be used as part of this proposal, the senior collaborator will begin training the Principal Investigator with the goal that these future studies will be federally funded and this is highly likely. This is an important area of research as more and more drugs are likely to be formulated as lipid excipients, in order to improve bioavailability of poorly soluble drugs. However, there exists a significant lack of approaches to rigorously test the properties of such formulations. Current approaches are unreliable, expensive and time consuming. In addition, there are no *in vitro* approaches that are predictive of *in vivo* performance. Completion of this proposed work is likely to yield nationally competitive proposals and a nationally competitive investigator.

The budget can be reduced to limit travel cost to \$1,000, supply cost to \$10,000, and delete printing cost, for a first-year budget of \$50,196. A budget of \$32,540 is recommended for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$50,196****Year 2: \$32,540**

**PROPOSAL NO. 004A****RANK: 15****TITLE:** *Epigenetic Modifications in Somatic Cells and Cloned Embryos***INSTITUTION:** Louisiana State University Agricultural Center**PRINCIPAL INVESTIGATOR:** **Kenneth R. Bondioli; Robert A. Godke**

Nuclear transfer (NT) is a valuable technique for the study of molecular aspects of differentiation during early development. DNA methylation is an important epigenetic mechanism involved in embryo reprogramming during NT and is essential for normal gene expression during embryo development. Cytosine methylation is believed to regulate gene expression by inhibiting the binding of transcription factors. The objective of this research is to determine the relationship between DNA methylation, histone acetylation and the expression of histone modifying enzymes in cultured somatic cells. Additionally, the PI will determine if chromatic remodeling can be regulated artificially in NT-derived embryos by siRNA-mediated knockdown of specific DNA methyltransferases and histone deacetylases in somatic donor cells. The primary barrier to competitiveness is the lack of preliminary data in this important area of research. Both investigators are highly qualified for the proposed studies, but need to obtain preliminary data in this area. The shift of the Principal Investigator from an industrial position to an academic one requires that he now obtain such preliminary data to win extramural funding, even though his past record of accomplishment is strong.

**The Principal Investigator of this proposal may have already become nationally competitive with support from two proposals submitted to the NIH entitled “Somatic Stem Cells for Porcine Nuclear Transfer” (expected date of 4/2005) for an amount of \$275,000 and “Salivary Gland System for Production of Therapeutics (expected 3/2005) for an amount of \$52,500 as a one year STTR subcontract. The funding of either proposal along with the grant support that he currently has would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. These funds should be used to support another investigator in overcoming barriers to national competitiveness.**

This budget can be reduced to providing one month's salary, and limiting travel cost to \$1,000, for a total first year budget of \$41,468. A budget of \$41,460 is recommended for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$41,468****Year 2: \$41,460**

**PROPOSAL NO. 023A****RANK: 16****TITLE: *Interactions of Cytokines with Renin-Angiotensin System in Heart Failure*****INSTITUTION: Louisiana State University and A&M College****PRINCIPAL INVESTIGATOR: Joseph Francis**

Chronic congestive heart failure is characterized by neurohumoral excitation (NHE) that contributes to the progression of end-stage disease and the premature demise of the patient. In the past few decades, most of the therapeutic measures were targeted against the activation of the neurohormonal system, and these strategies have clearly reduced mortality and morbidity. However, the clinical course of heart failure (HF) is progressive and the long-term prognosis remains dismal, suggesting that other mediators might be involved in NHE. The study will test the hypothesis that cytokines, acting either directly or via an interaction with the rennin-angiotensin system, contribute to neurohumoral excitation in heart failure. The Principal Investigator will attempt to show that peripheral cytokines drive neurohumoral excitation in heart failure and that central nervous system cytokines activate neurohumoral excitation in heart failure. The project takes an integrated approach to studying neurohumoral excitation in the mouse that will take advantage of existing knock out strains. The project will make a fundamental contribution to understanding heart failure.

It is recommended that the budget be significantly reduced to provide funding of \$17,000 for either a post-doctoral fellow or a graduate student, and deleting the \$10,000 in requested funds for a graduate assistant. Additionally, travel cost should be limited to \$1,000, supply cost to \$12,000, and "other" expenses reduced to \$5,500. With these reductions a first year budget of \$44,744 is recommended, with a similar amount for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$44,744****Year 2: \$44,744**

**PROPOSAL NO. 013A****RANK: 17****TITLE: *Evolving Better Nano-Structured Materials–A Molecular Simulation Study of Nano-cluster Formation*****INSTITUTION: Louisiana State University and A&M College****PRINCIPAL INVESTIGATOR: Bin Chen**

Nanostructured materials such as semiconductors and small metallic particles have received much attention because of their non-conventional optic, electric, and magnetic properties as well as important practical implications in device technology and electronic fabrication. The fact that their properties are tunable through the size and structure not only opens up an opportunity to tailor-design these nano-objects for specific applications but also posits a request for a fundamental understanding of their formation process. The objectives of this proposal are to provide microscopic insights into the thermodynamics and kinetics of the nano-cluster formation as well as guidelines for achieving optimal size, structure, and thus property control of the nano-clusters through supersaturation, temperature, and other parameters. The proposed research will focus on those nano-objects that have been shown to exhibit rich structures (i.e., the existence of multiple packing geometries) and structure-sensitive properties. In particular, the aggregation-volume-bias Monte Carlo nucleation approach will be extended to study the formation of these nano-clusters while the nature of the intermolecular interactions will be investigated through state-of-the-art Car-Parrinello approach.

**The Principal Investigator of this proposal is nearly nationally competitive so it is possible that the proposal submitted to NSF may receive funding. The funding of this proposal (expected date 3/2005) would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. These funds should be used to support another investigator in overcoming barriers to national competitiveness.**

Only a very minor reduction in the requested budget is recommended that limits travel cost to \$1,000, for a first year budget of \$36,935, with similar funding for years two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$36,935****Year 2: \$36,935****Year 3: \$36,935**

**PROPOSAL NO. 157A****RANK: 18****TITLE: *On-chip RF/Wireless Interconnect Technology in Nanometer Design*****INSTITUTION: University of Louisiana at Lafayette****PRINCIPAL INVESTIGATOR: Danella Zhao**

The rapid migration to Nanometer design process has brought forward the popularity of Systems-on-a-Chip (SoCs). Shrinking process technology nodes, increasing chip complexity, lower design cost, and shorter time-to-market have multiplied the difficulty of designing SoCs. In this study the PI develops a new RF/wireless interconnect network for intrachip communication based on the recent development of Radio-on-Chip (RoC) technology. The chip-based wireless radios will replace the wires to increase accessibility, to improve bandwidth utilization, and to eliminate delay and cross-talk noise in conventional wired interconnects. The system performance will be evaluated by addressing four challenging issues: signal integrity, power management, on-chip integration, and design for manufacturability. The results will have a very broad impact on the on-going and future research in Nanotechnology in the state of Louisiana.

It is recommended that the budget be slightly reduced to limit travel cost to \$1,000 and delete printing cost, for a total first year budget of \$33,235, with similar budgets for year two and three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$33,235****Year 2: \$33,235****Year 3: \$33,235**

**PROPOSAL NO. 142A****RANK: 19****TITLE:** *Uncertainty of Radar Rainfall Estimates and Implications for Hydrologic Flood Predictions***INSTITUTION:** University of Louisiana at Lafayette**PRINCIPAL INVESTIGATOR:** Emad Habib; Ehab A. Meselhe

This proposal is a re-submission from last year's RCS competition by Dr. Emad Habib, who is a second-year Assistant Professor of Civil Engineering. The project, which is clearly an important one for the state of Louisiana, includes a good discussion of barriers to becoming nationally competitive and a sound plan for dealing with those barriers and overcoming them.

A major scientific challenge is to provide accurate information about surface rainfall quantities that are necessary for flood prediction and forecasting. After the deployment of the National Weather Service radar network, radar rainfall information has become increasingly available. However, utilization of such information in hydrologic modeling has not been fully realized. This is due to the lack of quantification for the uncertainty of radar-rainfall estimates and its impact on the prediction accuracy of hydrologic models. The aim of this study is to investigate problems that preclude the use of radar data in hydrologic prediction. A heavily instrumented experimental watershed in southern Louisiana will be the study site of this project. The results of this study will provide insight about future needs and improvements in radar data and in hydrologic models.

The budget can be slightly reduced by deleting the one month salary support for the research associate, resulting in a first year budget of \$43,127. A budget of \$30,202 is recommended for year two and \$25,821 for year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$43,127****Year 2: \$30,202****Year 3: \$25,821**

**PROPOSAL NO. 116A****RANK: 20****TITLE: *A Multi-Scale Toolkit for Modeling Polymers, Polymer Blends, and the Assembly of Block Copolymers*****INSTITUTION: Tulane University****PRINCIPAL INVESTIGATOR: Henry S. Ashbaugh**

The Principal Investigator proposes to develop novel coarse-graining methodologies to simulate liquid state polymers that can be used to model melts, blends, and the self-assembly of block copolymers. A cost effective strategy for synthesizing materials with tailored properties is to blend polymers with different microstructures. Many long chain polymers, however, are immiscible so that desired properties cannot be achieved. Alternatively, immiscible polymers can be grafted, creating block copolymers which self-assemble into nanostructured materials whose organization is determined by the fractional block composition and mutual repulsion between blocks. A good *a priori* knowledge of polymer miscibility is therefore crucial to engineer polymeric materials. It is intended that methodologies be developed that self-consistently map correlations from detailed simulations of polymer oligomers to coarse-grained interaction models, which can extend the range of computationally accessible chain lengths by more than an order of magnitude. This strategy should enable computations of experimentally relevant polymer molecular weights and offers the possibility of developing predictive tools for polymer miscibility and block copolymer assembly. The Principal Investigator proposes the extension of a modeling tool, EPIC (Empirical Potential Interaction Coarsening), that he has developed for polymer simulation. Currently used coarse graining strategies rely on empirical parameterizations of models to span length and time scales. The Principal Investigator proposes the development of a predictive approach to modeling these parameters that will be incorporated into the EPIC model. The Principal Investigator has developed a detailed strategy for using the results of molecular simulations to inform the development of the proposed coarse graining strategy.

The budget can be slightly reduced to limit travel cost to \$1,000, resulting in a first year budget of \$40,479. A budget of \$40,475 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$40,479****Year 2: \$40,475****Year 3: \$40,475**

**PROPOSAL NO. 039A****RANK: 21****TITLE:** *Tick Response to Atypical Rickettsial Infections***INSTITUTION:** Louisiana State University and A&M College**PRINCIPAL INVESTIGATOR:** Kevin R. Macaluso

The ability to control tick-borne rickettsial diseases requires a thorough understanding of the molecular basis by which pathogens are maintained and transmitted in nature. The factors that make some ticks refractory to particular rickettsial species has not been examined, and this is the basis of the proposal. The proposal is solid scientifically both in terms of the overall hypothesis, that differences in vector competence of ixodid ticks for rickettsiae are due to the host response to rickettsial disease, and the methods used. To test this hypothesis two specific aims will be addressed: 1) identification of differentially expressed molecules that are upregulated in response to infection outside of typical *Rickettsia*-tick relationships, and 2) determination of the role of candidate molecules in the establishment, persistence, and transmission of *Rickettsia* species. As a new Principal Investigator, this award should lead to national competitiveness by facilitating the gathering of data for the generation of publications.

**The Principal Investigator of this proposal is approaching national competitiveness so it is possible that the proposal submitted to NIH entitled “Molecular Dynamics of Rickettsial Infection in Ticks” may receive funding. The funding of this proposal would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. These funds should be used to support another investigator in overcoming barriers to national competitiveness.**

This budget should be funded at the level requested for year one, with similar funding for years two and three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$61,115****Year 2: \$61,115****Year 3: \$61,115**

**PROPOSAL NO. 060A****RANK: 22****TITLE: *Xenopus Bicaudal-C a Model for Polycystic Kidney Disease*****INSTITUTION: LSU Health Sciences Center-New Orleans****PRINCIPAL INVESTIGATOR: Oliver Wessely; Richard R. Mize**

Polycystic Kidney Diseases (PKD) are the leading cause of end-stage renal failure and require extensive treatments such as dialysis and kidney transplantation. Only limited forms of therapy for PKD exist, since the molecular mechanism underlying the formation of renal cysts is still poorly understood. This study will be concerned with testing the hypothesis that loss of Bicaudal-C in the pronephros of *Xenopus* induces epithelial abnormalities similar to those described in human and mouse polycystic kidney disease (PKD). This will primarily involve characterizing the expression and biological function of Bicaudal-C during pronephros development in *Xenopus*. Preliminary data suggest that the antisense morpholino oligomer Bic-C-MO induces tissues abnormalities similar to those seen in polycystic kidney disease in mammals. The rationale for using *Xenopus* is that a functional pronephros (kidney) is formed in 31 hours, much earlier than in mammals. The Principal Investigator has explicitly laid out the rationale and protocol for each experiment and has anticipated both the results and potential problems to each experiment.

**The Principal Investigator of this proposal is approaching national competitiveness so it is possible that the proposal submitted to NIH entitled “*Xenopus Bicaudal-C a Model for Polycystic Kidney Disease*” may receive funding (expected date of 4/1/2005). The funding of this proposal would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. These funds should be used to support another investigator in overcoming barriers to national competitiveness.**

The budget for this proposal can be significantly reduced by providing one month's salary for the Principal Investigator and 50% support for the Research Associate, which results in a subtotal in category A of \$26,950. With this reduction the total recommended budget for year one is \$40,708, and \$40,705 for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$40,708****Year 2: \$40,705****Year 3: \$40,705**

**PROPOSAL NO. 117A****RANK: 23****TITLE: *Collective Phenomena in the Interaction Induced Irreversible Dynamics of a Soft Matter*****INSTITUTION: Tulane University****PRINCIPAL INVESTIGATOR: Alexander L. Burin**

It is proposed to investigate a collective relaxation and a dissipation induced by the long-range interaction in complex irregular materials. These phenomena are associated with sharing the local energy with a macroscopically large environment. In strongly disordered systems the dynamics follow the liquid-like scenario, where each particle mostly stays localized performing rare hops. The hops induce fluctuations of other particle energies, stimulating new hops. This self-consistent collective dynamic results in the irreversible transport. The scaling model of liquid-like irreversible quantum dynamics, suggested in the PI's previous work and used to interpret the relaxational measurements in glasses, will be developed to investigate a universal kinetics in irregular soft condensed materials, including amorphous solids, biological macromolecules, and novel quantum computing systems. The theoretical analysis of relaxation will advance fundamental understanding of interaction effects on the irreversible transport. The theoretical development will be applied to study the spectral diffusion and aging in fluorescent proteins, decoherence due to the quantum bit interaction in quantum computers, relaxation control by external fields, and temperature and system geometry. In this research the PI's group will attain the preliminary progress in practically significant areas of low temperature protein dynamics and the decoherence in quantum computers needed to attract the support from Federal agencies oriented toward applied research.

**The Principal Investigator of this proposal is approaching national competitiveness so it is possible that one of the proposals submitted to the NSF or DOE may receive funding. The funding of either of these proposals would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. These funds should be used to support another investigator in overcoming barriers to national competitiveness.**

The proposed budget is relatively reasonable except that travel cost should be limited to \$1,000, for a first year budget of \$34,991, with a similar budget for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$34,991****Year 2: \$34,991****Year 3: \$34,991**

**PROPOSAL NO. 176A****RANK: 24****TITLE: *Mixed-Autonomy Urban Search and Rescue Robotic Teams*****INSTITUTION: University of New Orleans****PRINCIPAL INVESTIGATOR: Shelia Tejada**

Current research on human-robot interfaces is mainly concerned with interaction between one person and one robot or software agent. There are many scenarios in which multiple human-multiple robot interaction are possible, such as with urban search and rescue robots. This project will employ a fast-paced interactive multi-agent system as an interface for multiple researchers to interact with teams of physical robots and software agents. The goal of this project is to allow collaboration among humans, robots, and agents, while at the same time not overloading the users with information. Effective coordination of humans, robots, and agents can greatly reduce human workload by allowing autonomous robots and agents to handle challenging high-level tasks. By combining the strengths of humans (problem solving), robots (expendability), and agents (environmental data processing), the safety and efficiency of searching for victims in a disaster area will improve.

The budget for this proposal should be significantly reduced to delete undergraduate student support and limit travel cost to \$1,000. The number of robots requested by the principal investigator is excessive and should be reduced. It is recommended that equipment cost be limited to \$20,000, resulting in a budget of \$54,996 for year one. A budget of \$34,900 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$54,996****Year 2: \$34,900****Year 3: \$34,900**

**PROPOSAL NO. 095A****RANK: 25****TITLE: *Micro- and Nanotechnologies for Neutron Detectors and Sources*****INSTITUTION: Louisiana Tech University****PRINCIPAL INVESTIGATOR: Chester Wilson**

Of all radiation sources, the Department of Energy has highlighted neutron emitters as the most critical for *detection* and *regulation*--weapons grade isotopes emit neutrons—little else does. Micro- and nano- fabrication offers fantastic, and unexplored opportunities to create real products to fill this need; devices smaller, cheaper, and of higher performance than existing technology. The PI has identified a critical and distinct need for miniaturization of both sensors and sources, and has described well his approach to these problems. In both cases there seem to be definite advantages for enhancing resolution, insensitivity to noise (e.g., gamma particles), and portability (e.g., taking sources/sensors into the field). Because it does not seem that these tasks have been extensively researched, the PI has recognized fundamental obstacles, although they may not be clearly described. However, specific tasks are described that will directly contribute toward tackling the basic problems associated with developing the 3 key devices proposed. The project lends itself to fundamental scientific progress in device development. Given the critical nature of these devices, the Principal Investigator should mention some of the drawbacks and possible failure modes, not only in the development work but in the devices themselves. The Principal Investigator has identified an area that is of significant interest to federal funding agencies, and has been active in forming some of the roadmaps for critical technology development (through workshops at IfM). Consequently, the project(s) described should be very competitive in the proposed areas and with funding agencies of interest.

Only a small reduction in the first year budget is recommended. Travel cost should be limited to \$1,000, resulting in a budget of \$61,680 for year one. Budgets of \$42,650 and \$38,043 are recommended for year two and year three, respectively.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$61,680****Year 2: \$42,650****Year 3: \$38,043**

**PROPOSAL NO. 132A****RANK: 26****TITLE:** *Molecular Screening and Characterization of West Nile Virus Receptor(s) in the Mosquito Vector, Culex quinquefasciatus***INSTITUTION:** Tulane University Health Sciences Center**PRINCIPAL INVESTIGATOR:** Young S. Hong

West Nile Virus (WNV) is the causative pathogen for West Nile Encephalitis in humans and other animals. From January to October in 2004, 40 states have reported more than 2,200 clinical cases with 73 deaths, including 85 cases with 7 fatalities in Louisiana. WNV is transmitted from infected birds to humans via mosquito bites. Despite the importance of mosquitoes as vectors for WNV transmission, molecular mechanisms underlying vector competence among different mosquito species are poorly understood. The long-term goal of this project is to examine WNV receptors (or homologs) from different mosquito species for potential polymorphisms that distinguish WNV vectors from non-vector mosquitoes. This is a well-designed study which builds on the investigator's background. The approach is solid and the methodologies are strong. A clear strength is the elaboration of limitations and the proposed alternatives. While there is a high risk for these experiments the payoff is potentially substantial, making this proposal an excellent candidate for RCS funds.

The budget can be significantly reduced to provide one month's salary for the Principal Investigator, and limit travel cost to \$1,000, for a total first year budget of \$46,274. A budget of \$44,000 is recommended for year two and year three of the project.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$46,274****Year 2: \$44,000****Year 3: \$44,000**

**PROPOSAL NO. 072A****RANK: 27****TITLE: *Synthesis of Novel Vitamin E Analogs with Potent Anti-Cancer Activity*****INSTITUTION: Louisiana State University at Shreveport****PRINCIPAL INVESTIGATOR: Elahe Mahdavian; Brian A. Salvatore**

Natural vitamin E is a mixture of eight related compounds (four tocopherols and four tocotrienols). It is known that certain esters of vitamin E (e.g., tocopherol succinate) display potent chemopreventive and chemotherapeutic activity on several cancerous cell lines *in vitro*. Some tocopheryl esters have been shown to quickly induce apoptosis in cancer cells. A promising therapeutic advantage of these molecules is their selective toxicity toward cancer cells, with virtually no toxicity exhibited against normal cells. Our recent investigations into the structure-activity relationships of these molecules demonstrated the important structural features for the observed anti-cancer activity. Unfortunately, tocopheryl esters are quite susceptible to enzymatic hydrolysis *in vivo*, which substantially decreases their biological efficacy *in vivo*. It is known that this activity can be modulated by structural modifications of the molecules, and this area is ripe for the development of new synthetic analogs with enhanced chemical stability and biological activity. The research group is targeting the synthesis of a broad spectrum of novel vitamin E amide derivatives, including analogs with modified lipid tails. Recent synthetic methods devised and adapted in the research lab have helped make this feasible. It is expected that many of the proposed synthetic vitamin E analogs will possess *in vitro* anti-cancer activity comparable to *α*-tocopherol succinate but may also manifest greater anti-cancer activity *in vivo*. Further evidence showing that these molecules exert their effects via the mitochondria has also encouraged the group to explore mitochondrially-targeted vitamin E analogs. The selected group of synthetic analogs will help to unravel the novel mechanism responsible for their biological activity.

A significant reduction in the budget is recommended. Only one month's salary should be provided, thus reducing the budget to \$22,294 for year one, with similar budgets recommended for years two and three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$22,294****Year 2: \$22,294****Year 3: \$22,294**

**PROPOSAL NO. 078A****RANK: 28****TITLE:** *Engineering Dopant Local Atomic Structures in Complex Metal Hydrides***INSTITUTION:** Louisiana Tech University**PRINCIPAL INVESTIGATOR:** Tabbetha A. Dobbins

Complex metal hydrides are capable of incorporating hydrogen into their lattice. Studies show that reduced desorption temperatures may be attributed to transition metal and rare earth dopants. The PI proposes a study of the local bonding environment of these dopant atoms. Coupled with kinetic studies for hydrogen desorption, the PI hopes to increase the understanding of the mechanisms of hydrogen desorption. This work is related to the area of hydrogen storage. The work is pragmatically motivated by the engineering problems inherent in hydrogen storage. The PI proposes the determination of the structure of dopant atoms using XAFS and using that knowledge to engineer hydrogen desorption kinetics in doped metal hydride materials. The proposed work is to be broken down into two phases--one phase consisting of the preparation and characterization of mechanically milled doped powders, and one phase in which doped materials are prepared via layer-by-layer self-assembly. A detailed work plan is provided that clearly elucidates the project tasks and their schedule. Investigator and faculty collaborations are described, and the technical/chemical/physical details of the project tasks are described and justified. The work described, if successfully completed, will provide a good addition to the science.

Only a small reduction in the proposed budget is recommended--one that would eliminate undergraduate student support and limit travel cost to \$1,000. With these reductions, the recommended budget for year one is \$30,371. A budget of \$30,370 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$30,371****Year 2: \$30,370****Year 3: \$30,370**

**PROPOSAL NO. 134A****RANK: 29****TITLE:** *Adult Stem Cells in Lung Cancer Therapy***INSTITUTION:** Tulane University Health Sciences Center**PRINCIPAL INVESTIGATOR:** **Gilbert F. Morris; Darwin J. Prockop;  
Deborah E. Sullivan; Jeff Spees**

In the United States, the number of deaths from lung cancer outpaces the combined death totals of the next three most common cancers--breast, prostate and colon. Developing novel lung cancer therapeutics is a high priority in Louisiana, which has a higher percentage of lung cancer deaths than the national average. Adult stem cells or marrow-derived stromal cells (MSCs) have great appeal as delivery vehicles for therapeutic gene products. MSCs can be easily isolated from any individual, rapidly expanded in cell culture, and readily transduced ex vivo with genes that can produce a therapeutic benefit. Of particular importance to the submitted proposal, MSCs home to sites of regenerating tissue. Similar to wound healing, tumors stimulate expansion of stromal tissue. In accord with this stroma-promoting characteristic, it is hypothesized in the proposal that lung tumors establish a microenvironment that promotes engraftment of MSCs. To test this hypothesis, MSCs will be delivered by tail vein to lung tumor-bearing mice. The potential scientific merit for the proposal appears to be very good. There are preliminary data that support the ability of the team to carry out the work.

Although the Principal Investigator is an established researcher who has been conducting lung cancer, research this is a totally new method that he is utilizing. Therefore, by funding him it is expected that he will become nationally competitive in this very important area of cancer research. The investigators list the lack of National Cancer Institute small grant mechanisms as a barrier to their study. Therefore, the proposal fits within the guidelines of the program to fund an established investigator who is changing fields. Funding for the proposal in year one should be at a level of \$50, 908, thus reducing the supply budget to \$10,000, and animal costs to \$11,369. A budget of \$50, 900 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$50,908****Year 2: \$50,900****Year 3: \$50,900**

**PROPOSAL NO. 161A****RANK: 30****TITLE:** *Nuclear Receptor Regulation of Organogenesis in the Model Organism Caenorhabditis elegans***INSTITUTION:** University of Louisiana at Monroe**PRINCIPAL INVESTIGATOR:** Christopher R. Gissendanner

The regulation of organ development (organogenesis) is a fundamental problem in developmental biology. The PI seeks to further enhance the knowledge of this process by investigating the regulation of organogenesis by a conserved nuclear receptor gene in the model organism *Caenorhabditis elegans*. This gene, *nhr-6*, encodes a nuclear receptor transcription factor that is required for *C. elegans* development. The objectives of this proposal are: 1) to further characterize the biological functions of *nhr-6*; 2) to generate new data on the functions of the *nhr-6* protein that will provide the foundation for further hypotheses of *nhr-6* function; and 3) to increase the competitiveness of the primary investigator for federal funding. The findings that may result from this work will have a big impact on the success for extramural funding. In particular, the applicant needs to establish a firm connection between the activities of the *nhr-6* receptor and the vertebrate homologs. It is recommended that the applicant consider submitting the AREA grant application as soon as possible, to get a sense from the study section about their level of enthusiasm for such a proposal.

This budget can be slightly reduced to provide one month's salary for the Principal Investigator, for a total first year budget of \$38,064. A budget of \$28,000 is recommended for year two and \$16,000 in year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$38,064****Year 2: \$28,000****Year 3: \$16,000**

**PROPOSAL NO. 105A****RANK: 31****TITLE: *West Nile Virus Replication: RNA Polymerase Cloning, Mechanism, and Inhibition*****INSTITUTION: Southeastern Louisiana University****PRINCIPAL INVESTIGATOR: Jeffrey Temple; Michael B. Doughty**

West Nile Virus (WNV) is a flavivirus that causes human encephalitis by replication in and destruction of host neural cells. This RNA virus replication *requires* a virus encoded RNA-dependent RNA polymerase (RP) that transcribes the (+) RNA genome and then replicates the (-) strand to produce mature viral RNA. Thus viral RPs are important targets for inhibition of viral replication with reduction of the progress and severity of the disease presentation. The PI's collaborative application of this approach to WNV at Southeastern will be to clone, express, and purify WNV RP, study its physical and kinetic properties, and to synthesize structural probes as potential leads to novel drug candidates. The WNV RP will first be cloned into *E. coli* with a C-terminal His tag for rapid purification, and then as the native enzyme using cDNA generated by PCR in the laboratory. The His-tagged enzyme will be purified by one-step affinity chromatography, using FPLC and SDS-PAGE to analyze purity, and the native enzyme will be purified by FPLC ion-exchange, affinity, and gel filtration chromatography using the His-tagged enzyme as control. Standard polymerase assays will be used to develop a standard assay for primer dependent RNA polymerase activity, and this assay will be used initially to analyze the physical and kinetic properties of the His-tagged WNV RP, including its sensitivities to detergents, salts, metal ions, pH, heat, and storage conditions. Lastly, novel nucleotides characterized as template-competitive inhibitors and structural probes for viral HIV reverse transcriptase and bacterial DNA polymerase and their synthesized ribo-analogs will be tested as WNV-RP structural probes and inhibitors.

A significant budget reduction is recommended that would provide one month's salary and delete the \$100 publication charge, resulting in a total first year budget of \$29,808. A budget of \$29,800 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$29,808****Year 2: \$29,800****Year 3: \$29,800**

**PROPOSAL NO. 169A****RANK: 32****TITLE:** *Extending the Lifetime of Cluster-Based Wireless Sensor Networks***INSTITUTION:** University of New Orleans**PRINCIPAL INVESTIGATOR:** Jing Deng

In wireless sensor networks, organizing battery-powered and resource constrained sensors into clusters provides a convenient framework for resource management and information gathering. To save energy, when a sensor is not being used, it can be put into the sleep state, where it completely shuts itself down, leaving only one extremely low power timer on to wake itself up at a later time. Most of the studies on Cluster-based Sensor Networks (CSNs) have focused on cluster formation algorithms. Little research has been performed on the maintenance problems associated with CSNs, such as how to select the fraction of the sensor nodes to sleep, how to rotate active and sleeping sensors in the cluster, and how to rotate clusters and cluster heads to extend network lifetime while maintaining the same functionality including sensing coverage and connectivity. The objectives of this research are:

- a. to develop dynamic sleep scheduling mechanisms that extend network lifetime;
- b. to develop fixed and adaptive cluster maintenance schemes to maintain the functionality of all the clusters over a longer period; and
- c. to develop a unified sleep scheduling and cluster maintenance scheme for CSNs.

This project strives to extend the network lifetime through the design of sleep scheduling and clustering techniques.

Only a minor reduction in this budget is recommended that limits travel cost to \$1,000 and deletes printing costs, for a total first year budget of \$33,466. A budget of \$33,400 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$33,466****Year 2: \$33,400****Year 3: \$33,400**

**PROPOSAL NO. 128A****RANK: 33****TITLE: *Fatigue Behavior of Nanostructured Metals*****INSTITUTION: Tulane University****PRINCIPAL INVESTIGATOR: T. A. Venkatesh**

It is recognized that nanostructured materials and surface coatings can offer the potential for enhanced performance in a wide variety of components and structures of technological importance to the automotive, power generation, aircraft, naval and biomedical industries. Thus, there is currently a renewed interest in processing, experimentation and modeling the mechanical and functional response of nano-structures. However, systematic and comprehensive studies on the overall mechanical properties of nanomaterials under complex loading conditions have thus far not been performed in sufficient depth. The PI proposes to study the fatigue behavior of nanostructured materials and surface coatings. The research will include plain-fatigue, fatigue crack growth, and contact fatigue, with a combination of theoretical and experimental studies. This subject matter is important because of the widely held belief that such nanomaterials will offer important new properties, and the inapplicability of conventional (non-nano) material science data to this new class of materials.

This is a relatively strong proposal from a Principal Investigator who is moving aggressively to establish his research career in the timely and popular nano area. The proposal has clear goals and objectives, with an equally clear plan of work. The background discussion is good, with an interesting section on “outstanding issues...” The current proposal identifies a four-part strategy towards achieving national competitiveness that involves: (i) obtaining preliminary results in the area of fatigue of nanomaterials that would help the Principal Investigator develop clear and strongly focused federal research proposals; (ii) publishing new results in the area of fatigue of nanomaterials to establish a good track record in the new field; (iii) presenting results on fatigue of nanomaterials at national conferences to enhance the Principal Investigator’s visibility in the research community; and (iv) demonstrating the ability to guide graduate students towards their masters and doctoral degrees.

Only a small reduction in this budget is recommended--limiting supply costs to \$8,000--for a total first year budget of \$44,078. A budget of \$43,160 is recommended for year two and \$41,275 for year three of the project.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$44,078****Year 2: \$43,160****Year 3: \$41,275**

**PROPOSAL NO. 082A****RANK: 34****TITLE: *Synthesis and Characterization of Nano-Catalysts for Hydrogen Production*****INSTITUTION: Louisiana Tech University****PRINCIPAL INVESTIGATOR: Debasish Kuila**

The PI will focus on fundamental studies for the development of catalysts. The goal to be accomplished will be by following a plan:

- a. to use the fundamental knowledge to synthesize non-noble metal catalysts for hydrogen production by steam reforming;
- b. to investigate the activities of non-noble metal catalysts/supports using an array of micro-reactors; and
- c. to understand the fundamental parameters controlling nanocatalysts' activity, stability, and hydrogen selectivity using *in situ* techniques and computer modeling.

The nano-scale catalysts containing metals (Co, Ni, etc.) will be synthesized by sol-gel and chemical vapor deposition (CVD)/rapid expansion of supercritical solutions (RESS) techniques. The particle diameters, morphology and magnetic properties of the catalysts will be characterized using different techniques. The catalysts with various supports will be tested under different conditions using an array of microreactors. Theoretical calculations will be pursued to gain a fundamental understanding of the catalyst activities towards efficient hydrogen production.

The submitted budget is very reasonable. Only a slight reduction in this budget is recommended that limits travel cost to \$1,000, for a total first year budget of \$41,738. A budget of \$41,730 is recommended for year two and year three of the project.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$41,738****Year 2: \$41,730****Year 3: \$41,730**

**PROPOSAL NO. 093A****RANK: 35****TITLE: *Shear Band Localization: Mathematical Modeling, Numerical Implementation and Experimental Validation*****INSTITUTION: Louisiana Tech University****PRINCIPAL INVESTIGATOR: Xingran Jay Wang; David Hall; Raymond L. Sterling**

It has been a major concern in engineering to prevent failure of structures and structural components, which in most engineering materials is preceded by the emergence of narrow zones of intense straining, i.e., the shear band localization. It occurs in various solids: soils, rocks, polymers, structural metals and crystals. Thus, it is vitally important to model the strain localization phase in a physically consistent, mathematically correct manner and numerically proper tools. The PI proposes the formulation of new finite element algorithms for evaluating shear band localization—that is, narrow zones of intense straining—in engineering materials. This methodology has potential applications in the analysis landslides, various soil-structure contact failures, and metal failures. The PI has excellent background as well as a sufficient commitment of institutional resources to complete the project.

The proposed mathematical and numerical procedures have excellent potential for yielding accurate assessment of shear band localization in a wide variety of engineering materials. The experimental validation of these theoretical procedures will be critical to the ultimate acceptance of the proposed methodology. The topic is of particular interest to many researchers studying material failures in different engineering disciplines. The research area is targeted for funding by many federal funding agencies, including NSF, DoD, DoE, and DoT. The fulfillment of the proposed research project will assist in making the PI nationally competitive.

**The Principal Investigator of this proposal is approaching national competitiveness so it is possible that one or more of the proposals submitted to U.S. Army Corps of Engineers (total of three) may receive funding. The funding of any of these proposals would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. This money should then be used to support another investigator in overcoming barriers to national competitiveness.**

Only a minor reduction in this budget is recommended, which limits travel cost to \$1,000, for a total first year budget of \$35,116. A budget of \$35,110 is recommended for years two and year three of the project.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$35,116****Year 2: \$35,110****Year 3: \$35,110**

**PROPOSAL NO. 126A****RANK: 36****TITLE:** *A Model-Based Simulation of Piping in Sand Deposits of the Mississippi Riverbanks***INSTITUTION:** Tulane University**PRINCIPAL INVESTIGATOR:** Usama El Shamy

Flooding along a river can produce hydraulic head differences on opposite sides of a river flood-protection levee, thereby generating seepage forces capable of causing piping beneath and adjacent to the levee. A number of experimental investigations have been conducted to provide a better understanding of the mechanism behind sand boils during flooding and the susceptibility of the Mississippi River sand deposits to such phenomena. The object of this research is to investigate the underlying mechanism of sand boils and piping through the application of a micro-scale computational model and a number of physical experiments. Such a study will provide a better understanding of the fundamental mechanism of piping, and therefore refine existing empirical criteria often used for determining riverbank stability with respect to piping. This refinement can lead to an assessment of identifying zones of high potential for levee failure along the Mississippi riverbank.

The budget can be slightly reduced to provide one month's salary for the Principal Investigator, as well as deleting the \$500 in printing cost, resulting in a total first year budget of \$36,918. A similar budget of \$36,910 is recommended for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$36,918****Year 2: \$36,910**

**PROPOSAL NO. 052A****RANK: 37****TITLE: *Nicotinic Acetylcholine Receptors in Zebrafish*****INSTITUTION: Louisiana State University and A & M College****PRINCIPAL INVESTIGATOR: Kurt R. Svoboda**

Embryonic zebrafish lacking the enzyme acetylcholinesterase (AChE), the enzyme which degrades acetylcholine, have problems in neuromuscular and sensory neuron development. In this paradigm, a mutation in the zebrafish genome results in an abnormally high amount of acetylcholine to be present during development. This may be deleterious for the developing embryo. It is possible that the developmental abnormalities observed in these mutant zebrafish are related to the overactivation of nicotinic acetylcholine receptors (nAChRs). Nicotine, a drug of abuse and a potent agonist of nAChRs, has been purported to have many effects on developing nervous systems. A significant number of women smoke during pregnancy. Exposure of the developing fetus to nicotine from the maternal serum has been linked to many developmental abnormalities in offspring. The proposal is concerned with the impact of nicotine on neuronal development, particularly the activation of neuronal nicotinic acetylcholine receptors (nAChRs). The aim is to establish that zebrafish spinal interneurons express nAChRs, and then to examine if the changes in spinal neuron development following nicotine exposure are manifested in adult fish. The proposal lists three specific aims: i) localizing the nAChRs to regions of the CNS involved in the activation/generation of a specific behavioral phenotype, swimming; ii) using calcium imaging to determine if nAChRs located on Rohon-Beard neurons desensitize on repeated exposure to nicotine; and iii) evaluating the consequences of embryonic nicotine exposure on spinal neuron development. Preliminary data indicate that swimming activity is initiated earlier in zebrafish exposed to nicotine 22-32 hours post fertilization. The PI does a good job of justifying the use of the zebrafish model based on the requirements of responsiveness to nicotine, simple nervous system, short developmental period, and manipulable experimentally. If the zebrafish model is successfully established for these types of studies, this will be important for use in the study of other nicotine-related agonist and antagonists, and the PI should be competitive for future funding.

This budget can be significantly reduced to provide one-half time for the research technician and one month's salary for the Principal Investigator, for a total of \$23,979 in sub-category A, which includes fringe benefits. Travel expenses should be limited to \$1,000, resulting in a total first year budget of \$50,766. Similar reductions are recommended for years two and three, resulting in a budget of \$42,000 for each year.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$50,766****Year 2: \$42,000****Year 3: \$42,000**

**PROPOSAL NO. 079A****RANK: 38****TITLE: *Novel Gene Expression Mining Algorithms to Assist Medical Discovery*****INSTITUTION: Louisiana Tech University; LSU Health Sciences Center-New Orleans****PRINCIPAL INVESTIGATOR: Sumeet Dua; Hilary Thompson; James M. Hill**

The problem represented by the increasing world health disease burden combined with the escalating cost of drug development will be greatly resolved by enhanced capacity to computationally interpret gene expression experiments in cell physiology and pharmacology. Molecular diagnostics using data mining methods offers the promise of precise, objective, systematic and more reliable disease diagnostics and drug treatment. The main objective of this project is to provide support to develop novel data mining technologies, in support of the scientific and economic development of the State of Louisiana and the Nation. The project will focus on the research and development of efficient and robust algorithms data preparation, dimensionality and noise reduction, normalization, unsupervised classification and functional interpretation of gene expression data. A fundamental understanding will also be reached of the intricate processes involved in the data cleaning, preprocessing, spatial data structure and algorithm design, parameter estimation and functional interpretation of mining results. This fundamental research, besides yielding important computing research results, will enhance and develop collaborative research and mentoring relationships with established researchers.

**The Principal Investigator of this proposal is approaching national competitiveness so it is possible that the proposals submitted to NIH may receive funding. The funding of any of these proposals would indicate that the Principal Investigator is nationally competitive and therefore this BORSF proposal should not be funded. This money should then be used to support another investigator in overcoming barriers to national competitiveness.**

The budget for this proposal can be reduced to provide one month's salary and delete undergraduate student support, for a total of \$24,144 in salaries, thus resulting in a total first year budget of \$36,874. A budget of \$33,500 is recommended for year two of the project.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$36,874****Year 2: \$33,500**

**PROPOSAL NO. 065A****RANK: 39****TITLE: *Prenatal Exposure to Prescriptive Opiates: Effects on the Health of Neonatal Rats*****INSTITUTION: Louisiana State University Health Sciences Center - Shreveport****PRINCIPAL INVESTIGATOR: Lisa M. Schrott**

Louisiana ranks near the bottom of the fifty states for most indicators of newborn and infant health. While there are multiple causes of poor perinatal and neonatal outcome, one factor that has clear influence is exposure to harmful substances *in utero*. Despite recent decreases in overall use of illegal drugs, abuse of prescriptive opiates containing oxycodone has risen dramatically, especially among women and adolescents. Prescriptive opiate use during pregnancy is not recommended due to potential fetal respiratory depression and neonatal withdrawal after birth, although to date there has been little research on the specific effects of oxycodone use during pregnancy. The objectives of this proposal are to determine in a rat model the extent to which exposure to oxycodone prior to and throughout pregnancy 1) affect successful parturition and neonatal morbidity; 2) produce a neonatal abstinence syndrome; and 3) compromise neonatal immunity to bacteria or viral-like challenges. The experiments are well-designed and should lead to the required knowledge. The author indicates some of the potential issues that might be encountered and how those will be handled. There is a substantial separation between when the experiments are run and when various experimental parameters are determined, which might cause a problem. Nevertheless, the problem is sufficiently important that it is still recommended for funding.

The budget for this proposal can be slightly reduced to delete undergraduate student support, resulting in a total first year budget of \$ 35,376. A budget of \$35,375 is recommended for year two and year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$35,376****Year 2: \$35,375****Year 3: \$35,375**

**PROPOSAL NO. 054A-05****RANK: 40****TITLE: *Development of a Generalized Parameterization Method Under the Geostatistical Framework*****INSTITUTION: Louisiana State University and A & M College****PRINCIPAL INVESTIGATOR: Frank T. Tsai**

The Principal Investigator's objective is aimed at developing a generalized parameterization (GP) method, exploring GP on new geostatistical theory, exploring GP on Bayesian Model Averaging (BMA), and developing new inverse theory with GP under the framework of geostatistics and BMA to better understand the aquifer parameter heterogeneity and better groundwater modeling. The research proposed will make fundamental advances both in geostatistics and hydrology. Dr. Tasi has a good publication record at this stage of his career, a fine background in his field, and is actively presenting his research.

The panel recommends funding at the level requested for years one, two and three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$ 36,043****Year 2: \$33,543****Year 3: \$28,395**

**PROPOSAL NO. 061A-05****RANK: 41****TITLE: *Chemopreventive Action of Retinoic Acid in Skin*****INSTITUTION: Louisiana State University Health Sciences Center -Shreveport****PRINCIPAL INVESTIGATOR: John L. Clifford; Marjan Trutschl**

The specific aims of this project are: (1) assess the function and potential role in skin carcinogenesis of several of the counter-regulated genes--the genes will be either overexpressed, through stable transfection, or 'knocked down' by siRNA-mediated suppression, in cultured mouse and human skin cells—and (2) generate gene expression profiles and promoter co-regulation models for TPA and TPA+ATRA treated skin by in-silico analysis of microarray data. The project should answer a key question in cancer biology: How does ATRA exert its chemopreventive effects in skin cancer, and by extension in other epithelial cancers?

This budget should be significantly reduced to limit travel cost to \$1,000, supply cost to \$10,000, and delete publication costs, for a total first year budget of \$36,000. A similar budget is recommended for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$36,000****Year 2: \$36,000**

**PROPOSAL NO. 064A-05****RANK: 42****TITLE: *Identification of Substrates for the Yeast Yck2 Protein Kinase*****INSTITUTION: Louisiana State University Health Sciences Center-Shreveport;  
Centenary****PRINCIPAL INVESTIGATOR: Lucy C. Robinson; Cynthia J. Brame**

This proposal is the product of a collaboration between a new investigator and an established investigator and represents a new direction in their respective research projects. Combining the investigators' expertise in yeast genetics, cell biology and mass spectrometry, the long-term goal of the project is to harness the newly emerging technologies of proteomics and bioinformatics to identify the global substrate spectrum for the plasma membrane-associated casein kinase 1 (CK1) proteins in yeast.

The budget can be significantly reduced to provide one month's salary for the Co-Principal Investigator, and \$10,000 for undergraduate student support, for a total of \$17,968 in the salary category. Travel cost should be limited to \$1,000, supply cost to \$9,100, and \$900 for Mass Spectrometry analysis, for a total of \$11,000 in support expenses, resulting in a first year budget of \$33,460. A similar budget is recommended for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$33,460****Year 2: \$33,460**

**PROPOSAL NO. 094A-05**

**RANK: 43**

**TITLE:** *Formulation of Winsor Type Microemulsion Systems Utilizing Linker Concepts*

**INSTITUTION:** Louisiana Tech University

**PRINCIPAL INVESTIGATOR:** Laura L. Wesson

The objective of this research is the development of microemulsion systems in which surfactants from the same suite are used in different roles and contribute to the knowledge base concerning the fundamental chemistry of microemulsion behavior. The Principal Investigator will determine if the presence of the type of linker described is sufficient to produce effective microemulsion systems and the effect of temperature on the phase boundaries.

This budget should be funded at the level requested for year one (\$34,951), and \$34,370 for year two. A similar budget of \$34,370 is recommended for year three.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$34,951**

**Year 2: \$34,370**

**Year 3: \$34,370**

**PROPOSAL NO. 049A-05****RANK: 44****TITLE: *The Role of the Urokinase Receptor in Prostate Cancer Progression*****INSTITUTION: Louisiana State University and A & M College****PRINCIPAL INVESTIGATOR: Inder Sehgal**

Prostate cancer metastasizes from the prostate to regional nodes and bones, particularly the spine. Proteolytic degradation of the extracellular matrix is a vital process in this metastasis. At least 2 proteolytic systems are involved in prostate metastasis—MMP- and urokinase-related. The Principal Investigator plans to address the role of the urokinase system, specifically the role of the urokinase receptor (uPAR).

It is recommended that the budget be significantly reduced to provide one month's salary for the Principal Investigator with fringe benefits for a total of \$10,291, \$20,000 for supplies and \$2,573 in overhead, for a total first year budget of \$32,864. A similar budget is recommended for year two.

The institutional match pledged in the proposal should be maintained in full.

**Year 1: \$32,864****Year 2: \$32,864**

**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. 051A****TITLE:** *Development and Validation of Microarray for Integration into  
a Multidisciplinary Approach to Equine Laminitis***INSTITUTION:** Louisiana State University and A & M College**PRINCIPAL INVESTIGATOR:** Ashley M. Stokes; Leslie McLaughlin; Rustin M. Moore;  
Sharon R. Chirgwin

**COMMENTS:** Dr. Ashley M. Stokes, the Co-principal investigator of proposal 051A-05, currently holds a Board of Regents support fund grant LEQSF(2004-05-ENH-TR-25) covering July 2004 to July 2005 which includes \$170,000. Additionally, she is a co-PI on the Governor's Biotechnology initiative (LSU proposal #15920), with an award amount of \$308,225 for the period covering October 2002 to July 2007. Other funding includes Grayson-Jockey Club Research Foundation in the amount of \$53,430, American Association of Equine Practitioners, \$10,000, and the Morse Animal Foundation of \$61,320. Therefore, she has a large amount of funding for a recent Ph.D. (March of 2003). However, the major problem associated with Dr. Stokes is that she does not hold a tenure-track faculty position. Her vita indicates that she is a Research Assistant Professor. Similarly, Dr. Sharon R. Chirgwin, the second named person on the proposal, does not hold a tenure-track faculty position. Therefore, the panel concluded that the Principal Investigator and co-Principal Investigator do not qualify for funding from the RCS program, since neither holds a tenure or tenure-track faculty position. Neither has submitted proposals for funding to national funding agencies and it is not clear that either has plans for submission of such proposals. The panel strongly feels that funding the research of Research Assistant Professors by RCS grants would be an unwise decision since it is highly likely that scientists could become nationally competitive and then move on to another position, possibly to another state.

**PROPOSAL NO. 057A-05**

**TITLE:** *Novel Automatic Blind Signal Processing Techniques for Ultrasonic Non-Destructive Testing*

**INSTITUTION:** Louisiana State University and A & M College

**PRINCIPAL INVESTIGATOR:** Hsiao-Chun Wu

**COMMENTS:** The principal investigator has substantial funding, with a National Science Foundation grant in the amount of \$300,000 which began in 2004. Additionally, he has Louisiana Space Consortium funding in the amount of \$33,375. Clearly, the large NSF grant indicates that the principal investigator is already nationally competitive for research funding and, therefore, the final panel concluded that further RCS support of the research was both unnecessary and unwarranted.

**PROPOSAL NO. 156A-05**

**TITLE:** *Automatic Data Extraction for Retrieval Systems*

**INSTITUTION:** University of Louisiana at Lafayette

**PRINCIPAL INVESTIGATOR:** Zonghuan Wu

**COMMENTS:** The principal investigator does not hold a tenure-track faculty position but is actually a research scientist in the Center for Advanced Computer Studies at the University of Louisiana at Lafayette. It would not be wise to utilize RCS funding to aid a research scientist in becoming nationally competitive so that they can then seek a position outside of the state. The panel feels very strongly that funding of proposals should be restricted to tenured or tenure-track faculty. When they do become nationally competitive they are less likely to seek employment outside the state. Therefore, the final panel concluded that this principal investigator is not eligible for RCS support for the proposed research.

**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 and Head, Department of Materials Science and Engineering  
North Carolina State University

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

**Biological Sciences I (Human Biology, Immunology, Virology and Microbiology)**

Kenneth M. Pruitt, Ph.D., Chair  
Emeritus Professor of Biochemistry  
Associate Vice President, Sponsored Program Development (retired)  
State Project Director, Alabama EPSCoR Program (retired)  
University of Alabama at Birmingham

Jeff Engler, Ph.D.  
Professor  
Department of Biochemistry and Molecular Genetics  
University of Alabama at Birmingham

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

**Biological Sciences II (Natural Sciences, Ecology, Microbiology, Genetics)**

Walter Diehl, Ph.D., Chair  
Professor  
Department of Biological Sciences  
Mississippi State University

**Appendix G (continued):**

Geoffrey A. Cordell, Ph.D.  
Professor and Director of Graduate Studies in Pharmacognosy  
Department of Medicinal Chemistry and Pharmacognosy  
College of Pharmacy  
University of Illinois at Chicago

**Chemistry**

Burt Davis, Ph.D., Chair  
Professor and Interim Director  
Center for Applied Energy Research  
University of Kentucky

Dorothy Gibson, Ph.D.  
Professor  
Department of Chemistry  
University of Louisville

**Computer and 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 and 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 B**

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

Raul G. Longoria, Ph.D.  
Associate Professor  
Department of Mechanical Engineering  
University of Texas at Austin

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

James R. Wilson, Ph.D.  
Professor and Head  
Department of Industrial Engineering  
North Carolina State University

**Health and Medical Sciences**

Gerald Sonnenfeld, Ph.D., Chair  
Vice President of Research  
Binghamton University

Thomas F. Garrity  
Professor  
Department of Behavioral Science  
University of Kentucky College of Medicine

Eric Prossnitz  
Associate Professor  
Department of Cell Biology and Physiology  
University of New Mexico Health Science Center

**APPENDIX H**  
**RESEARCH COMPETITIVENESS SUBPROGRAM**  
**FY 2004-05**  
**SUMMARY OF PROPOSALS**

**179 TOTAL PROPOSALS**

23	BS I	Biological Sciences I
31	BS II	Biological Sciences II
25	CHE	Chemistry
25	C/IS	Computer and Information Sciences
12	EAR	Earth and Environmental Sciences
44	ENG B	Engineering B
19	HEA	Health and Medical Sciences

**TOTAL FIRST-YEAR FUNDS REQUESTED: \$ 9,898,394**

**Proposals Submitted to the  
Research Competitiveness Subprogram(RCS)  
for the FY 2004-2005 Review Cycle**

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>001A-05 ENG B</b>	Computational Fluid Dynamics for Flows in Ecosystem (CFDFE)	Dillard University (Computer Science);	Zujia Xu;	<b>1</b>	<b>\$ 39,225</b>
				<b>2</b>	<b>\$ 39,225</b>
				<b>3</b>	<b>\$ 39,225</b>
				<b>.</b>	
				<b>Total</b>	<b>\$ 117,675</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>002A-05 BS</b>	Value Added Probiotic Dairy Foods for the Improved Health of Specific Organs	Louisiana State University And A&M College - Agricultural Center (Dairy Science);	Kayanush J. Aryana; Tahereh Nia;	<b>1</b>	<b>\$ 66,555</b>
				<b>2</b>	<b>\$ 43,645</b>
				<b>3</b>	<b>\$ 25,875</b>
				<b>.</b>	
				<b>Total</b>	<b>\$ 136,075</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>003A-05 ENG B</b>	Optimization of Color Removal in Sugar Mills and Sugar Refineries	Louisiana State University And A&M College - Agricultural Center (Audubon Sugar Institute);	Luis Bento; Peter W. Rein;	<b>1</b>	<b>\$ 31,000</b>
				<b>2</b>	<b>\$ 31,000</b>
				<b>3</b>	<b>\$ 31,000</b>
				<b>Total</b>	<b>\$ 93,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>004A-05 BS</b>	Epigenetic Modifications in Somatic Cells and Cloned Embryos	Louisiana State University And A&M College - Agricultural Center (Animal Sciences);	Kenneth R. Bondioli; Robert A. Godke;	<b>1</b>	<b>\$ 56,058</b>
				<b>2</b>	<b>\$ 56,058</b>
				<b>Total</b>	<b>\$ 112,116</b>
				Proposal is a <b>New Request</b>	
<b>005A-05 BS</b>	Population Dynamics and Management Strategies for Triadic Sebifera Under Varying Environmental Conditions: A Research and Interpretive Education Opportunity in Louisiana	Louisiana State University And A&M College - Agricultural Center (School of Renewable Natural Resources);	Hallie Dozier; Krisanna Machtmes; William J. Platt;	<b>1</b>	<b>\$ 68,959</b>
				<b>2</b>	<b>\$ 48,802</b>
				<b>3</b>	<b>\$ 48,432</b>
				<b>Total</b>	<b>\$ 166,193</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>006A-05 BS</b>	Development and Validation of New Bioinformatic Tools for Fine Mapping of Yield and Quality Traits in Rice	Louisiana State University And A&M College - Agricultural Center (Agronomy and Environmental Management);	James Oard;	<b>1</b>	<b>\$ 63,848</b>
				<b>2</b>	<b>\$ 58,348</b>
				<b>Total</b>	<b>\$ 122,196</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>007A-05 BS</b>	Design, Construction, and Biological Activity of Antimicrobial Peptides for Biomass-Based Production	Louisiana State University And A&M College - Agricultural Center (Veterinary Sciences);	Svetlana Oard; Bijaya Karki; Frederick Enright;	<b>1</b>	<b>\$ 75,298</b>
				<b>2</b>	<b>\$ 72,298</b>
				<b>3</b>	<b>\$ 65,097</b>
<b>Total</b>	<b>\$ 212,693</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>008A-05 BS</b>	An Integrated Genomics Approach To Dissect Seed Dormancy: Rice As A Model System	Louisiana State University And A&M College - Agricultural Center (Agronomy and Environmental Management);	Prasanta K. Subudhi; Marc A. Cohn;	<b>1</b>	<b>\$ 59,250</b>
				<b>2</b>	<b>\$ 55,250</b>
				<b>3</b>	<b>\$ 47,750</b>
<b>Total</b>	<b>\$ 162,250</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>				
<b>009A-05 BS</b>	Development of Novel RNA Binding Ligands as Tools for Studying RNA Recognition, Conformational Flexibility, Regulation of Metabolite Biosynthesis, and for Drug Design	Louisiana State University And A&M College - Baton Rouge (Biological Sciences);	Fareed Aboul-ela;	1	\$ 72,513				
				2	\$ 59,600				
				3	\$ 24,094				
				<b>Total</b>	<b>\$ 156,207</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>						
<b>010A-05 ENG B</b>	Effects of Optical Corrective Lenses and VDT Workstation on Somatic Elements among Data Entry Operators	Louisiana State University And A&M College - Baton Rouge (Industrial and Manufacturing Systems Engineering);	Fereydoun Aghazadeh; Craig M. Harvey; Thomas G. Ray;	1	\$ 52,779				
				<b>Total</b>	<b>\$ 52,779</b>				
				Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
				<b>011A-05 EAR</b>	Microbial Pathogen Transport in Limestone Aquifers: Development of Predictive Capabilities Based on Laboratory, Field, and Modeling Studies	Louisiana State University And A&M College - Baton Rouge (Geology and Geophysics);	William J. Blanford;	1	\$ 74,109
2	\$ 76,006								
3	\$ 49,209								
<b>Total</b>	<b>\$ 199,324</b>								
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>						

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>012A-05 ENG B</b>	Applications of Smart Materials in Vibration Suppression of Bridges	Louisiana State University And A&M College - Baton Rouge (Civil and Environmental Engineering);	Steve C. Cai;	1	\$ 36,149
				2	\$ 35,260
				3	\$ 34,890
				.	
				<b>Total</b>	<b>\$ 106,299</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>013A-05 CHE</b>	Evolving Better Nano-Structured Materials--A Molecular Simulation Study of Nano-Cluster Formation	Louisiana State University And A&M College - Baton Rouge (Chemistry);	Bin Chen;	1	\$ 37,935
				2	\$ 37,935
				3	\$ 37,935
				.	
				<b>Total</b>	<b>\$ 113,805</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>014A-05 BS</b>	Development of a Targeted Recombination System for Bovine Coronavirus	Louisiana State University And A&M College - Baton Rouge (Biotechnology and Molecular Medicine);	Vladimir Chouljenko; Konstantin G. Kousoulas;	1	\$ 65,986
				2	\$ 66,649
				3	\$ 67,362
				.	
				<b>Total</b>	<b>\$ 199,997</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>015A-05 HEA</b>	The Mobility of Mothers: Implications for the Spatial Analysis of Infant Mortality	Louisiana State University And A&M College - Baton Rouge (Geography and Anthropology);	Andrew Curtis;	1	\$ 52,869
				2	\$ 48,326
				3	\$ 49,800
				.	
				<b>Total</b>	<b>\$ 150,995</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>016A-05 ENG B</b>	Fundamental Investigation of Nanoscale Energy Conversion in Hybrid Materials	Louisiana State University And A&M College - Baton Rouge (Electrical and Computer Engineering);	Theda Daniels-Race;	1	\$ 93,750
				2	\$ 64,375
				3	\$ 41,503
				.	
				<b>Total</b>	<b>\$ 199,628</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>017A-05 EAR</b>	Deciphering Controls on Contrasting Patterns of Regional Continental Extension: The Ertomiao and Waziyu Metamorphic Core Complexes, North China	Louisiana State University And A&M College - Baton Rouge (Geology and Geophysics);	Brian J. Darby;	1	\$ 57,115
				2	\$ 56,315
				.	
				<b>Total</b>	<b>\$ 113,430</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>018A-05 EAR</b>	Development of a GIS-Based Environmental Assessment Framework for Mariculture on Retired Offshore Oil and Gas Platforms in the NW Gulf of Mexico	Louisiana State University And A&M College - Baton Rouge (Civil and Environmental Engineering);	Zhi-Qiang Deng; Ronald F. Malone;	<b>1</b>	<b>\$ 62,771</b>
				<b>2</b>	<b>\$ 61,105</b>
				<b>3</b>	<b>\$ 60,271</b>
				<b>Total</b>	<b>\$ 184,147</b>
				Proposal is a <b>New Request</b>	
<b>019A-05 C/IS</b>	A Collaborative Portal for Numerical Relativity	Louisiana State University And A&M College - Baton Rouge (Center for Computation and Technology);	Peter Diener; Ian Kelley;	<b>1</b>	<b>\$ 49,906</b>
				<b>2</b>	<b>\$ 50,601</b>
				<b>3</b>	<b>\$ 52,090</b>
				<b>Total</b>	<b>\$ 152,597</b>
				Proposal is a <b>New Request</b>	
<b>020A-05 BS</b>	Outer Membrane Biogenesis in Gram Negative Bacteria	Louisiana State University And A&M College - Baton Rouge (Biological Sciences);	William T. Doerrler;	<b>1</b>	<b>\$ 41,210</b>
				<b>2</b>	<b>\$ 75,651</b>
				<b>3</b>	<b>\$ 75,651</b>
				<b>Total</b>	<b>\$ 192,512</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>021A-05 C/IS</b>	QoS and Secure Routing Protocol in Heterogeneous Sensor and Actor Networks	Louisiana State University And A&M College - Baton Rouge (Computer Science);	Arjan Durrezi;	1 2 .	\$ 55,229 \$ 42,364
				<b>Total</b>	<b>\$ 97,593</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>022A-05 EAR</b>	Geomicrobiology of the "Bad-Water" Transition Zone of the Edwards Aquifer, Central Texas: Geological and Ecological Implications of the Chemoautotrophically-Based Ecosystem	Louisiana State University And A&M College - Baton Rouge (Geology and Geophysics);	Annette S. Engel;	1 2 .	\$ 42,699 \$ 40,363
				<b>Total</b>	<b>\$ 83,062</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>023A-05 BS</b>	Interactions of Cytokines with Renin-Angiotensin System in Heart Failure	Louisiana State University And A&M College - Baton Rouge (Comparative Biomedical Sciences);	Joseph Francis;	1 2 .	\$ 75,000 \$ 75,000
				<b>Total</b>	<b>\$ 150,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>024A-05 CHE</b>	Nanoscale Engineering of Surfaces of Biosensors and Biochips for Development of Highly Sensitive Protein Assays	Louisiana State University And A&M College - Baton Rouge (Chemistry);	Jayne C. Garno;	1	\$ 40,000
				2	\$ 40,000
				3	\$ 40,000
				.	
				<b>Total</b>	<b>\$ 120,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>025A-05 ENG B</b>	Analysis of Combustion Rate Coupling for Micro and Nano-Coated Granular Energetic Solids	Louisiana State University And A&M College - Baton Rouge (Mechanical Engineering);	Keith A. Gonthier;	1	\$ 57,985
				2	\$ 54,735
				3	\$ 34,735
				.	
				<b>Total</b>	<b>\$ 147,455</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>026A-05 C/IS</b>	Spatial and Dynamic Range Enhancement of Image Sequences	Louisiana State University And A&M College - Baton Rouge (Electrical and Computer Engineering);	Bahadir K. Gunturk;	1	\$ 50,015
				2	\$ 49,864
				3	\$ 49,755
				.	
				<b>Total</b>	<b>\$ 149,634</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>027A-05 ENG B</b>	The Optimization of PEM Fuel Cell Flow Channel Design	Louisiana State University And A&M College - Baton Rouge (Mechanical Engineering);	Shengmin Guo;	<b>1</b>	<b>\$ 56,393</b>
				<b>2</b>	<b>\$ 42,433</b>
				<b>3</b>	<b>\$ 38,125</b>
				<b>Total</b>	<b>\$ 136,951</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>028A-05 ENG B</b>	Investigation of Medical Tasks for Future Space Missions	Louisiana State University And A&M College - Baton Rouge (Industrial and Manufacturing Systems Engineering);	Craig M. Harvey; Fereydoun Aghazadeh;	<b>1</b>	<b>\$ 34,241</b>
				<b>2</b>	<b>\$ 35,269</b>
				<b>Total</b>	<b>\$ 69,510</b>
				Proposal is a <b>New Request</b>	
<b>029A-05 EAR</b>	Microbial Community and Biogeochemical Processes of Bottom Sediment in Hypoxic and Anoxic Zones in the Northern Gulf of Mexico	Louisiana State University And A&M College - Baton Rouge (Environmental Studies);	Aixin Hou; Frederick A. Rainey; Ralph J. Portier; Ronald D. DeLaune;	<b>1</b>	<b>\$ 67,816</b>
				<b>2</b>	<b>\$ 65,856</b>
				<b>3</b>	<b>\$ 55,872</b>
				<b>Total</b>	<b>\$ 189,544</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>030A-05 ENG B</b>	Self-Assembled Oxide Nanostructures	Louisiana State University And A&M College - Baton Rouge (Mechanical Engineering);	Jiechao Jiang;	1	\$ 62,675
				2	\$ 58,074
				<b>Total</b>	<b>\$ 120,749</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>031A-05 ENG B</b>	Modeling and Optimization of Software Testing Process with Optimal Stopping Approach	Louisiana State University And A&M College - Baton Rouge (Industrial Engineering);	Xiaoyue Jiang; Gerald Knapp;	1	\$ 34,783
				2	\$ 26,394
				3	\$ 26,765
<b>Total</b>	<b>\$ 87,942</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>032A-05 C/IS</b>	Role of Users' Domain Knowledge in Designing and Evaluating Information Retrieval Systems	Louisiana State University And A&M College - Baton Rouge (School of Library and Information Science);	Boryung Ju; Lisl Zach;	1	\$ 65,905
				2	\$ 64,391
				3	\$ 65,408
<b>Total</b>	<b>\$ 195,704</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>033A-05 BS</b>	High-Throughput Analysis of Nuclear Protein-Protein Interactions in Living Cells	Louisiana State University And A&M College - Baton Rouge (Biological Sciences);	Naohiro Kato;	1	\$ 72,000
				2	\$ 41,000
				3	\$ 37,000
				<b>Total</b>	<b>\$ 150,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>034A-05 ENG B</b>	Magnetic Modulation of Permeability: Engineering of Nanocapsules for Controlled Release	Louisiana State University And A&M College - Baton Rouge (CAMD);	Challa S. Kumar;	1	\$ 90,000
				2	\$ 90,000
				.	
				<b>Total</b>	<b>\$ 180,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>035A-05 BS</b>	Molecular Characterization of Structure/Function Relationships of PFK-2 Tissue Isoforms	Louisiana State University And A&M College - Baton Rouge (Biological Sciences);	Yong -Hwan Lee; Song -Gun Kim;	1	\$ 82,239
				2	\$ 68,189
				3	\$ 49,548
				<b>Total</b>	<b>\$ 199,976</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>036A-05 C/IS</b>	Modeling Geographic Profiles of Serial Offenders	Louisiana State University And A&M College - Baton Rouge (Geography and Anthropology);	Michael Leitner; Josh Kent;	<b>1</b>	<b>\$ 67,083</b>
				<b>2</b>	<b>\$ 58,848</b>
				<b>Total</b>	<b>\$ 125,931</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>037A-05 ENG B</b>	Advanced Steel Grid Stiffened FRP Tube-Encased Concrete Beam - Columns	Louisiana State University And A&M College - Baton Rouge (Mechanical Engineering);	Guoqiang Li;	<b>1</b>	<b>\$ 45,000</b>
				<b>2</b>	<b>\$ 40,000</b>
				<b>3</b>	<b>\$ 35,000</b>
<b>Total</b>	<b>\$ 120,000</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>038A-05 ENG B</b>	Thermal Stability Study of Electroplated Nanocrystalline Nickel Alloys for Use in High Temperature MEMS	Louisiana State University And A&M College - Baton Rouge (CAMD);	Kun Lian;	<b>1</b>	<b>\$ 37,788</b>
				<b>2</b>	<b>\$ 42,178</b>
				<b>3</b>	<b>\$ 39,736</b>
<b>Total</b>	<b>\$ 119,702</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>039A-05 BS</b>	Tick Response to Atypical Rickettsial Infections	Louisiana State University And A&M College - Baton Rouge (Pathobiological Sciences);	Kevin R. Macaluso;	<b>1</b>	<b>\$ 61,115</b>
				<b>2</b>	<b>\$ 64,233</b>
				<b>3</b>	<b>\$ 67,850</b>
				<b>Total</b>	<b>\$ 193,198</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>040A-05 ENG B</b>	Bezier Surfaces for Metamodeling of Simulation Output	Louisiana State University And A&M College - Baton Rouge (Industrial and Manufacturing Systems Engineering);	Charles D. McAllister;	<b>1</b>	<b>\$ 44,659</b>
				<b>2</b>	<b>\$ 39,896</b>
				<b>Total</b>	<b>\$ 84,555</b>
				Proposal is a <b>New Request</b>	
<b>041A-05 EAR</b>	Dynamic Downscaling of East African Hydroclimatic Changes Associated with Increased CO2	Louisiana State University And A&M College - Baton Rouge (Geography and Anthropology);	Maurice J. McHugh;	<b>1</b>	<b>\$ 58,023</b>
				<b>2</b>	<b>\$ 44,701</b>
				<b>3</b>	<b>\$ 43,304</b>
				<b>Total</b>	<b>\$ 146,028</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>042A-05 ENG B</b>	Control of Gene Function with Light Using Photoactivatable DNA	Louisiana State University And A&M College - Baton Rouge (Biological & Agricultural Engineering);	W. Todd Monroe;	<b>1</b>	<b>\$ 62,385</b>
				<b>2</b>	<b>\$ 62,115</b>
				<b>3</b>	<b>\$ 61,870</b>
				.	
				<b>Total</b>	<b>\$ 186,370</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>043A-05 ENG B</b>	Computation Nanoscale Material Modelling of Deformation/Damage of MEMS	Louisiana State University And A&M College - Baton Rouge (Civil and Environmental Engineering);	Suresh Moorthy;	<b>1</b>	<b>\$ 51,141</b>
				<b>2</b>	<b>\$ 49,891</b>
				<b>3</b>	<b>\$ 31,141</b>
				.	
				<b>Total</b>	<b>\$ 132,173</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>044A-05 CHE</b>	Novel Supramolecular Approach to Organic Photovoltaics: Study of Fundamental Principles and Molecular Design	Louisiana State University And A&M College - Baton Rouge (Chemistry);	Evgueni E. Nesterov;	<b>1</b>	<b>\$ 44,200</b>
				<b>2</b>	<b>\$ 44,200</b>
				<b>3</b>	<b>\$ 44,200</b>
				.	
				<b>Total</b>	<b>\$ 132,600</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>045A-05 HEA</b>	Development of a Peptide Vaccine for <i>Vibrio vulnificus</i>	Louisiana State University And A&M College - Baton Rouge (Pathobiological Sciences);	Kathy L. O'Reilly;	1	\$ 44,995
				2	\$ 44,109
				<b>Total</b>	<b>\$ 89,104</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>046A-05 C/IS</b>	A Design of Energy Efficient and Reliable Transport Protocols to Deliver Information in Wireless Sensor and Actor Networks	Louisiana State University And A&M College - Baton Rouge (Computer Science);	Seung-Jong Park;	1	\$ 57,415
				2	\$ 43,209
				3	\$ 41,209
			<b>Total</b>	<b>\$ 141,833</b>	
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>047A-05 HEA</b>	Localization and Pharmacological Manipulation of the Transient Receptor Channel, Vanilloid Subfamily Member 1 (TRPV1) Receptor in Horses: Exploration of a Novel Pain Management Strategy for Orthopedic Disease	Louisiana State University And A&M College - Baton Rouge (Veterinary Clinical Sciences);	Glenn R. Pettifer; Ashley M. Stokes; Claudio C. Natalini; Sharon R. Chirgwin;	1	\$ 81,998
				2	\$ 57,954
				3	\$ 37,342
			<b>Total</b>	<b>\$ 177,294</b>	
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>048A-05 BS</b>	Trafficking and Functions of Liver X Receptors a and B	Louisiana State University And A&M College - Baton Rouge (Biological Sciences);	Kirsten Prufer;	1	\$ 68,844
				2	\$ 66,033
				3	\$ 64,253
				<b>Total</b>	<b>\$ 199,130</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>049A-05 HEA</b>	The Role of the Urokinase Receptor in Prostate Cancer Progression	Louisiana State University And A&M College - Baton Rouge (Comparative Biomedical Sciences);	Inder Sehgal;	1	\$ 73,339
				2	\$ 71,175
				<b>Total</b>	<b>\$ 144,514</b>
				Proposal is a <b>New Request</b>	
<b>050A-05 BS</b>	A Molecular Assessment of the Role of Dispersal in the Metacommunity Dynamics of Subtropical Bat Assemblages	Louisiana State University And A&M College - Baton Rouge (Biological Sciences);	Richard D. Stevens;	1	\$ 108,390
				2	\$ 90,855
				<b>Total</b>	<b>\$ 199,245</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>051A-05 HEA</b>	Development and Validation of Microarray for Integration into a Multidisciplinary Approach to Equine Laminitis	Louisiana State University And A&M College - Baton Rouge (Veterinary Clinical Sciences);	Ashley M. Stokes; Leslie McLaughlin; Rustin M. Moore; Sharon R. Chirgwin;	<b>1</b>	<b>\$ 66,458</b>
				<b>2</b>	<b>\$ 102,339</b>
				<b>3</b>	<b>\$ 28,127</b>
				<b>Total</b>	<b>\$ 196,924</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>052A-05 BS</b>	Nicotinic Acetylcholine Receptors in Zebrafish	Louisiana State University And A&M College - Baton Rouge (Biological Sciences);	Kurt R. Svoboda;	<b>1</b>	<b>\$ 71,461</b>
				<b>2</b>	<b>\$ 63,936</b>
				<b>3</b>	<b>\$ 64,356</b>
				<b>Total</b>	<b>\$ 199,753</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>053A-05 C/IS</b>	Scaling Improvements for the Cactus-Carpet Parallel Mesh-Refinement and Multipatch Frameworks	Louisiana State University And A&M College - Baton Rouge (Center for Computation Technology);	Manuel Tiglio; Tom Goodale;	<b>1</b>	<b>\$ 40,776</b>
				<b>2</b>	<b>\$ 42,168</b>
				<b>3</b>	<b>\$ 43,614</b>
				<b>Total</b>	<b>\$ 126,558</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>054A-05 EAR</b>	Development of a Generalized Parameterization Method Under the Geostatistical Framework	Louisiana State University And A&M College - Baton Rouge (Civil and Environmental Engineering);	Frank T. Tsai;	1	\$ 36,043
				2	\$ 33,543
				3	\$ 28,395
				.	
				<b>Total</b>	<b>\$ 97,981</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>055A-05 ENG B</b>	Controllable Synthesis of Carbon Nanotube for Device Applications	Louisiana State University And A&M College - Baton Rouge (Electrical and Computer Engineering);	Bingqing Wei;	1	\$ 52,209
				2	\$ 49,355
				3	\$ 48,535
				.	
				<b>Total</b>	<b>\$ 150,099</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>056A-05 EAR</b>	Effect of Large Scale Surface Water Diversion on Wetland Biogeochemical Cycling and Water Quality	Louisiana State University And A&M College - Baton Rouge (Oceanography and Coastal Sciences, School of the Coast & Environment);	John R. White; Ronald DeLaune;	1	\$ 80,453
				2	\$ 70,179
				3	\$ 21,203
				.	
				<b>Total</b>	<b>\$ 171,835</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>057A-05 ENG B</b>	Novel Automatic Blind Signal Processing Techniques for Ultrasonic Non-Destructive Testing	Louisiana State University And A&M College - Baton Rouge (Electrical and Computer Engineering);	Hsiao-Chun Wu;	1	\$ 40,816
				2	\$ 42,060
				3	\$ 43,436
				<b>Total</b>	<b>\$ 126,312</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>058A-05 BS</b>	Role of the Transcriptional Repressor Protein, IA-1 in Small Cell Lung Cancer Phenotype	Louisiana State University Health Sciences Center - New Orleans (Pediatrics and Biochemistry and Molecular Biology);	Mary B. Breslin;	1	\$ 61,014
				2	\$ 62,064
				3	\$ 63,115
				<b>Total</b>	<b>\$ 186,193</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>059A-05 BS</b>	A Genomics Based Approach to Define the Effects of Ethanol Intoxication on Pulmonary Host Defenses	Louisiana State University Health Sciences Center - New Orleans (Section of Pulmonary and Critical Care Medicine);	Kyle I. Happel; Judd E. Shellito; Steve Nelson;	1	\$ 59,852
				2	\$ 60,274
				3	\$ 60,655
				<b>Total</b>	<b>\$ 180,781</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>060A-05 BS</b>	Xenopus Bicaudal-C a Model for Polycystic Kidney Disease	Louisiana State University Health Sciences Center - New Orleans (Cell Biology and Anatomy);	Oliver Wessely; Richard R. Mize;	<b>1</b>	<b>\$ 65,895</b>
				<b>2</b>	<b>\$ 66,641</b>
				<b>3</b>	<b>\$ 67,461</b>
				.	
				<b>Total</b>	<b>\$ 199,997</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>061A-05 BS</b>	Chemopreventive Action of Retinoic Acid in Skin	Louisiana State University Health Sciences Center - Shreveport (Biochemistry and Molecular Biology);	John L. Clifford; Marjan Trutschl;	<b>1</b>	<b>\$ 55,000</b>
				<b>2</b>	<b>\$ 55,000</b>
				<b>3</b>	<b>\$ 55,000</b>
				.	
				<b>Total</b>	<b>\$ 165,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>062A-05 BS</b>	Delivery of a GDNF Gene Via Bone Marrow Derived Hematopoietic Stem Cells Infected with Tetracycline-Regulated Lentiviral Vectors in a Rat Model of Parkinson's Disease	Louisiana State University Health Sciences Center - Shreveport (Cellular Biology and Anatomy);	Wei-Ming Duan; Yuanli Zhao;	<b>1</b>	<b>\$ 70,000</b>
				<b>2</b>	<b>\$ 70,000</b>
				<b>3</b>	<b>\$ 60,000</b>
				.	
				<b>Total</b>	<b>\$ 200,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>063A-05 HEA</b>	Delivery of Parathyroid Hormone by Chitosan Nanoparticles to Treat Osteoporosis	Louisiana State University Health Sciences Center - Shreveport (Orthopaedic Surgery);	Debi P. Mukherjee; Alan Ogden; Dollie Smith; Errin Robinson; James Day;	<b>1</b>	<b>\$ 33,100</b>
				<b>2</b>	<b>\$ 31,900</b>
				<b>3</b>	<b>\$ 30,000</b>
				<b>Total</b>	<b>\$ 95,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>Yes</b>		
<b>064A-05 BS</b>	Identification of Substrates for the Yeast Yck2 Protein Kinase	Louisiana State University Health Sciences Center - Shreveport (Biochemistry); Centenary College;	Lucy C. Robinson; Cynthia J. Brame;	<b>1</b>	<b>\$ 68,750</b>
				<b>2</b>	<b>\$ 67,620</b>
				<b>Total</b>	<b>\$ 136,370</b>
				Proposal is a <b>New Request</b>	
<b>065A-05 BS</b>	Prenatal Exposure to Prescriptive Opiates: Effects on the Health of Neonatal Rats	Louisiana State University Health Sciences Center - Shreveport (Pharmacology and Therapeutics);	Lisa M. Schrott;	<b>1</b>	<b>\$ 39,500</b>
				<b>2</b>	<b>\$ 41,000</b>
				<b>3</b>	<b>\$ 42,000</b>
				<b>Total</b>	<b>\$ 122,500</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>066A-05 BS</b>	Using RNA Interference to Silence Hematopoietic Transcription Factor PU.1	Louisiana State University Health Sciences Center - Shreveport (Feist Weiller Cancer Center);	Amanda W. Sun;	<b>1</b>	<b>\$ 60,000</b>
				<b>2</b>	<b>\$ 59,800</b>
				<b>3</b>	<b>\$ 60,600</b>
				<b>Total</b>	<b>\$ 180,400</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>067A-05 BS</b>	Novel In Vitro Model of Recombinant Alphavirus-Mediated Gene Therapy of Leukemia and Lymphoma	Louisiana State University Health Sciences Center - Shreveport (Medicine);	Francesco Turturro; Katherine D. Ryman;	<b>1</b>	<b>\$ 94,500</b>
				<b>2</b>	<b>\$ 87,500</b>
				<b>Total</b>	<b>\$ 182,000</b>
				Proposal is a <b>New Request</b>	
<b>068A-05 BS</b>	Involvement of 14-3-3 Proteins in Parkinson's Disease	Louisiana State University Health Sciences Center - Shreveport (Biochemistry and Molecular Biology);	Stephan N. Witt;	<b>1</b>	<b>\$ 60,000</b>
				<b>2</b>	<b>\$ 60,000</b>
				<b>Total</b>	<b>\$ 120,000</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>069A-05 BS</b>	Augmenting T Cell-Based Anti-Tumor Immune Responses and Tumor Immunogenicity	Louisiana State University Health Sciences Center - Shreveport (Cellular Biology and Anatomy);	Qian-Jin Zhang;	1	\$ 68,000
				2	\$ 66,000
				3	\$ 66,000
				.	
				<b>Total</b>	<b>\$ 200,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>070A-05 HEA</b>	Mobilization of Endogenous Stem Cells for Repairing Ischemic Brain	Louisiana State University Health Sciences Center - Shreveport (Neurology);	Li-Ru Zhao;	1	\$ 70,000
				2	\$ 80,000
				3	\$ 50,000
				.	
				<b>Total</b>	<b>\$ 200,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>Yes</b>		
<b>071A-05 HEA</b>	An fMRI Investigation of the Neural Substrate of Visceral Sensation and Perception	Louisiana State University And A&M College - Shreveport (Psychology);	Gary E. Jones; Michael F. Glabus;	1	\$ 38,812
				2	\$ 41,062
				3	\$ 33,812
				.	
				<b>Total</b>	<b>\$ 113,686</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>072A-05 CHE</b>	Synthesis of Novel Vitamin E Analogues with Potent Anti-Cancer Activity	Louisiana State University And A&M College - Shreveport (Chemistry and Physics);	Elahe Mahdavian; Brian A. Salvatore;	<b>1</b>	<b>\$ 38,858</b>
				<b>2</b>	<b>\$ 36,858</b>
				<b>3</b>	<b>\$ 35,858</b>
				<b>Total</b>	<b>\$ 111,574</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>073A-05 CHE</b>	Novel Template-Based Synthetic Ion Channels for Sensors	Louisiana State University And A&M College - Shreveport (Chemistry and Physics);	Brian A. Salvatore; Elahe Mahdavian;	<b>1</b>	<b>\$ 59,806</b>
				<b>2</b>	<b>\$ 51,931</b>
				<b>Total</b>	<b>\$ 111,737</b>
				Proposal is a <b>New Request</b>	
<b>074A-05 BS</b>	The Regulation of Ion Transport by Protein Phosphatase Type 1 in Saccharomyces cerevisiae	Louisiana State University And A&M College - Shreveport (Biological Sciences);	Tara Williams-Hart;	<b>1</b>	<b>\$ 25,000</b>
				<b>2</b>	<b>\$ 25,000</b>
				<b>3</b>	<b>\$ 25,000</b>
				<b>Total</b>	<b>\$ 75,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>075A-05</b>	Functional Brain Mapping	Louisiana Tech University	Walter G. Besio; Charles J.	<b>1</b>	<b>\$ 44,106</b>
<b>ENG B</b>	Utilizing a Unique High-Resolution Laplacian EEG System	(Biomedical Engineering);	Robinson; Mesut Sahin;	<b>2</b>	<b>\$ 40,106</b>
				<b>3</b>	<b>\$ 39,106</b>
				<b>Total</b>	<b>\$ 123,318</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>Yes</b>		
<b>076A-05</b>	Electrokinetic Nanoparticle	Louisiana Tech University	Henry E. Cardenas;	<b>1</b>	<b>\$ 38,685</b>
<b>ENG B</b>	Treatment for Corrosion Mitigation in Concrete	(Trenchless Technology Center);		<b>2</b>	<b>\$ 40,185</b>
				<b>Total</b>	<b>\$ 78,870</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>077A-05</b>	Developing a Comprehensive Web-	Louisiana Tech University	Ben Choi;	<b>1</b>	<b>\$ 38,017</b>
<b>C/IS</b>	Page Classification System	(Computer Science);		<b>2</b>	<b>\$ 38,017</b>
				<b>Total</b>	<b>\$ 76,034</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>078A-05 ENG B</b>	Engineered Dopant Local Atomic Structures in Complex Metal Hydrides	Louisiana Tech University (Institute for Micromanufacturing/Physics);	Tabbetha A. Dobbins;	<b>1</b>	<b>\$ 34,171</b>
				<b>2</b>	<b>\$ 33,860</b>
				<b>3</b>	<b>\$ 34,221</b>
				<b>Total</b>	<b>\$ 102,252</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>079A-05 C/IS</b>	Novel Gene Expression Mining Algorithms to Assist Medical Discovery	Louisiana Tech University (Computer Science); Louisiana State University Health Sciences Center - New Orleans;	Sumeet Dua; Hilary Thompson; James M. Hill;	<b>1</b>	<b>\$ 47,548</b>
				<b>2</b>	<b>\$ 42,052</b>
				<b>Total</b>	<b>\$ 89,600</b>
				Proposal is a <b>New Request</b>	
<b>080A-05 CHE</b>	A Microscale Sensor for Analysis of Glycated Hemoglobin	Louisiana Tech University (Institute for Micromanufacturing/Chemical Engineering);	Scott A. Gold;	<b>1</b>	<b>\$ 54,385</b>
				<b>2</b>	<b>\$ 46,136</b>
				<b>3</b>	<b>\$ 46,605</b>
				<b>Total</b>	<b>\$ 147,126</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>081A-05 ENG B</b>	Analysis of Postural Characteristics in the At-Risk Population of Diabetes for Intervening Work-Related Injuries	Louisiana Tech University (Industrial Engineering);	B.J. Kim; Charles Robinson;	1	\$ 37,688
				2	\$ 37,688
				3	\$ 37,688
				.	
				<b>Total</b>	<b>\$ 113,064</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>082A-05 CHE</b>	Synthesis and Characterization of Nano-catalysts for Hydrogen Production	Louisiana Tech University (Institute for Micromanufacturing and Chemistry);	Debasish Kuila;	1	\$ 42,238
				2	\$ 44,148
				3	\$ 43,073
				.	
				<b>Total</b>	<b>\$ 129,459</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>083A-05 BS</b>	Linking Aboveground and Belowground Biological Processes: The Influence of Stand and Canopy Structure on Roots, Microbes, and Nutrient Cycling	Louisiana Tech University (Biological Sciences);	A. Joshua Leffler; Wes Colgan III;	1	\$ 70,063
				2	\$ 37,775
				3	\$ 38,350
				.	
				<b>Total</b>	<b>\$ 146,188</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>084A-05 ENG B</b>	An Innovative Thinning and Trimming Technology for Developing Silicon Nanowires: Fundamentals and One Application	Louisiana Tech University (Biomedical Engineering and Institute for Micromanufacturing);	Cheng Luo;	<b>1</b>	<b>\$ 48,730</b>
				<b>2</b>	<b>\$ 49,310</b>
				<b>Total</b>	<b>\$ 98,040</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>Yes</b>		
<b>085A-05 CHE</b>	Novel Carbon-Based Nanostructures for Hydrogen Storage: A Theoretical Approach	Louisiana Tech University (Institute for Micromanufacturing);	Daniela S. Mainardi;	<b>1</b>	<b>\$ 43,085</b>
				<b>2</b>	<b>\$ 40,836</b>
				<b>3</b>	<b>\$ 41,305</b>
<b>Total</b>	<b>\$ 125,226</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>086A-05 HEA</b>	The Effect of Skill Level and Training on Dynamic Postural Stability in Healthy and Diabetic Populations	Louisiana Tech University (Health and Exercise Science);	Wendy Miletello; Charles Robinson;	<b>1</b>	<b>\$ 27,958</b>
				<b>2</b>	<b>\$ 45,261</b>
				<b>Total</b>	<b>\$ 73,219</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>087A-05 ENG B</b>	Design and Fabrication of a MEMS Vibrational Energy Scavenging Device Targeting Low Frequency Vibrational Sources	Louisiana Tech University (Institute for Micromanufacturing and MEEN);	Chad B. O'Neal;	1	\$ 40,935
				2	\$ 42,036
				3	\$ 42,455
				.	
				<b>Total</b>	<b>\$ 125,426</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>088A-05 CHE</b>	Layer by Layer Nano Self-Assembly for Enzyme Immobilization	Louisiana Tech University (Chemical Engineering);	James D. Palmer;	1	\$ 37,666
				2	\$ 38,093
				3	\$ 38,536
				.	
				<b>Total</b>	<b>\$ 114,295</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>089A-05 C/IS</b>	Novel Self-learning Sensors and Wireless Sensor Networks	Louisiana Tech University (Institute for Micromanufacturing/EE);	Rastko R. Selmic;	1	\$ 40,773
				2	\$ 34,773
				3	\$ 33,773
				.	
				<b>Total</b>	<b>\$ 109,319</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>090A-05 ENG B</b>	Correlating Materials Surface Properties with Endothelial Cell Micromechanics for the Rational Design of Artificial Biomaterials	Louisiana Tech University (Institute for Micromanufacturing/Biomedical Engineering);	Ping -Fai (Sidney) Sit;	<b>1</b>	<b>\$ 62,325</b>
				<b>2</b>	<b>\$ 48,075</b>
				<b>3</b>	<b>\$ 48,075</b>
				.	
				<b>Total</b>	<b>\$ 158,475</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>091A-05 ENG B</b>	Polymer Quantum Well Technology by Layer-by-layer Nano-assembly	Louisiana Tech University (Institute for Micromanufacturing/Electrical Engineering);	Yi Su; Yuri Lvov;	<b>1</b>	<b>\$ 68,162</b>
				<b>2</b>	<b>\$ 55,630</b>
				.	
				<b>Total</b>	<b>\$ 123,792</b>
				Proposal is a <b>New Request</b>	
<b>092A-05 BS</b>	Preparation for an Acanthamoeba Genome Sequencing Project	Louisiana Tech University (Biological Sciences);	Wendy C. Trzyna;	<b>1</b>	<b>\$ 72,611</b>
				<b>2</b>	<b>\$ 57,744</b>
				<b>3</b>	<b>\$ 40,338</b>
				.	
				<b>Total</b>	<b>\$ 170,693</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>093A-05 ENG B</b>	Shear Band Localization: Mathematical Modeling, Numerical Implementation and Experimental Validation	Louisiana Tech University (Trenchless Technology Center (Civil Engineering));	Xingran (Jay) Wang; David Hall; Raymond L. Sterling;	<b>1</b>	<b>\$ 35,616</b>
				<b>2</b>	<b>\$ 39,616</b>
				<b>3</b>	<b>\$ 40,616</b>
				<b>Total</b>	<b>\$ 115,848</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>094A-05 CHE</b>	Formulation of Winsor Type Microemulsion Systems Utilizing Linker Concepts	Louisiana Tech University (Chemical Engineering);	Laura L. Wesson;	<b>1</b>	<b>\$ 34,951</b>
				<b>2</b>	<b>\$ 34,370</b>
				<b>3</b>	<b>\$ 34,805</b>
				<b>Total</b>	<b>\$ 104,126</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>095A-05 ENG B</b>	Micro- and Nanotechnologies for Neutron Detectors and Sources	Louisiana Tech University (Institute for Micromanufacturing);	Chester Wilson;	<b>1</b>	<b>\$ 64,180</b>
				<b>2</b>	<b>\$ 45,151</b>
				<b>3</b>	<b>\$ 40,543</b>
				<b>Total</b>	<b>\$ 149,874</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>096A-05 BS</b>	Proximate and Ultimate Causes of Life-History Variation in Danio rerio	Loyola University New Orleans (Biological Sciences);	J. Michael Guill;	1	\$ 19,587
				2	\$ 12,272
				3	\$ 12,490
				.	
				<b>Total</b>	<b>\$ 44,349</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>097A-05 BS</b>	A Study of Nonequilibrium Properties of Voltage-Gated Ion Channels	Loyola University New Orleans (Physics);	Armin Kargol;	1	\$ 20,684
				2	\$ 18,275
				3	\$ 18,626
				.	
				<b>Total</b>	<b>\$ 57,585</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>098A-05 BS</b>	Characterization of the Innate Immune System of the American Alligator (Alligator mississippiensis)	McNeese State University (Chemistry);	Mark E. Merchant; Connie Kersten; Ruth Elsey;	1	\$ 39,750
				2	\$ 36,250
				3	\$ 31,250
				.	
				<b>Total</b>	<b>\$ 107,250</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>099A-05 BS</b>	Effects of Molt-Inhibiting Organochlorine Compounds on Epidermal Expression of N- Acetylglucosaminidase Gene in the Fiddler Crab, Uca pugilator, In Vivo and In Vitro	Nicholls State University (Biological Sciences);	Enmin Zou;	<b>1</b> <b>2</b> <b>3</b> .	<b>\$ 45,113</b> <b>\$ 42,613</b> <b>\$ 42,613</b> <hr/> <b>\$ 130,339</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>100A-05 BS</b>	Enrichment Techniques for African Trypanosomes	Northwestern State University (Chemistry and Physics);	Darrell R. Fry;	<b>1</b> <b>2</b> <b>3</b> .	<b>\$ 61,234</b> <b>\$ 39,304</b> <b>\$ 39,304</b> <hr/> <b>\$ 139,842</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>101A-05 CHE</b>	Synthetic Strategies Using Oxime Ethers	Southeastern Louisiana University (Chemistry and Physics);	Debra D. Dolliver;	<b>1</b> <b>2</b> <b>3</b> .	<b>\$ 39,299</b> <b>\$ 28,835</b> <b>\$ 29,498</b> <hr/> <b>\$ 97,632</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>102A-05 HEA</b>	Knee Joint Laxity and ACL Injuries: Measuring the Effects of Hormonal Fluctuations, Fatigue, and Psychosocial Factors on Knee Joint Characteristics (Knee Laxity, Muscular Coordination, Muscular Strength and Endurance)	Southeastern Louisiana University (Kinesiology and Health Studies); Louisiana State University And A&M College - Baton Rouge;	Jennifer J. Jeansonne; Daniel B. Hollander; Li Li; Robert R. Kraemer;	<b>1</b>	<b>\$ 131,905</b>
<b>2</b>				<b>\$ 101,501</b>	
<b>3</b>				<b>\$ 49,706</b>	
<b>Total</b>				<b>\$ 283,112</b>	
Proposal is a <b>New Request</b>				Does this proposal contain confidential or proprietary information? <b>No</b>	
<b>103A-05 ENG B</b>	Lithium and Hydrogen Diffusion in Carbon Nanotubes and Mesoporous (Shell) Carbon for Lithium Batteries and Hydrogen Storage	Southeastern Louisiana University (Chemistry and Physics);	Yuriy Malozovsky;	<b>1</b>	<b>\$ 61,312</b>
<b>2</b>				<b>\$ 41,996</b>	
<b>3</b>				<b>\$ 28,991</b>	
<b>Total</b>				<b>\$ 132,299</b>	
Proposal is a <b>New Request</b>				Does this proposal contain confidential or proprietary information? <b>No</b>	
<b>104A-05 BS</b>	Role of Transmembrane Segment 6 in Slow Inactivation of Voltage-gated Na <sup>+</sup> Channels	Southeastern Louisiana University (Biological Sciences);	John P. O'Reilly;	<b>1</b>	<b>\$ 47,830</b>
<b>2</b>				<b>\$ 45,479</b>	
<b>3</b>				<b>\$ 46,152</b>	
<b>Total</b>				<b>\$ 139,461</b>	
Proposal is a <b>New Request</b>				Does this proposal contain confidential or proprietary information? <b>No</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>105A-05 CHE</b>	West Nile Virus Replication: RNA Polymerase Cloning, Mechanism, and Inhibition	Southeastern Louisiana University (Chemistry and Physics);	Jeffrey Temple; Michael B. Doughty;	1	\$ 38,475
				2	\$ 37,870
				3	\$ 36,791
				.	
				<b>Total</b>	<b>\$ 113,136</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>106A-05 BS</b>	Molecular Aspects of the Endocrine Stress Response of the Freshwater Turtle Trachemys scripta	Southeastern Louisiana University (Biological Sciences);	Roldan A. Valverde;	1	\$ 74,430
				2	\$ 59,290
				3	\$ 58,299
				.	
				<b>Total</b>	<b>\$ 192,019</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>107A-05 CHE</b>	Mechanism of Ethylbenzene Dehydrogenation over an Iron Oxide Catalyst System	Southeastern Louisiana University (Chemistry and Physics);	Sarah L. Weaver;	1	\$ 30,139
				2	\$ 30,322
				3	\$ 31,035
				.	
				<b>Total</b>	<b>\$ 91,496</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>108A-05 BS</b>	Enzymatic Uncaging of DMNPE-Caged Adenosine 5'-Triphosphate	Southern University and A&M College at Baton Rouge (Chemistry);	Michelle F. Claville;	1	\$ 60,000
				2	\$ 40,000
				3	\$ 40,000
				.	
				<b>Total</b>	<b>\$ 140,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>109A-05 ENG B</b>	Smart Machine Tools: Machine Accuracy, Maintenance, and Reliability	Southern University and A&M College at Baton Rouge (Mechanical Engineering);	Ghanashyam Joshi;	1	\$ 60,000
				2	\$ 60,000
				3	\$ 60,000
				.	
				<b>Total</b>	<b>\$ 180,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>110A-05 CHE</b>	Acyclic Protegrin Analogues as Antimicrobial Agents	Southern University and A&M College at Baton Rouge (Chemistry);	Dewayne Logan;	1	\$ 26,000
				2	\$ 24,000
				3	\$ 20,000
				.	
				<b>Total</b>	<b>\$ 70,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>111A-05 C/IS</b>	A Multi-Method Empirical Investigation of Information Technology Transfer to Least Developed Countries: A Focus on Telemedicine in Sub-Saharan Africa	Southern University and A&M College at Baton Rouge (E-Business);	Victor W. Mbarika;	1	\$ 66,048
				2	\$ 62,586
				3	\$ 43,280
				.	
				<b>Total</b>	<b>\$ 171,914</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>112A-05 BS</b>	Protective Role of Nutraceuticals Against Nitric Oxide Derived Oxidants, Environmental Pollutants, and Pharmaceuticals	Southern University and A&M College at Baton Rouge (Environmental Toxicology); Louisiana State University And A&M College - Baton Rouge;	Rao M. Uppu; Roy J. Martin;	1	\$ 66,375
				2	\$ 66,375
				3	\$ 66,375
				.	
				<b>Total</b>	<b>\$ 199,125</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>113A-05 EAR</b>	The Investigation of the Correlation between Exposure to Fine Particulate Matter Found in Baton Rouge Air and Adverse Health Effects in Humans	Southern University and A&M College at Baton Rouge (Chemistry and Environmental Toxicology);	Edwin H. Walker, Jr.;	1	\$ 52,278
				2	\$ 52,278
				3	\$ 52,278
				.	
				<b>Total</b>	<b>\$ 156,834</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>114A-05 ENG B</b>	Real Time Human-Machine Interface Development for Dynamic Performance Evaluation and Feedback Control on Micromachining of Electro-Mechanical Sensing Systems and Nano-Technology Application	Southern University and A&M College at Baton Rouge (Electrical Engineering);	Zhengmao Ye; Fred Lacy; Hamid R. Majlesein; Jiecai Luo; Pradeep K. Bhattacharya;	<b>1</b> <b>2</b> .	<b>\$ 80,000</b> <b>\$ 67,181</b>
				<b>Total</b>	<b>\$ 147,181</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>115A-05 EAR</b>	Phytoremediation of Lead Contaminated Soils	Southern University and A&M College at New Orleans (Biology);	Murty S. Kambhampati; William Belisle;	<b>1</b> <b>2</b> <b>3</b> .	<b>\$ 32,335</b> <b>\$ 25,335</b> <b>\$ 23,335</b>
				<b>Total</b>	<b>\$ 81,005</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>116A-05 ENG B</b>	A Multi-Scale Toolkit for Modeling Polymers, Polymer Blends, and the Assembly of Block Copolymers	Tulane University (Chemical and Biomolecular Engineering);	Henry S. Ashbaugh;	<b>1</b> <b>2</b> <b>3</b> .	<b>\$ 41,979</b> <b>\$ 42,356</b> <b>\$ 42,747</b>
				<b>Total</b>	<b>\$ 127,082</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>117A-05 CHE</b>	Collective Phenomena in the Interaction Induced Irreversible Dynamics of a Soft Matter	Tulane University (Chemistry);	Alexander L. Burin;	1	\$ 38,991
				2	\$ 39,261
				3	\$ 39,539
				.	
				<b>Total</b>	<b>\$ 117,791</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>118A-05 BS</b>	Regional Scaling of Carbon Cycle Variability in the Pearl River Wildlife Management Area	Tulane University (Ecology and Evolutionary Biology);	Jeffrey Q. Chambers;	1	\$ 51,844
				2	\$ 36,661
				3	\$ 37,460
				.	
				<b>Total</b>	<b>\$ 125,965</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>119A-05 HEA</b>	Sex Differences in Language Fluency, Auditory Processing, and Anatomy of the Planum Temporale	Tulane University (Psychology); Tulane University Health Sciences Center;	David M. Corey; Anne L. Foundas;	1	\$ 41,386
				2	\$ 47,459
				3	\$ 48,726
				.	
				<b>Total</b>	<b>\$ 137,571</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>120A-05 CHE</b>	Removal of Thiophenes from Petroleum Feedstocks by Reversible Binding to Transition Metal Complexes	Tulane University (Chemistry);	James P. Donahue;	<b>1</b>	<b>\$ 47,033</b>
				<b>2</b>	<b>\$ 39,388</b>
				<b>3</b>	<b>\$ 34,041</b>
				<b>Total</b>	<b>\$ 120,462</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>121A-05 BS</b>	Cognitive Aging and Auditory Cortex Function	Tulane University (Psychology);	Edward Golob;	<b>1</b>	<b>\$ 42,913</b>
				<b>2</b>	<b>\$ 27,913</b>
				<b>Total</b>	<b>\$ 70,826</b>
				Proposal is a <b>New Request</b>	
<b>122A-05 ENG B</b>	Robust Trajectory Control of Flexible Robots Based on Distributed-Parameter Dynamic Models	Tulane University (Mechanical Engineering);	Ho-Hoon Lee;	<b>1</b>	<b>\$ 49,420</b>
				<b>2</b>	<b>\$ 51,020</b>
				<b>Total</b>	<b>\$ 100,440</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>123A-05 ENG B</b>	Development of Intelligent Self-tunable Laser Scanning Radar with Enhanced Detection Range and Sensitivity for Tracking Mobile Targets	Tulane University (Mechanical Engineering);	Guang Lu;	<b>1</b>	<b>\$ 47,271</b>
				<b>2</b>	<b>\$ 47,894</b>
				<b>3</b>	<b>\$ 48,535</b>
				<b>Total</b>	<b>\$ 143,700</b>
				Proposal is a <b>New Request</b>	
<b>124A-05 C/IS</b>	Design, Development, and Control of an Autonomous Underwater Vehicle-Manipulator System	Tulane University (Electrical Engineering and Computer Science);	Shunmugham R. Pandian;	<b>1</b>	<b>\$ 56,545</b>
				<b>2</b>	<b>\$ 54,733</b>
				<b>3</b>	<b>\$ 39,930</b>
				<b>Total</b>	<b>\$ 151,208</b>
				Proposal is a <b>New Request</b>	
<b>125A-05 CHE</b>	Correlated Motion in Biomolecules. Dual-Frequency 2D IR Spectroscopy	Tulane University (Chemistry);	Igor V. Rubtsov;	<b>1</b>	<b>\$ 56,783</b>
				<b>2</b>	<b>\$ 45,013</b>
				<b>3</b>	<b>\$ 27,916</b>
				<b>Total</b>	<b>\$ 129,712</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>126A-05 EAR</b>	A Model-Based Simulation of Piping in Sand Deposits of the Mississippi Riverbanks	Tulane University (Civil and Environmental Engineering);	Usama El Shamy;	<b>1</b>	<b>\$ 42,106</b>
				<b>2</b>	<b>\$ 41,061</b>
				<b>Total</b>	<b>\$ 83,167</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>127A-05 CHE</b>	Remediation of Volatile Organic Compounds Using High Voltage Discharge: Development Via Molecular Beam Experiments	Tulane University (Chemistry);	Mark Sulkes;	<b>1</b>	<b>\$ 73,698</b>
				<b>2</b>	<b>\$ 42,094</b>
				<b>3</b>	<b>\$ 43,100</b>
		<b>Total</b>	<b>\$ 158,892</b>		
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>128A-05 ENG B</b>	Fatigue Behavior of Nanostructured Metals	Tulane University (Mechanical Engineering);	T.A. Venkatesh;	<b>1</b>	<b>\$ 48,078</b>
				<b>2</b>	<b>\$ 43,160</b>
				<b>3</b>	<b>\$ 41,275</b>
		<b>Total</b>	<b>\$ 132,513</b>		
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>129A-05 HEA</b>	Spiroplasma Infection in TSE	Tulane University Health Sciences Center (Pathology and Laboratory Medicine);	Frank O. Bastian; Robert Garry; Srikanta Dash;	<b>1</b>	<b>\$ 55,424</b>
				<b>2</b>	<b>\$ 55,586</b>
				<b>Total</b>	<b>\$ 111,010</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>130A-05 BS</b>	Molecular Dynamics Simulations of Positioned Nucleosomes	Tulane University Health Sciences Center (Environmental Health Sciences);	Thomas C. Bishop;	<b>1</b>	<b>\$ 47,351</b>
				<b>2</b>	<b>\$ 46,283</b>
				<b>3</b>	<b>\$ 46,584</b>
<b>Total</b>	<b>\$ 140,218</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>131A-05 BS</b>	A Novel MAP Kinase Family in T. gondii	Tulane University Health Sciences Center (Medicine - Hematology/Medical Oncology);	Michael Brumlik; Tyler J. Curiel;	<b>1</b>	<b>\$ 62,606</b>
				<b>2</b>	<b>\$ 62,986</b>
				<b>3</b>	<b>\$ 63,375</b>
<b>Total</b>	<b>\$ 188,967</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>Yes</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>132A-05 BS</b>	Molecular Screening and Characterization of West Nile Virus Receptor(s) in the Mosquito Vector, Culex quinquefasciatus	Tulane University Health Sciences Center (Public Health and Tropical Medicine);	Young S. Hong;	1	\$ 68,278
				2	\$ 60,510
				3	\$ 61,431
				.	
				<b>Total</b>	<b>\$ 190,219</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>133A-05 BS</b>	Mechanisms of AIDS Neuropathogenesis	Tulane University Health Sciences Center (Comparative Pathology); Tulane Regional Primate Research Center;	Andrew G. MacLean;	1	\$ 52,525
				2	\$ 53,053
				3	\$ 37,860
				.	
				<b>Total</b>	<b>\$ 143,438</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>134A-05 HEA</b>	Adult Stem Cells in Lung Cancer Therapy	Tulane University Health Sciences Center (Pathology and Laboratory Medicine);	Gilbert F. Morris; Darwin J. Prockop; Deborah E. Sullivan; Jeff Spees;	1	\$ 65,908
				2	\$ 66,085
				3	\$ 66,267
				.	
				<b>Total</b>	<b>\$ 198,260</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>135A-05 HEA</b>	The Effect of Prenatal Nicotine Exposure on Anti-Apoptotic Process in Caudal Brainstem of PDGFR(+/-)Mice	Tulane University Health Sciences Center (Pediatrics);	Narong Simakajornboon; Piyawat Jirapongsuwan;	<b>1</b>	<b>\$ 80,668</b>
				<b>2</b>	<b>\$ 57,635</b>
				<b>3</b>	<b>\$ 58,870</b>
				.	
				<b>Total</b>	<b>\$ 197,173</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>136A-05 BS</b>	Functional Genomics and Evolution of Bioelectrogenesis in Neotropical Electric Fishes	University of Louisiana at Lafayette (Biology);	James Albert;	<b>1</b>	<b>\$ 60,856</b>
				<b>2</b>	<b>\$ 65,413</b>
				<b>3</b>	<b>\$ 48,981</b>
				.	
				<b>Total</b>	<b>\$ 175,250</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>137A-05 C/IS</b>	A Desktop-sized Virtual Environment System to Support Effective Whole-hand Interactions	University of Louisiana at Lafayette (Center for Advanced Computer Studies);	Christoph W. Borst;	<b>1</b>	<b>\$ 57,568</b>
				<b>2</b>	<b>\$ 54,607</b>
				<b>3</b>	<b>\$ 56,519</b>
				.	
				<b>Total</b>	<b>\$ 168,694</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>138A-05 ENG B</b>	Design of an Improved Manganin Bi-Directional Die Shoulder Sensor for Sheet Metal Forming	University of Louisiana at Lafayette (Mechanical Engineering);	Terrence L. Chambers; Gongtao Wang; William J. Emblom;	<b>1</b>	<b>\$ 61,788</b>
				<b>2</b>	<b>\$ 53,100</b>
				<b>3</b>	<b>\$ 31,751</b>
				<b>Total</b>	<b>\$ 146,639</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>139A-05 HEA</b>	Louisiana Fall Prevention Project	University of Louisiana at Lafayette (Kinesiology);	Claire M. Foret; Janice G. Weber;	<b>1</b>	<b>\$ 104,441</b>
				<b>Total</b>	<b>\$ 104,441</b>
				Proposal is a <b>New Request</b>	
<b>140A-05 BS</b>	The Wellness through Intergenerational Lifestyle Development Research (WILD-R) Project	University of Louisiana at Lafayette (School of Human Resources);	Rachel M. Fournet; Claire M. Foret; Janice G. Weber;	<b>1</b>	<b>\$ 94,642</b>
				<b>2</b>	<b>\$ 104,090</b>
				<b>Total</b>	<b>\$ 198,732</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>141A-05 HEA</b>	Preferences for Care Near the End of Life: Scale Validation in Hispanic Americans	University of Louisiana at Lafayette (Nursing);	Donna M. Gauthier; Leslie Bary; Soledad Smith;	1 2 .	\$ 51,843 \$ 14,106
				<b>Total</b>	<b>\$ 65,949</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>142A-05 EAR</b>	Uncertainty of Radar Rainfall Estimates and Implications for Hydrologic Flood Predictions	University of Louisiana at Lafayette (Civil Engineering);	Emad Habib; Ehab A. Meselhe;	1 2 3 .	\$ 47,106 \$ 30,202 \$ 25,821
				<b>Total</b>	<b>\$ 103,129</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>143A-05 ENG B</b>	Development and Application of Imaging and Micro-Mechanics Discrete Element Techniques for Determining the Asphalt Concrete Mechanistic Properties	University of Louisiana at Lafayette (Civil Engineering);	Mohammad J. Khattak;	1 2 .	\$ 71,722 \$ 64,414
				<b>Total</b>	<b>\$ 136,136</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>144A-05 C/IS</b>	Novel Methods for Reducing Noise in CMOS (Complementary Metal Oxide Semiconductor) Circuit Design	University of Louisiana at Lafayette (Center for Advanced Computer Studies);	Ashok Kumar; Magdy Bayoumi;	1	\$ 54,222
				2	\$ 54,222
				3	\$ 54,222
				<b>Total</b>	<b>\$ 162,666</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>145A-05 ENG B</b>	Polymer Thin Film Devices for DWDM and Integrated Optics	University of Louisiana at Lafayette (Electrical and Computer Engineering);	Mohammad R. Madani;	1	\$ 55,035
				2	\$ 44,635
				3	\$ 43,635
				<b>Total</b>	<b>\$ 143,305</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>146A-05 ENG B</b>	Characterizing and Simulation of Molecular Nanoelectronic Tri-State Memory for the Implementation of a Prototype	University of Louisiana at Lafayette (ITEC);	Gholam H. Massiha;	1	\$ 38,025
				2	\$ 32,955
				<b>Total</b>	<b>\$ 70,980</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>147A-05 CHE</b>	Cobalt(III) and Iron(III) Complexes of Triazole-Containing Carboxamido-N and Thiolato-S Donors. Synthetic Analogues of the Active Site in Nitrile Hydratases	University of Louisiana at Lafayette (Chemistry);	Salah S. Massoud;	1	\$ 52,371
				2	\$ 39,838
				3	\$ 39,989
				<b>Total</b>	<b>\$ 132,198</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>148A-05 ENG B</b>	Micro- and Molecular Deformation Behavior of a New Class of Materials: Polymer Nanocomposites	University of Louisiana at Lafayette (Chemical Engineering);	R. Devesh K. Misra;	1	\$ 100,837
				2	\$ 101,664
				.	
				<b>Total</b>	<b>\$ 202,501</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>149A-05 ENG B</b>	Photonic Crystal Structures: Modeling, Characterization, and the Applications in Optical Communication Systems	University of Louisiana at Lafayette (Electrical and Computer Engineering);	Zhongqi Pan;	1	\$ 56,332
				2	\$ 34,064
				3	\$ 33,381
				<b>Total</b>	<b>\$ 123,777</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>150A-05 BS</b>	Coupling of Silicate and Copper Nutrition in Marine Diatoms - Possible Consequences for the Global Carbon Cycle	University of Louisiana at Lafayette (Biology);	Johannes J. Rick;	1	\$ 37,143
				2	\$ 35,143
				3	\$ 36,338
				.	
				<b>Total</b>	<b>\$ 108,624</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>151A-05 HEA</b>	Obesity in Louisiana: Associated Socio-Economic Factors	University of Louisiana at Lafayette (Center for Business and Information Technologies (CBIT));	Antonin Rozsypal; Bernice Adeleye; John J. Burdin; L. Philip Caillouet; Rajesh Srivastava; Vijay Raghavan;	1	\$ 76,523
				2	\$ 40,209
				3	\$ 28,959
				.	
				<b>Total</b>	<b>\$ 145,691</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>152A-05 CHE</b>	Biological Screening and Chemical Analysis of Medicinal Plants found in Louisiana	University of Louisiana at Lafayette (Chemistry);	Melinda M. Sorensson; August A. Gallo;	1	\$ 36,285
				2	\$ 34,754
				3	\$ 33,764
				.	
				<b>Total</b>	<b>\$ 104,803</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>153A-05 CHE</b>	Cu(I)-Catalyzed Allylic Amination of Unsaturated Hydrocarbons. An Enantioselective Synthesis and Mechanistic Studies	University of Louisiana at Lafayette (Chemistry);	Radhey S. Srivastava;	1	\$ 40,148
				2	\$ 39,819
				3	\$ 40,799
				.	
				<b>Total</b>	<b>\$ 120,766</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>154A-05 C/IS</b>	New Passive Optical Network (PON) Architectures with Combined Time, Wavelength, and Code Diversity	University of Louisiana at Lafayette (Electrical and Computer Engineering);	George Thomas;	1	\$ 66,746
				2	\$ 64,816
				3	\$ 64,428
				.	
				<b>Total</b>	<b>\$ 195,990</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>155A-05 C/IS</b>	System Architecture for Delivery and Assessment of Online Problem-based Learning	University of Louisiana at Lafayette (Center for Innovative Learning and Assessment Technologies);	Douglas C. Williams;	1	\$ 46,200
				2	\$ 47,050
				3	\$ 30,441
				.	
				<b>Total</b>	<b>\$ 123,691</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>156A-05 C/IS</b>	Automatic Data Extraction for Retrieval Systems	University of Louisiana at Lafayette (Center for Advanced Computer Studies);	Zonghuan Wu;	<b>1</b>	<b>\$ 44,216</b>
				<b>2</b>	<b>\$ 37,534</b>
				<b>3</b>	<b>\$ 39,524</b>
				<b>Total</b>	<b>\$ 121,274</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>Yes</b>		
<b>157A-05 C/IS</b>	On-chip RF/Wireless Interconnect Technology in Nanometer Design	University of Louisiana at Lafayette (Center for Advanced Computer Studies);	Danella Zhao;	<b>1</b>	<b>\$ 34,735</b>
				<b>2</b>	<b>\$ 35,244</b>
				<b>3</b>	<b>\$ 35,774</b>
				<b>Total</b>	<b>\$ 105,753</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>158A-05 HEA</b>	CNS Mechanisms of Chromium Impairment of Reproductive Neuroendocrine Function in an Animal Model for NIDDM	University of Louisiana at Monroe (Basic Pharmaceutical Sciences); University of Louisiana at Lafayette;	Karen P. Briski; Gary A. Glass;	<b>1</b>	<b>\$ 78,000</b>
				<b>2</b>	<b>\$ 78,000</b>
				<b>Total</b>	<b>\$ 156,000</b>
				Proposal is a <b>New Request</b>	

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>159A-05 BS</b>	Development of Anticancer Tobacco Cembranoids Using Biocatalysis, Combinatorial Biocatalysis, and Sulfation Reactions	University of Louisiana at Monroe (Basic Pharmaceutical Sciences);	Khalid A. El Sayed; Paul W. Sylvester;	<b>1</b>	<b>\$ 60,000</b>
				<b>2</b>	<b>\$ 50,000</b>
				<b>Total</b>	<b>\$ 110,000</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>160A-05 BS</b>	Determination of Genetic Diversity and Pathogenicity of Vibrio vulnificus Isolated from Fresh Oysters and Oyster Harvest Waters	University of Louisiana at Monroe (Biology);	Carl D. Gilbert; Ann Findley; Michael Slavik;	<b>1</b>	<b>\$ 47,616</b>
				<b>2</b>	<b>\$ 31,116</b>
				<b>3</b>	<b>\$ 11,000</b>
<b>Total</b>	<b>\$ 89,732</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>161A-05 BS</b>	Nuclear Receptor Regulation of Organogenesis in the Model Organism Caenorhabditis elegans	University of Louisiana at Monroe (Biology);	Christopher R. Gissendanner;	<b>1</b>	<b>\$ 45,828</b>
				<b>2</b>	<b>\$ 33,528</b>
				<b>3</b>	<b>\$ 16,000</b>
<b>Total</b>	<b>\$ 95,356</b>				
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>162A-05 BS</b>	Ecological Causes and Fitness Consequences of Group-Living	University of Louisiana at Monroe (Biology);	Loren D. Hayes; Eileen Lacey; Luis Ebensperger;	<b>1</b>	<b>\$ 47,556</b>
				<b>2</b>	<b>\$ 41,469</b>
				<b>Total</b>	<b>\$ 89,025</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>163A-05 HEA</b>	Fiber Optics: Real-Time In-Vitro Characterization of Lipid Based Drug Delivery Systems	University of Louisiana at Monroe (Basic Pharmaceutical Sciences);	Sami Nazzal; Paul W. Sylvester;	<b>1</b>	<b>\$ 60,438</b>
				<b>2</b>	<b>\$ 34,540</b>
				<b>Total</b>	<b>\$ 94,978</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>164A-05 C/IS</b>	3D Invariant Face Recognition Using Optical Data Processing	University of New Orleans (Electrical Engineering);	AbdulRahman Alsamman;	<b>1</b>	<b>\$ 51,747</b>
				<b>2</b>	<b>\$ 51,747</b>
				<b>3</b>	<b>\$ 51,747</b>
				<b>Total</b>	<b>\$ 155,241</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>165A-05 BS</b>	Comparative Phylogeography of Central African Duikers	University of New Orleans (Biological Sciences);	Nicola M. Anthony; E. Jean Wickings; P. Mickala;	<b>1</b>	<b>\$ 62,014</b>
				<b>2</b>	<b>\$ 60,524</b>
				<b>3</b>	<b>\$ 42,250</b>
				.	
				<b>Total</b>	<b>\$ 164,788</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>166A-05 ENG B</b>	Integrated Hydrodynamic Analysis for Hull Shape Optimization Based on Potential Theory	University of New Orleans (School of Naval Architecture and Marine Engineering);	Lothar Birk;	<b>1</b>	<b>\$ 47,007</b>
				<b>2</b>	<b>\$ 44,057</b>
				<b>3</b>	<b>\$ 43,056</b>
				.	
				<b>Total</b>	<b>\$ 134,120</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>167A-05 C/IS</b>	Intelligent Image Compression for Biomedical Applications	University of New Orleans (Electrical Engineering);	Dimitrios Charalampidis;	<b>1</b>	<b>\$ 40,443</b>
				<b>2</b>	<b>\$ 29,921</b>
				<b>3</b>	<b>\$ 29,921</b>
				.	
				<b>Total</b>	<b>\$ 100,285</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>168A-05 C/IS</b>	Human Histological Image Analysis and Retrieval using Machine Learning and Statistical Modeling Approaches	University of New Orleans (Computer Science);	Yixin Chen;	<b>1</b>	<b>\$ 37,520</b>
				<b>2</b>	<b>\$ 37,520</b>
				<b>3</b>	<b>\$ 37,520</b>
				.	
				<b>Total</b>	<b>\$ 112,560</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>169A-05 C/IS</b>	Extending the Lifetime of Cluster- based Wireless Sensor Networks	University of New Orleans (Computer Science);	Jing Deng;	<b>1</b>	<b>\$ 35,966</b>
				<b>2</b>	<b>\$ 35,966</b>
				<b>3</b>	<b>\$ 35,966</b>
				.	
				<b>Total</b>	<b>\$ 107,898</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>170A-05 CHE</b>	RCS: Chemical Synthesis and Spintronic Study of In1-xMnxAs DMS Quantum Dots	University of New Orleans (Chemistry/AMRI);	Jiye Fang;	<b>1</b>	<b>\$ 51,725</b>
				<b>2</b>	<b>\$ 50,411</b>
				<b>3</b>	<b>\$ 49,298</b>
				.	
				<b>Total</b>	<b>\$ 151,434</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>171A-05 CHE</b>	Exploiting Inorganic -Organic Amphiphilic Block Copolymers: The Generation of Self-Assembled Metallo-Micellar Aggregates	University of New Orleans (Chemistry);	Michael Harmjanz;	1	\$ 93,680
				2	\$ 34,654
				3	\$ 34,653
				.	
				<b>Total</b>	<b>\$ 162,987</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>172A-05 C/IS</b>	A Reconfigurable Cluster Platform for High-Density Computing	University of New Orleans (Electrical Engineering);	Jing Ma;	1	\$ 33,931
				2	\$ 36,931
				3	\$ 35,281
				.	
				<b>Total</b>	<b>\$ 106,143</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>173A-05 ENG B</b>	Nanostructured Microwave Materials with Spiral Spin Structures	University of New Orleans (Physics/Advanced Materials Research Institute);	Leszek M. Malkinski;	1	\$ 49,920
				2	\$ 39,045
				3	\$ 39,045
				.	
				<b>Total</b>	<b>\$ 128,010</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>174A-05 BS</b>	Characterizing Populations, Growth, and Winter Refugia of the Invasive Rio Grande Cichlid ( <i>Cichlasoma cyanoguttatum</i> ) in the Lake Pontchartrain Estuary: Obtaining Data Necessary for Control Management	University of New Orleans (Pontchartrain Institute for Environmental Sciences);	Martin T. O'Connell;	<b>1</b>	<b>\$ 41,313</b>
				<b>2</b>	<b>\$ 30,205</b>
				<b>3</b>	<b>\$ 30,205</b>
				.	
				<b>Total</b>	<b>\$ 101,723</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>175A-05 C/IS</b>	Next Generation Digital Forensics Framework	University of New Orleans (Computer Science);	Vassil Roussev;	<b>1</b>	<b>\$ 49,985</b>
				<b>2</b>	<b>\$ 49,985</b>
				<b>3</b>	<b>\$ 49,985</b>
				.	
				<b>Total</b>	<b>\$ 149,955</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>176A-05 C/IS</b>	Mixed-Autonomy Urban Search and Rescue Robotic Teams	University of New Orleans (Computer Science);	Sheila Tejada;	<b>1</b>	<b>\$ 120,181</b>
				<b>2</b>	<b>\$ 39,710</b>
				<b>3</b>	<b>\$ 39,844</b>
				.	
				<b>Total</b>	<b>\$ 199,735</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

<b>Prop# Discipline</b>	<b>Title</b>	<b>Institution/Department</b>	<b>Principal Investigator(s)</b>	<b>Duration (Years)</b>	<b>BoRSF Money Requested</b>
<b>177A-05 CHE</b>	Design and Synthesis of Novel Functional Hydrogelators	University of New Orleans (Chemistry);	Guijun Wang;	1	\$ 47,418
				2	\$ 47,418
				3	\$ 47,418
				.	
				<b>Total</b>	<b>\$ 142,254</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>178A-05 ENG B</b>	Growth of Semiconductor Nanowires for Wafer Size Nanoelectronics Fabrication	University of New Orleans (Advanced Materials Research Institute);	Weilie L. Zhou;	1	\$ 45,316
				2	\$ 43,816
				3	\$ 42,116
				.	
				<b>Total</b>	<b>\$ 131,248</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		
<b>179A-05 CHE</b>	A Novel Approach Towards the Construction of Spirocyclic Amines	Xavier University (Chemistry);	Ruquia Ahmed-Schofield;	1	\$ 47,569
				2	\$ 44,798
				3	\$ 37,507
				.	
				<b>Total</b>	<b>\$ 129,874</b>
Proposal is a <b>New Request</b>			Does this proposal contain confidential or proprietary information? <b>No</b>		

**Summary of Proposals Submitted to the Research Competitiveness Subprogram(RCS) for the FY 2004-2005 Review Cycle**

<b>Total Number of Proposals Submitted</b>	<b>Total First-Year Funds Requested</b>	<b>Total Funds Requested</b>	<b>Total First-Year Funds Available</b>
<b>179</b>	<b>\$ 9,898,394</b>	<b>\$ 24,555,186</b>	<b>\$</b>