

REPORT TO THE LOUISIANA BOARD OF REGENTS
REVIEW OF ENHANCEMENT PROPOSALS IN MATHEMATICS

February 21, 2011

Prepared by:

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2010-11 BOARD OF REGENTS SUPPORT FUND ENHANCEMENT COMPONENT

Mathematics

INTRODUCTION

A review panel consisting of Dr. David A. Smith, Chair, Duke University; and Dr. William C. Bauldry, Appalachian State University, met via phone conference on February 21, 2011 for the purpose of evaluating eleven (11) mathematics proposals submitted to the Louisiana Board of Regents through the Traditional Enhancement Component of the Board of Regents Support Fund.

The review panel received the following materials prior to the visit: a) eleven (11) mathematics proposals to be evaluated, with appropriately numbered rating forms; b) a summary of proposals listing titles, investigators involved, institutions, dollars requested, etc.; c) the FY 2010-11 Enhancement Program Request for Proposals; and d) a copy of the 2007-08 Traditional Enhancement Report in Mathematics.

Prior to the review, each panelist independently evaluated and annotated each of the eleven proposals. During the review process, each proposal was fully discussed by the two reviewers. In each case unanimous agreement was reached, and the reviewers ensured that each proposal received a thorough and fair evaluation based on criteria enumerated in the RFP.

Table I contains a rank-order list of proposals highly recommended for funding with recommended funding levels. Proposals recommended for funding if additional monies become available are listed in Table II. Proposals not recommended for funding are listed in Table III. A detailed review of each proposal follows immediately after the tables. Due to fiscal exigencies and the need to fund only those projects assured of success, the panel did not recommend funding for any projects with scores lower than 73. A summary of all proposals submitted (Appendix A) and a copy of the rating forms used in the evaluations (Appendix B) are attached at the end of the report.

For many proposals in Table I, only partial awards were recommended because of budgetary limitations or reviewer recommendations; however, the partial funding was determined by a detailed review of each budget which resulted in a recommended amount corresponding to the most pressing need(s) presented. First-year requests totaling \$1,010,876 were submitted to the panel, which then recommended first-year awards totaling \$303,065 for four (4) proposals, with an additional \$177,752 recommended for one (1) proposal if additional funds become available.

**Traditional Enhancement Mathematics Table I
Highly Recommended for Funding**

| Rank | Rating | Number | Institution | 1st Year Funds Requested | 1st Year Funds Recommended | 2nd Year Funds Requested | 2nd Year Funds Recommended |
|---------------|--------|-----------|-------------|--------------------------|----------------------------|--------------------------|----------------------------|
| 1 | 93 | 02MATH-11 | LSU-BR | \$159,244 | \$136,000 | \$49,621 | \$49,621 |
| 2 | 90 | 06MATH-11 | LSU-BR | \$129,953 | \$129,953 | \$14,800 | \$14,800 |
| 3 | 77 | 07MATH-11 | McNeese | \$30,804 | \$29,612 | | |
| 4 | 76 | 11MATH-11 | UNO | \$7,500 | \$7,500 | \$7,500 | \$7,500 |
| Totals | | | | \$327,501 | \$303,065 | \$71,921 | \$71,921 |

**Traditional Enhancement Mathematics Table II
Recommended for Funding if Additional Funding Becomes Available**

| Rank | Rating | Number | Institution | 1st Year Funds Requested | 1st Year Funds Recommended | 2nd Year Funds Requested | 2nd Year Funds Recommended |
|---------------|--------|-----------|-------------|--------------------------|----------------------------|--------------------------|----------------------------|
| 5 | 73 | 10MATH-11 | UNO | \$243,074 | \$177,752 | | |
| Totals | | | | \$243,074 | \$177,752 | | |

**Traditional Enhancement Mathematics Table III
Not Recommended for Funding**

| Rank | Rating | Number | Institution | 1st Year Funds Requested | 1st Year Funds Recommended | 2nd Year Funds Requested | 2nd Year Funds Recommended |
|---------------|--------|-----------|-------------|--------------------------|----------------------------|--------------------------|----------------------------|
| 6 | 65 | 04MATH-11 | LSU-BR | \$73,300 | \$0 | \$13,000 | \$0 |
| 7 | 61 | 05MATH-11 | LSU-BR | \$52,955 | \$0 | \$18,985 | \$0 |
| 8 | 60 | 01MATH-11 | Dillard | \$147,730 | \$0 | | |
| 9 | 58 | 09MATH-11 | Tulane | \$75,650 | \$0 | \$76,330 | \$0 |
| 10 | 56 | 03MATH-11 | LSU-BR | \$38,343 | \$0 | \$38,343 | \$0 |
| 11 | 54 | 08MATH-11 | SU-BR | \$52,323 | \$0 | | |
| Totals | | | | \$440,301 | \$0 | \$146,658 | \$0 |

RATING FORM FOR ENHANCEMENT INSTRUCTIONAL AND RESEARCH EQUIPMENT REQUESTS

PROPOSAL NUMBER: 01MATH-11

INSTITUTION: Dillard University

TITLE OF PROPOSAL: Enhancement of Mathematics Instruction and Research (MIRIII)

PRINCIPAL INVESTIGATOR: Peter Frempong-Mireku

A. The Current Situation

(Total of 10 Points)

A.1 Yes X No _____
A.2 2 (of 5 points)
A.3 3 (of 5 points)

C. Equipment

(Total of 10 Points)

C.1 4 (of 6 points)
C.2 1 (of 1 point)
C.3 3 (of 3 points)

E. Economic and/or Cultural Development and Impact

(Total of 12 Points)

E.1 1 (of 2 points)
E.2a 6 (For S/E)
or (of 10 points)
E.2b _____ (For NS/NE)

B. The Enhancement Plan

(Total of 56 Points)

B.1 2 (of 5 points)
B.2 9 (of 18 points)
B.3 10 (of 20 points)
B.4 4 (of 5 points)
B.5 1 (of 2 points)
B.6 4 (of 6 points)
B.7 Yes X No _____

D. Faculty and Staff Expertise

(Total of 12 Points)

D.1 10 (of 12 points)

F. Previous Support Fund Awards

(No Points Assigned)

G.1 Yes X No _____

G. Total Score: 60 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

SPECIFIC BUDGETARY Requested Amount: \$147,730
RECOMMENDATIONS: Recommended Amount: \$0

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This proposal seeks to establish two computerized classrooms in a new building. The requested software appears to be a wish list of the main commercial suites. The narrative has no discussion of the PI's awareness of open-source packages, such as Sage, that could provide similar capabilities for no cost. The proposal also includes very expensive podium stations with little justification; there is no comparison discussing the need for 65" monitors at three times the cost of standard projectors. Further, there is no institutional match or letters from administrators showing support of the project. The writing was often unclear and contained a number of grammatical errors. Proofreading by peers is suggested. The evaluation plan is weak; it amounts to counting uses and tracking problems, then expecting to see differences in student exam success, course grades, and grad school admissions. Also, the evaluator is one of the participants. Claims were often not linked to evidence; repeating words like "efficiency" and "effectiveness" do not necessarily make them happen. In particular, we see no evidence that fancier classroom facilities or more computers will strengthen research, increase retention, or increase the number of majors. Funding is not recommended.

RATING FORM FOR ENHANCEMENT REQUESTS OTHER THAN EQUIPMENT PURCHASES

PROPOSAL NUMBER: 02MATH-11

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

TITLE OF PROPOSAL: The Mathematics College Readiness and Retention Program

PRINCIPAL INVESTIGATOR: Frank Neubrander

A. The Current Situation
(Total of 10 Points)

A.1 Yes X No _____
A.2 5 (of 5 points)
A.3 5 (of 5 points)

C. Faculty and Staff Expertise
(Total of 12 Points)

C.1 11 (of 12 points)

**D. Economic and/or Cultural
Development and Impact**
(Total of 12 Points)

D.1 2 (of 2 points)
D.2a 9 (For S/E)
or (of 10 points)
D.2b _____ (For NS/NE)

B. The Enhancement Plan
(Total of 66 Points)

B.1 5 (of 5 points)
B.2 21 (of 23 points)
B.3 23 (of 25 points)
B.4 4 (of 5 points)
B.5 2 (of 2 points)
B.6 6 (of 6 points)
B.7 Yes X No _____

E. Previous Support Fund Awards
(No Points Assigned)

F.1 Yes X No _____

F. Total Score: 93 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| SPECIFIC BUDGETARY RECOMMENDATIONS: | Requested Amount: | YEAR 1 | YEAR 2 |
|--|------------------------|------------------|-----------------|
| | | <u>\$159,244</u> | <u>\$49,621</u> |
| | Recommended Amount: | <u>\$136,000</u> | <u>\$49,621</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This is a serious proposal to address a serious statewide need in a sensible way. The proposal builds on and integrates past projects and accomplishments to address current needs effectively. While the initial impact is somewhat limited, there is good anticipated impact in the longer term. The proposed online Calculus I course is interesting, but the work plan appears to allocate far too little faculty time for this course to be in acceptable form by summer 2012, and no course developer is identified. Someone should look into what resources are already available. Why should LSU lectures necessarily be better than what someone else has already done? However, the panel does not recommend use of MIT's taped lectures except as an example of what *not* to do. Given the PI's significant duties and obligations, a statement assuring that the PI is not overcommitted to various grants and academic duties will be necessary for funding. The panel recommends eliminating funding for graduate students (\$22,000), and reducing the marketing budget (\$1,244). There is no institutional match. Partial funding is recommended in year one and full funding in year two.

RATING FORM FOR ENHANCEMENT REQUESTS OTHER THAN EQUIPMENT PURCHASES

PROPOSAL NUMBER: 03MATH-11

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

TITLE OF PROPOSAL: Enhancing LSU's VIGRE Program

PRINCIPAL INVESTIGATOR: Lawrence Smolinsky

A. The Current Situation

(Total of 10 Points)

A.1 Yes X No _____
 A.2 4 (of 5 points)
 A.3 2 (of 5 points)

C. Faculty and Staff Expertise

(Total of 12 Points)

C.1 10 (of 12 points)

**D. Economic and/or Cultural
Development and Impact**

(Total of 12 Points)

D.1 2 (of 2 points)
 D.2a 5 (For S/E)
 or (of 10 points)
 D.2b _____ (For NS/NE)

B. The Enhancement Plan

(Total of 66 Points)

B.1 3 (of 5 points)
 B.2 10 (of 23 points)
 B.3 13 (of 25 points)
 B.4 3 (of 5 points)
 B.5 2 (of 2 points)
 B.6 2 (of 6 points)
 B.7 Yes X No _____

E. Previous Support Fund Awards

(No Points Assigned)

F.1 Yes X No _____

F. Total Score: 56 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| | | <u>YEAR 1</u> | <u>YEAR 2</u> |
|--|--------------------------------|-----------------|-----------------|
| SPECIFIC BUDGETARY RECOMMENDATIONS: | Requested Amount: | <u>\$38,343</u> | <u>\$38,343</u> |
| | Recommended Amount: | <u>\$0</u> | <u>\$0</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This proposal seeks to augment the NSF-funded VIGRE project. It is clear, well written and documented nicely. The actual requests, however, are problematic. Taking students to conferences to make presentations is desirable, and should, as noted in the narrative, receive University support. It is unclear, however, why further support from the Support Fund is required. While an MSRI membership is allowable under BoR guidelines, membership is a yearly, ongoing expense that should be provided from other sources. Funding is not recommended.

RATING FORM FOR ENHANCEMENT INSTRUCTIONAL AND RESEARCH EQUIPMENT REQUESTS

PROPOSAL NUMBER: 04MATH-11

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

TITLE OF PROPOSAL: Geometric Visualization Laboratory for Enhancement of
Geometric Learning and Research in Mathematics

PRINCIPAL INVESTIGATOR: Neal Stoltzfus

A. The Current Situation

(Total of 10 Points)

A.1 Yes X No _____
A.2 3 (of 5 points)
A.3 3 (of 5 points)

C. Equipment

(Total of 10 Points)

C.1 6 (of 6 points)
C.2 1 (of 1 point)
C.3 3 (of 3 points)

**E. Economic and/or Cultural
Development and Impact**

(Total of 12 Points)

E.1 2 (of 2 points)
E.2a 8 (For S/E)
or _____ (of 10 points)
E.2b _____ (For NS/NE)

B. The Enhancement Plan

(Total of 56 Points)

B.1 3 (of 5 points)
B.2 10 (of 18 points)
B.3 5 (of 20 points)
B.4 3 (of 5 points)
B.5 2 (of 2 points)
B.6 4 (of 6 points)
B.7 Yes X No _____

D. Faculty and Staff Expertise

(Total of 12 Points)

D.1 12 (of 12 points)

F. Previous Support Fund Awards

(No Points Assigned)

G.1 Yes X No _____

G. Total Score: 65 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| | | YEAR 1 | YEAR 2 |
|--|------------------------|-----------------|-----------------|
| SPECIFIC BUDGETARY RECOMMENDATIONS: | Requested Amount: | <u>\$73,300</u> | <u>\$13,000</u> |
| | Recommended Amount: | <u>\$0</u> | <u>\$0</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This proposal is to develop a small facility for geometry-based research and instruction. The idea appears novel although the proposal has been submitted previously by the PI. However, the budget seems large for the project. Budget figures do not reflect specific configurations, appearing to be generically derived. The software and supplies are also not specified in detail. The 3D printer justification is similarly weak. The assistantships are not adequately defined; the duties that are outlined appear more managerial than academic. Unspecified travel is also requested. The proposal lacks both detail and justification that are necessary to support and define the project. The Evidence of Potential section seems unrelated to this proposal. Funding is not recommended.

RATING FORM FOR ENHANCEMENT REQUESTS OTHER THAN EQUIPMENT PURCHASES

PROPOSAL NUMBER: 05MATH-11

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

TITLE OF PROPOSAL: Focused Intensive Summer Research Experience for Graduate Students

PRINCIPAL INVESTIGATOR: Neal Stoltzfus

A. The Current Situation

(Total of 10 Points)

A.1 Yes X No _____
A.2 4 (of 5 points)
A.3 4 (of 5 points)

C. Faculty and Staff Expertise

(Total of 12 Points)

C.1 11 (of 12 points)

D. Economic and/or Cultural Development and Impact

(Total of 12 Points)

D.1 2 (of 2 points)
D.2a 5 (For S/E)
or (of 10 points)
D.2b _____ (For NS/NE)

B. The Enhancement Plan

(Total of 66 Points)

B.1 3 (of 5 points)
B.2 11 (of 23 points)
B.3 13 (of 25 points)
B.4 2 (of 5 points)
B.5 2 (of 2 points)
B.6 4 (of 6 points)
B.7 Yes X No _____

E. Previous Support Fund Awards

(No Points Assigned)

F.1 Yes X No _____

F. Total Score: 61 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| SPECIFIC BUDGETARY RECOMMENDATIONS: | Requested Amount: | YEAR 1 | YEAR 2 |
|--|------------------------|-----------------|-----------------|
| | | <u>\$52,955</u> | <u>\$18,985</u> |
| | Recommended Amount: | <u>\$0</u> | <u>\$0</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This proposal seeks to enhance the experience of new graduate students. It appears to parallel the current VIGRE program, and would, most likely, be subsumed in VIGRE. In a tight budget year, the panel feels that this does not address a high priority. While small in comparison to the total request, a travel budget of \$5,000 needs more justification and detail than is provided. Funding is not recommended.

RATING FORM FOR ENHANCEMENT REQUESTS OTHER THAN EQUIPMENT PURCHASES

PROPOSAL NUMBER: 06MATH-11

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

TITLE OF PROPOSAL: Minority Recruiting and Mentoring in Mathematics

PRINCIPAL INVESTIGATOR: Michael Tom

A. The Current Situation
(Total of 10 Points)

A.1 Yes X No _____
A.2 4 (of 5 points)
A.3 5 (of 5 points)

C. Faculty and Staff Expertise
(Total of 12 Points)

C.1 12 (of 12 points)

**D. Economic and/or Cultural
Development and Impact**
(Total of 12 Points)

D.1 2 (of 2 points)
D.2a 8 (For S/E)
or (of 10 points)
D.2b _____ (For NS/NE)

B. The Enhancement Plan
(Total of 66 Points)

B.1 5 (of 5 points)
B.2 22 (of 23 points)
B.3 21 (of 25 points)
B.4 4 (of 5 points)
B.5 1 (of 2 points)
B.6 6 (of 6 points)
B.7 Yes X No _____

E. Previous Support Fund Awards
(No Points Assigned)

F.1 Yes X No _____

F. Total Score: 90 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| SPECIFIC BUDGETARY RECOMMENDATIONS: | Requested Amount: | YEAR 1 | YEAR 2 |
|--|------------------------|------------------|-----------------|
| | | <u>\$129,953</u> | <u>\$14,800</u> |
| | Recommended Amount: | <u>\$129,953</u> | <u>\$14,800</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This project represents a continuing attempt to ameliorate a serious problem. There is evidence of past success, though not at a level hoped for. The one negative is that ongoing funding has not yet been successfully secured. Enough progress has been made to suggest that it might be achieved by 2013. However, the proposal would be stronger with a University commitment to continue the project even if outside funding is not secured. There are reasonably good prospects for leveraging other funding sources. Missing support items include a commitment from the Department chair for faculty reassigned time, and letters of support from Xavier and Southern. The introduction and summary are not well written; formatting is inconsistent, appearing to be copy/paste boilerplate. However, the merit of the project overrides the lack of attention given to parts of the proposal's presentation. Full funding is recommended.

RATING FORM FOR ENHANCEMENT INSTRUCTIONAL AND RESEARCH EQUIPMENT REQUESTS

PROPOSAL NUMBER: 07MATH-11

INSTITUTION: McNeese State University

TITLE OF PROPOSAL: Audience Response System (Clickers) for Mathematics,
Computer Science and Statistics Classes

PRINCIPAL INVESTIGATOR: Gerard Ornas

A. The Current Situation

(Total of 10 Points)

A.1 Yes X No _____
A.2 4 (of 5 points)
A.3 4 (of 5 points)

C. Equipment

(Total of 10 Points)

C.1 4 (of 6 points)
C.2 1 (of 1 point)
C.3 2 (of 3 points)

**E. Economic and/or Cultural
Development and Impact**

(Total of 12 Points)

E.1 2 (of 2 points)
E.2a 6 (For S/E)
or (of 10 points)
E.2b _____ (For NS/NE)

B. The Enhancement Plan

(Total of 56 Points)

B.1 5 (of 5 points)
B.2 14 (of 18 points)
B.3 15 (of 20 points)
B.4 3 (of 5 points)
B.5 2 (of 2 points)
B.6 5 (of 6 points)
B.7 Yes X No _____

D. Faculty and Staff Expertise

(Total of 12 Points)

D.1 10 (of 12 points)

F. Previous Support Fund Awards

(No Points Assigned)

G.1 Yes _____ No X

G. Total Score: 77 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| | | |
|---------------------------|----------------------------|-----------------|
| SPECIFIC BUDGETARY | Requested Amount: | <u>\$30,804</u> |
| RECOMMENDATIONS: | Recommended Amount: | <u>\$29,612</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

The proposal requests funds to acquire Audio Response System "clickers" to support ten or so simultaneous classes. Starting with "gatekeeper" courses in math makes sense, but it would be nice to see a stronger commitment to spread the idea to other courses and departments (though not through this funding program) if the results are as expected. Though the equipment will address needs described by the PIs, the key to success is not the clickers but the questions. The work plan underestimates the time required to write and assemble good questions that will have the expected payoff, even if they come from other colleagues' experiences. Not surprisingly, the project starts small, with three sections of Calculus, and works back to the lower-level courses. This means the real impact will come after the funding period.

(Continued on next page)

PROPOSAL NUMBER:

07MATH-11

Also, success depends critically on the training of other faculty and their willingness to make effective use of the equipment, which is described only as "possible" rather than as an actual commitment. The applicants refer to "a large body of research", but they cite only a single work from that body. In particular, there is no mention of research on the issues of posing good questions, faculty adaptability to shifting gears in mid-lecture, getting students to work in small groups in a lecture hall, supporting these small groups, and addressing student misconceptions in real time. The applicants should review research on these concepts before implementing this project. The panel recommends partial funding with no funding for spare bulbs (\$1,192), which are maintenance items.

RATING FORM FOR ENHANCEMENT REQUESTS OTHER THAN EQUIPMENT PURCHASES

PROPOSAL NUMBER: 08MATH-11

INSTITUTION: Southern University and A&M College at Baton Rouge

TITLE OF PROPOSAL: Technology Enhancement of the Mathematics Department
Laboratory with Mathematica and MATLAB

PRINCIPAL INVESTIGATOR: Humberto Munoz Barona

A. The Current Situation

(Total of 10 Points)

| | | | | |
|-----|-----|----------|---------------|-------------------|
| A.1 | Yes | <u>X</u> | No | <u> </u> |
| A.2 | | <u>4</u> | (of 5 points) | |
| A.3 | | <u>4</u> | (of 5 points) | |

C. Faculty and Staff Expertise

(Total of 12 Points)

| | | |
|-----|-----------|----------------|
| C.1 | <u>10</u> | (of 12 points) |
|-----|-----------|----------------|

**D. Economic and/or Cultural
Development and Impact**

(Total of 12 Points)

| | | |
|------|-------------------|----------------|
| D.1 | <u>1</u> | (of 2 points) |
| D.2a | <u>4</u> | (For S/E) |
| or | | (of 10 points) |
| D.2b | <u> </u> | (For NS/NE) |

B. The Enhancement Plan

(Total of 62 Points)

| | | |
|-----|--------------|----------------------|
| B.1 | <u>3</u> | (of 5 points) |
| B.2 | <u>10</u> | (of 23 points) |
| B.3 | <u>12</u> | (of 25 points) |
| B.4 | <u>2</u> | (of 5 points) |
| B.5 | <u>1</u> | (of 2 points) |
| B.6 | <u>3</u> | (of 6 points) |
| B.7 | Yes <u>X</u> | No <u> </u> |

E. Previous Support Fund Awards

(No Points Assigned)

| | | |
|-----|--------------|----------------------|
| F.1 | Yes <u>X</u> | No <u> </u> |
|-----|--------------|----------------------|

F. Total Score: 54 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| | | |
|---------------------------|----------------------------|-----------------|
| SPECIFIC BUDGETARY | Requested Amount: | <u>\$52,323</u> |
| RECOMMENDATIONS: | Recommended Amount: | <u>\$0</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

The focus of this proposal is to update existing software (Mathematica) and add new software (MATLAB/Simulink) in departmental computer labs. Though it is understandable that the University has a problem with paying for this on its own, this is not the wisest use of limited Support Fund monies at this time. There is no clear indication of how the enhanced capability would be used to lead to better learning on the part of students. All but one of the goals are "to enhance", but that is not an automatic consequence of better software. The work plan is similarly vague. It identifies the months in which the PIs will be active, but it does not say anything about what they will do. There are significant questions unanswered in the narrative: How will the PIs secure further funding to renew these licenses? What capabilities for the project do Mathematica and MATLAB add beyond that available from open-source, free software such as Sage? How will the evaluation of grades be done? Is the protocol IRB-approved? How will the surveys be implemented? The data offered from a current survey are problematic given the bias in the question design. The PIs should consult a statistician with training in this area. The applicants seem to be confused about whether software is equipment or not. Funding is not recommended.

RATING FORM FOR ENHANCEMENT REQUESTS OTHER THAN EQUIPMENT PURCHASES

PROPOSAL NUMBER: 09MATH-11

INSTITUTION: Tulane University

TITLE OF PROPOSAL: Enhance Research in Algebraic Combinatorics

PRINCIPAL INVESTIGATOR: Tai Ha

A. The Current Situation
(Total of 10 Points)

A.1 Yes X No _____
A.2 4 (of 5 points)
A.3 4 (of 5 points)

C. Faculty and Staff Expertise
(Total of 12 Points)

C.1 11 (of 12 points)

**D. Economic and/or Cultural
Development and Impact**
(Total of 12 Points)

D.1 2 (of 2 points)
D.2a 5 (For S/E)
or (of 10 points)
D.2b _____ (For NS/NE)

B. The Enhancement Plan
(Total of 66 Points)

B.1 3 (of 5 points)
B.2 10 (of 23 points)
B.3 11 (of 25 points)
B.4 2 (of 5 points)
B.5 2 (of 2 points)
B.6 4 (of 6 points)
B.7 Yes X No _____

E. Previous Support Fund Awards
(No Points Assigned)

F.1 Yes X No _____

F. Total Score: 58 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| | | YEAR 1 | YEAR 2 |
|--|------------------------|-----------------|------------------|
| SPECIFIC BUDGETARY RECOMMENDATIONS: | Requested Amount: | <u>\$75,650</u> | <u>\$76,330*</u> |
| | Recommended Amount: | <u>\$0</u> | <u>\$0</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This project seeks funding for enhancing a research group in Algebraic Combinatorics. While the premise is sound, the narrative fails to address several critical issues. With 17% of the budget devoted to travel, specifics of the conferences and destinations must be provided to assess the request. When 13% of the request is to bring experts to Tulane, potential visitors, with letters supporting their availability, need to be identified. To support graduate students solely doing research requires these students to be far enough advanced in their work that, here too, identification should be provided. Funding is not recommended.

*The RFP states that a maximum of \$50,000 can be requested in Year 2.

RATING FORM FOR ENHANCEMENT INSTRUCTIONAL AND RESEARCH EQUIPMENT REQUESTS

PROPOSAL NUMBER: 10MATH-11

INSTITUTION: University of New Orleans

TITLE OF PROPOSAL: Redesigning of the Freshman Mathematics Instruction at UNO
Using Technology

PRINCIPAL INVESTIGATOR: Tumulesh Solanky

A. The Current Situation

(Total of 10 Points)

A.1 Yes X No _____
A.2 4 (of 5 points)
A.3 4 (of 5 points)

C. Equipment

(Total of 10 Points)

C.1 4 (of 6 points)
C.2 1 (of 1 point)
C.3 3 (of 3 points)

E. Economic and/or Cultural Development and Impact

(Total of 12 Points)

E.1 2 (of 2 points)
E.2a 7 (For S/E)
or (of 10 points)
E.2b _____ (For NS/NE)

B. The Enhancement Plan

(Total of 56 Points)

B.1 4 (of 5 points)
B.2 13 (of 18 points)
B.3 15 (of 20 points)
B.4 3 (of 5 points)
B.5 1 (of 2 points)
B.6 3 (of 6 points)
B.7 Yes X No _____

D. Faculty and Staff Expertise

(Total of 12 Points)

D.1 9 (of 12 points)

F. Previous Support Fund Awards

(No Points Assigned)

G.1 Yes X No _____

G. Total Score: 73 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| | | |
|---------------------------|----------------------------|------------------|
| SPECIFIC BUDGETARY | Requested Amount: | <u>\$243,074</u> |
| RECOMMENDATIONS: | Recommended Amount: | <u>\$177,752</u> |

(If additional funds become available)

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

This is a very interesting proposal to create a "Math Emporium" (to use the original Virginia Tech term) at UNO. The NCAT lists only four universities (other than Virginia Tech) and one community college with similar projects nationally. Unfortunately, this is a very expensive project requiring almost all the available funding. The likelihood of funding could dramatically increase if the PIs are able to build the facility in stages as two separate projects. Table 1 presents data that do not support the conclusions in the narrative. The PIs must give more careful attention to analyzing the drop and exam success rates and the factors that contribute to student success. The PIs should also be encouraged to engage UNO's IT department to see if the requested servers are redundant or could be housed in IT. The workload of administering a server or storage array is significant and not a good use of either faculty or graduate student time.

(Continued on the next page)

In all of the department's attempts to meet students' needs, there seems to have been no serious discussion of what mathematics is being taught to these students and why. The traditional algebra-based courses are just taken as "given". On the positive side, being guided by NCAT's R2R program bases the FMCL on a lot of substantial research pointing to likely success. Not all of the schools that have gone this route have had to find outside funding; many have established it as an internal priority. In particular, Virginia Tech's Math Emporium, the original model (and original reason for NCAT), was funded primarily from reduced cost of instruction by making many of the low-level courses online only. Partial funds of \$177,752 are recommended if additional monies become available.

RATING FORM FOR ENHANCEMENT REQUESTS OTHER THAN EQUIPMENT PURCHASES

PROPOSAL NUMBER: 11MATH-11

INSTITUTION: University of New Orleans

TITLE OF PROPOSAL: Continuation of Statistical Consulting Education at UNO

PRINCIPAL INVESTIGATOR: Tumulesh Solanky

A. The Current Situation
(Total of 10 Points)

A.1 Yes X No _____
A.2 4 (of 5 points)
A.3 3 (of 5 points)

C. Faculty and Staff Expertise
(Total of 12 Points)

C.1 10 (of 12 points)

**D. Economic and/or Cultural
Development and Impact**
(Total of 12 Points)

D.1 2 (of 2 points)
D.2a 8 (For S/E)
or (of 10 points)
D.2b _____ (For NS/NE)

B. The Enhancement Plan
(Total of 66 Points)

B.1 4 (of 5 points)
B.2 18 (of 23 points)
B.3 17 (of 25 points)
B.4 4 (of 5 points)
B.5 2 (of 2 points)
B.6 4 (of 6 points)
B.7 Yes X No _____

E. Previous Support Fund Awards
(No Points Assigned)

F.1 Yes X No _____

F. Total Score: 76 (of 100 points)

(Note: Proposals with a total score below 70 will not be recommended for funding.)

| SPECIFIC BUDGETARY RECOMMENDATIONS: | Requested Amount: | YEAR 1 | YEAR 2 |
|--|------------------------|----------------|----------------|
| | | <u>\$7,500</u> | <u>\$7,500</u> |
| | Recommended Amount: | <u>\$7,500</u> | <u>\$7,500</u> |

COMMENTS: (Discuss proposal strengths and weaknesses, particularly in those sections where significant point deductions have been made. Include suggestions for resubmission. For proposals recommended for funding, include all applicable stipulations in budgets and scopes of work.)

The proposal requests funds to help make a consulting course a permanent part of the statistics offerings at UNO. The course was started in 2003 with BORSF funding, and the money requested now is to support bringing in outside experts for the next two years. The course has been offered every year since its inception, through a sequence of Support Fund grants. The panel, therefore, questions why it is not already "permanent". The small investment requested seems worthwhile, and it is clear that Hurricane Katrina caused a significant disruption. However, it is unclear that one more grant will lead to permanence. One significant change is moving the course from summer (primarily for graduate students) to spring (to accommodate undergraduates), though it is apparently unrelated to funding. If UNO truly understands the value of the consulting course, it should not be a big deal to come up with internal funding. In the long run, that is the only way the course will survive; prospects for federal funding are not good for the foreseeable future, especially for an ongoing course that is implemented in many other places in very similar ways. Private-sector funding might be available from the industries benefitting the most, but that may not last over the long run, when everyone is looking for something to cut. Full funding is recommended in both years.

Appendix A

Summary List of Proposals

Proposals Submitted to the Traditional Enhancement Program - Mathematics
for the FY 2010-11 Review Cycle

| Proposal Number | PI Name | Institution | Duration | Equipment /Non Equipment | New/Continuation | Project Title | Amount Requested | | |
|-----------------|------------------------|--|----------|--------------------------|------------------|--|------------------|-------------|--------------|
| | | | | | | | Year 1 | Year 2 | Total |
| 001MATH-11 | Frempong-Mireku, Peter | Dillard University | 1 | E | New Request | Enhancement of Mathematics Instruction and Research (MIRII) | \$147,730.00 | \$0.00 | \$147,730.00 |
| 002MATH-11 | Neubrandner, Frank | Louisiana State University And A&M College - Baton Rouge | 2 | NE | New Request | The Mathematics College Readiness and Retention Program | \$159,244.00 | \$49,621.00 | \$208,865.00 |
| 003MATH-11 | Smolinsky, Lawrence | Louisiana State University And A&M College - Baton Rouge | 2 | NE | New Request | Enhancing LSU's VIGRE Program | \$38,343.00 | \$38,343.00 | \$76,686.00 |
| 004MATH-11 | Stoltzfus, Neal | Louisiana State University And A&M College - Baton Rouge | 2 | E | New Request | Geometric Visualization Laboratory for Enhancement of Geometric Learning and Research in Mathematics | \$73,300.00 | \$13,000.00 | \$86,300.00 |
| 005MATH-11 | Stoltzfus, Neal | Louisiana State University And A&M College - Baton Rouge | 2 | NE | New Request | Focused Intensive Summer Research Experience for Graduate Students | \$52,955.00 | \$18,985.00 | \$71,940.00 |
| 006MATH-11 | Tom, Michael | Louisiana State University And A&M College - Baton Rouge | 2 | NE | New Request | Minority Recruiting and Mentoring in Mathematics | \$129,953.00 | \$14,800.00 | \$144,753.00 |
| 007MATH-11 | Ornas, Gerard | McNeese State University | 1 | E | New Request | Audience Response System (Clickers) for Mathematics, Computer Science and Statistics Classes | \$30,804.00 | \$0.00 | \$30,804.00 |
| 008MATH-11 | Munoz Barona, Humberto | Southern University and A&M College at Baton Rouge | 1 | NE | New Request | Technology Enhancement of the Mathematics Department Laboratory With Mathematica and MATLAB | \$52,323.00 | \$0.00 | \$52,323.00 |
| 009MATH-11 | Ha, Tai | Tulane University | 2 | NE | New Request | Enhance Research in Algebraic Combinatorics | \$75,650.00 | \$76,330.00 | \$151,980.00 |
| 010MATH-11 | Solanky, Tumulesh | University of New Orleans | 1 | E | New Request | Redesigning of the Freshman Mathematics Instruction at UNO Using Technology. | \$243,074.00 | \$0.00 | \$243,074.00 |
| 011MATH-11 | Solanky, Tumulesh | University of New Orleans | 2 | NE | New Request | Continuation of Statistical Consulting Education at UNO. | \$7,500.00 | \$7,500.00 | \$15,000.00 |

* The Enhancement Program RFP restricts requests for 2nd-year funding to no more than \$50,000

| | |
|---------------------------------------|----------------|
| Total Number of Proposals submitted | 11 |
| Total Money Requested for First Year | \$1,010,876.00 |
| Total Money Requested for Second Year | \$218,579.00 |
| Total Money Requested | \$1,229,455.00 |

Appendix B

Rating Forms

Proposal Number: _____

Principal Investigator: _____

Page 1 of 3

BOARD OF REGENTS SUPPORT FUND ENHANCEMENT PROGRAM, FISCAL YEAR 2010-11

RATING FORM FOR TRADITIONAL AND UNDERGRADUATE ENHANCEMENT PROPOSALS
PURCHASE OF INSTRUCTIONAL AND RESEARCH EQUIPMENT

INSTRUCTIONS: The completed evaluation form should represent the consensus of the expert members of the review panel and, as such, must reflect the final decisions of that panel. Review this form and the program guidelines prior to reading the proposal. The higher the score, the more clearly the proposal satisfies the criterion under consideration. Guidelines should not be interpreted to exclude from eligibility departments and/or units engaged solely in instruction. Use the white space provided to explain the panel's ratings, especially on items given low scores. Attach additional pages, as necessary.

A. THE CURRENT SITUATION—Total of 10 points

- | | | |
|--------------------|-----|--|
| YES _____ NO _____ | A.1 | Has the applicant adequately described the institution and unit(s)/department(s) that will benefit from the proposed project, especially in terms of mission, faculty, students, and relevant institutional or departmental resources? |
| _____ of 5 pts. | A.2 | To what extent will the proposed project enhance the affected department(s) or unit(s)? |
| _____ of 5 pts. | A.3 | To what extent will the project complement and improve upon existing resources of the department(s) or unit(s)? |

COMMENTS:

B. THE ENHANCEMENT PLAN—Total of 56 points

- | | | |
|--|-----|---|
| _____ of 5 pts. | B.1 | Are the goals and objectives clearly stated? Can the objectives be completed within the timeframe detailed in the proposal? |
| _____ of 18 pts. | B.2 | Does the work plan sufficiently describe the activities that will be undertaken to achieve the goals and objectives of the proposal with responsible individuals listed for each activity, a schedule of activities with benchmarks to be accomplished, and a description detailing how each objective will be evaluated? |
| _____ of 20 pts. | B.3 | To what extent will the proposed project catapult the department(s) or unit(s) into attaining a high level of regional, national, or international eminence—or maintaining a current high level of eminence—commensurate with degree offerings and/or functions? |
| _____ of 5 pts. | B.4 | To what extent will the proposed project have an impact on the variety and quality of curricular offerings and instructional methods within the affected department(s) or unit(s)? Appropriate to current thinking in the specific field(s) or discipline(s) of the proposed project, is reform of undergraduate education and/or teacher preparation encouraged? |
| _____ of 2 pts. | B.5 | To what extent will the proposed project enhance the ability of the department(s) or unit(s) to attract and/or retain students of high quality, particularly high quality students from Louisiana? |
| _____ of 6 pts. | B.6 | To what extent will the project contribute to improving the quality and effectiveness of faculty teaching and improve faculty pedagogical practices within the context of current thinking on reform of undergraduate education and teacher preparation, specific to field(s) or discipline(s) of the proposed project? |
| No Points Given, but this is a required component. | B.7 | Does the proposal indicate how the Board of Regents or other entity will determine whether or not the project has been a success and the degree to which it has achieved its goals? |

Proposal Number: _____

Principal Investigator: _____

Page 2 of 3

COMMENTS:

C. EQUIPMENT--Total of 10 points

- | | | |
|-----------------|-----|---|
| _____ of 6 pts. | C.1 | To what extent has the proposal established a relationship between the enhancement plan and the items of equipment requested? Is the equipment well-justified? Will it significantly enhance the existing technological capability of the department? Does it reflect current and projected trends in technology? |
| _____ of 1 pt. | C.2 | Has there been a thorough survey of the current equipment inventory and does the proposal plan to make full use of it? |
| _____ of 3 pts. | C.3 | To what extent does the proposal present a reasonable plan to ensure a maximum usable lifetime for the equipment? Are housing and maintenance arrangements for equipment adequate? |

COMMENTS:

D. FACULTY AND STAFF EXPERTISE--Total of 12 points

- | | | |
|-----------------|-----|---|
| _____ of 12 pts | D.1 | Are the faculty and support personnel appropriately qualified to implement this project? If special training will be required for faculty and/or other personnel, has an appropriate plan been developed? |
|-----------------|-----|---|

COMMENTS:

E. ECONOMIC AND/OR CULTURAL DEVELOPMENT AND IMPACT--Total of 12 points

- | | | |
|-----------------|-----|---|
| _____ of 2 pts. | E.1 | To what extent will the project assist in establishing a new relationship, or strengthen an existing relationship, with one or more industrial/institutional sponsors (e.g., private business, trade organization, professional organization, non-profit or community organization, another university or consortium of universities, federal government agency)? |
|-----------------|-----|---|

NOTE TO REVIEWER: Depending on the discipline of the submitting department or unit, provide rating points for either E.2a OR E.2b:

- | | | |
|------------------|------|--|
| _____ of 10 pts. | E.2a | <u>For science/engineering proposals only:</u> To what extent will the project assist the submitting department(s)/unit(s) in promoting or enhancing the economic development of the State of Louisiana? |
| | E.2b | <u>For non-science/non-engineering proposals only:</u> To what extent will the project contribute to the academic and/or cultural resources of the State of Louisiana? |

COMMENTS:

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Proposal Number: _____

Principal Investigator: _____

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F. PREVIOUS SUPPORT FUND AWARDS—No points assigned

YES___ NO___ G.1 If the Project Director or Co-Project Director has received previous Support Fund support, has it been adequately documented?

COMMENTS:

G. TOTAL SCORE (NOTE: Proposals with a total score below 70 will not be recommended for funding.)

_____ of 100 points

SPECIFIC BUDGETARY RECOMMENDATIONS

Requested Amount \$ _____

Recommended Amount \$ _____

COMMENTS:

I agree to maintain in confidence any information, documentation and material of any kind (hereinafter referred to as "Material") included in this proposal; I further agree not to disclose, divulge, publish, file patent application on, claim ownership of, exploit or make any other use whatsoever of said "Material" without the written permission of the principal investigator. To the best of my knowledge, no conflict of interest is created as a result of my reviewing this proposal.

Reviewer's Name and Institution: _____

Reviewer's Signature: _____ Date: _____

(Form 6.11, rev 2010)

Proposal Number: _____

Principal Investigator: _____

Page 1 of 3

**BOARD OF REGENTS SUPPORT FUND ENHANCEMENT PROGRAM, FISCAL YEAR 2010-11
RATING FORM FOR TRADITIONAL AND UNDERGRADUATE ENHANCEMENT PROPOSALS
REQUESTS OTHER THAN EQUIPMENT PURCHASES (e.g., Colloquia, Curricular Revisions, etc.)**

INSTRUCTIONS: The completed evaluation form should represent the consensus of the expert members of the review panel and, as such, must reflect the final decisions of that panel. Review this form and the program guidelines prior to reading the proposal. The higher the score, the more clearly the proposal satisfies the criterion under consideration. Guidelines should not be interpreted to exclude from eligibility departments and/or units engaged solely in instruction. Use the white space provided to explain the panel's ratings, especially on items given low scores. Attach additional pages, as necessary.

A. THE CURRENT SITUATION—Total of 10 points

- | | | |
|--------------------|-----|--|
| YES _____ NO _____ | A.1 | Has the applicant adequately described the institution and unit(s)/department(s) that will benefit from the proposed project, especially in terms of mission, faculty, students, and relevant institutional or departmental resources? |
| _____ of 5 pts. | A.2 | To what extent will the proposed project enhance the affected department(s) or unit(s)? |
| _____ of 5 pts. | A.3 | To what extent will the project complement and improve upon existing resources of the department(s) or unit(s)? |

COMMENTS:**B. THE ENHANCEMENT PLAN—Total of 66 points**

- | | | |
|------------------|-----|---|
| _____ of 5 pts. | B.1 | Are the goals and objectives clearly stated? |
| _____ of 23 pts. | B.2 | Does the work plan sufficiently describe the activities that will be undertaken to achieve the goals and objectives of the proposal with responsible individuals listed for each activity, a schedule of activities with benchmarks to be accomplished, and a description detailing how each objective will be evaluated? |
| _____ of 25 pts. | B.3 | To what extent will the proposed project catapult the department(s) or unit(s) into attaining a high level of regional, national, or international eminence—or maintaining a current high level of eminence—commensurate with degree offerings and/or functions? |
| _____ of 5 pts. | B.4 | To what extent will the proposed project have an impact on the variety and quality of curricular offerings and instructional methods within the affected department(s) or unit(s)? Appropriate to current thinking in the specific field(s) or discipline(s) of the proposed project, is reform of undergraduate education and/or teacher preparation encouraged? |
| _____ of 2 pts. | B.5 | To what extent will the proposed project enhance the ability of the department(s) or unit(s) to attract and/or retain students of high quality, particularly high quality students from Louisiana? |
| _____ of 6 pts. | B.6 | To what extent will the project contribute to improving the quality and effectiveness of faculty teaching and improve faculty pedagogical practices within the context of current thinking on reform of undergraduate education and teacher preparation, specific to field(s) or discipline(s) of the proposed project? |

C. FACULTY AND STAFF EXPERTISE—Total of 12 points

- | | | |
|-----------------|-----|---|
| _____ of 12 pts | C.1 | Are the faculty and support personnel appropriately qualified to implement this project? If special training will be required for faculty and/or other personnel, has an appropriate plan been developed? |
|-----------------|-----|---|

BoRSF Enhancement RFP, FY 2010-11, Page 24

Proposal Number: _____

Principal Investigator: _____

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COMMENTS:

D. ECONOMIC AND/OR CULTURAL DEVELOPMENT AND IMPACT—Total of 12 points

_____ of 2 pts. D.1 To what extent will the project assist in establishing a new relationship, or strengthen an existing relationship, with one or more industrial/institutional sponsors (e.g., private business, trade organization, professional organization, non-profit or community organization, another university or consortium of universities, federal government agency)?

NOTE TO REVIEWER: Depending on the discipline of the submitting department or unit, provide rating points for either D.2a OR D.2b:

_____ of 10 pts. D.2a For science/engineering proposals only: To what extent will the project assist the submitting department(s)/unit(s) in promoting or enhancing the economic development of the State of Louisiana?

D.2b For non-science/non-engineering proposals only: To what extent will the project contribute to the academic and/or cultural resources of the State of Louisiana?

COMMENTS:

E. PREVIOUS SUPPORT FUND AWARDS—No points assigned

YES__ NO__ F.1 If the Project Director or Co-Project Director has received previous Support Fund support, has it been adequately documented?

COMMENTS:

F. TOTAL SCORE (NOTE: Proposals with a total score below 70 will not be recommended for funding.)

_____ of 100 points

Proposal Number: _____

Principal Investigator: _____

Page 3 of 3

SPECIFIC BUDGETARY RECOMMENDATIONS

Requested Amount:\$ _____ Recommended Amount:\$ _____

COMMENTS:

I agree to maintain in confidence any information, documentation and material of any kind (hereinafter referred to as "Material") included in this proposal; I further agree not to disclose, divulge, publish, file patent application on, claim ownership of, exploit or make any other use whatsoever of said "Material" without the written permission of the principal investigator. To the best of my knowledge, no conflict of interest is created as a result of my reviewing this proposal.

Reviewer's Name and Institution: _____

Reviewer's Signature: _____ Date: _____

(Form 6.12, rev.2010)