

2009 EPSCoR Committee of Visitors (COV) Report

Date of COV:	August 11-12, 2009								
Program/Cluster/Section:									
Division:	Experimental Program to Stimulate Competitive Research (EPSCoR)								
Directorate:	Office of Integrative Activities								
Number of actions reviewed:	<table> <tr> <td>Research Infrastructure Improvement (RII):</td> <td>65</td> </tr> <tr> <td>Co-Funded Actions (CFA):</td> <td>20</td> </tr> <tr> <td>Outreach and Workshops (O&W):</td> <td>23</td> </tr> <tr> <td>Total:</td> <td>108</td> </tr> </table>	Research Infrastructure Improvement (RII):	65	Co-Funded Actions (CFA):	20	Outreach and Workshops (O&W):	23	Total:	108
Research Infrastructure Improvement (RII):	65								
Co-Funded Actions (CFA):	20								
Outreach and Workshops (O&W):	23								
Total:	108								
Awards:	96 (RII = 56; CFA = 20; O&W = 20)								
Declinations:	12 (RII = 9; O&W = 3)								
Other:	0								
Total number of actions within Program/Cluster/Division during period under review:	1,483								
Awards:	1,213 (RII = 115; CFA = 1,073; O&W = 25)								
Declinations:	270 (RII = 9; CFA = 258; O&W = 3)								
Other:	0								
Manner in which reviewed actions were selected:	<p>Lists of all 1,483 EPSCoR actions taken during the FY 2005 – FY 2008 period of this review were made available to COV members in advance of the meeting. All RII decision actions (65) and 23 O&W actions were made available to the Committee electronically through e-Jacket. The Chair, on behalf of the Committee, directed the staff to select 5 CFA actions for each of the four years under consideration for a total of 20 CFA actions. These 20, taken from the total pool of 1,331 CFA actions, reflected 20 different EPSCoR jurisdictions as well as all directorates and offices of the Foundation. These, too, were made available to the Committee through e-Jacket. In total, the Committee had immediate electronic (e-Jacket) access to documentation for 108 EPSCoR actions. For all Committee requests for records not among the 108 in e-Jacket, traditional hardcopy jackets were provided.</p>								

PART A. INTEGRITY AND EFFICIENCY OF THE PROGRAM'S PROCESSES AND MANAGEMENT

Briefly discuss and provide comments for *each* relevant aspect of the program's review process and management. Comments should be based on a review of proposal actions (awards, declinations, and withdrawals) that were *completed within the past three fiscal years*. Provide comments for *each* program being reviewed and for those questions that are relevant to the program under review. Quantitative information may be required for some questions. Constructive comments noting areas in need of improvement are encouraged.

A.1 Questions about the quality and effectiveness of the program's use of merit review process. Provide comments in the space below the question. Discuss areas of concern in the space provided.

QUALITY AND EFFECTIVENESS OF MERIT REVIEW PROCESS	YES, NO, DATA NOT AVAILABLE, or NOT APPLICABLE ¹
<p>1. Are the review methods (for example, panel, ad hoc, site visits) appropriate?</p> <p>Comments:</p> <p>The COV was pleased to see the appropriate use of ad hoc reviews of the technical areas in RII proposals in addition to panel reviews. The COV was also pleased to see that the number of reviews received for each proposal has significantly increased since the last COV in 2005.</p>	<p>YES</p>
<p>2. Are both merit review criteria addressed</p> <p>a) In individual reviews?</p> <p>b) In panel summaries?</p> <p>c) In Program Officer review analyses?</p> <p>Comments:</p> <p>The COV was particularly impressed with the quality of the analysis of both review criteria in the Panel Summaries and in the review analyses. The three parts of the review process (individual reviews, panel summaries, and review analyses) were integrated in a manner that gave great checks and balances in the review process.</p>	<p>YES</p> <p>YES</p> <p>YES</p>

¹ If "Not Applicable" please explain why in the "Comments" section.

<p>3. Do the individual reviewers provide substantive comments to explain their assessment of the proposals?</p> <p>Comments:</p> <p>The COV noted that the overall quality of the reviews was strong. Although the quality of individual reviews varied, the COV noted improvement in the individual reviews between 2005 and 2008.</p>	<p>YES</p>
<p>4. Do the panel summaries provide the rationale for the panel consensus (or reasons consensus was not reached)?</p> <p>Comments:</p> <p>The COV was impressed with the excellent quality of the panel summaries. These summaries served as strong syntheses and appear to have captured the substantive dialogue of the panel discussions.</p>	<p>YES</p>
<p>5. Does the documentation in the jacket provide the rationale for the award/decline decision?</p> <p>(Note: Documentation in jacket usually includes context statement, individual reviews, panel summary (if applicable), site visit reports (if applicable), program officer review analysis, and staff diary notes.)</p> <p>Comments:</p> <p>The COV felt that the overall documentation for RII proposals was excellent, though we did note that a few key documents were missing (or not in the e-Jacket) for proposals awarded in FY 2005. Some of the co-funding jackets examined by the COV did not provide good documentation of why the EPSCoR office made the decision to provide co-funding. EPSCoR should examine whether the co-funding documentation could more closely match the quality and thoroughness of documentation of RII's.</p>	<p>YES</p>

<p>6. Does the documentation to PI provide the rationale for the award/decline decision?</p> <p>(Note: Documentation to PI usually includes context statement, individual reviews, panel summary (if applicable), site visit reports (if applicable), and, if not otherwise provided in the panel summary, an explanation from the program officer (written or telephoned with diary note in jacket) of the basis for a declination.)</p> <p>Comments:</p> <p>The COV felt that PIs are generally provided with sufficient information to support the rationale for the award decision. However, there was some concern that in cases where a RII proposal is funded, despite low reviews in specific areas, the PIs be made aware of the seriousness of the comments and that the EPSCoR office continue its practice of following up to ensure that the appropriate corrective actions are taken.</p>	<p>YES</p>
<p>7. Is the time to decision appropriate?</p> <p>Note: Time to Decision --NSF Annual Performance Goal: For 70 percent of proposals, inform applicants about funding decisions within six months of proposal receipt or deadline or target date, whichever is later. The date of Division Director concurrence is used in determining the time to decision. Once the Division Director concurs, applicants may be informed that their proposals have been declined or recommended for funding. The NSF-wide goal of 70 percent recognizes that the time to decision is appropriately greater than six months for some programs or some individual proposals.</p> <p>Comments:</p> <p>The COV felt that the deadlines were very clear, timelines for processing proposals were met, and the staff was communicative.</p>	<p>YES</p>
<p>8. Additional comments on the quality and effectiveness of the program's use of merit review process:</p>	

A.2 Questions concerning the selection of reviewers. Provide comments in the space below the question. Discuss areas of concern in the space provided.

SELECTION OF REVIEWERS	YES , NO, DATA NOT AVAILABLE, or NOT APPLICABLE ²
<p>1. Did the program make use of reviewers having appropriate expertise and/or qualifications?</p> <p>Comments:</p> <p>The COV felt that the appropriate use of <i>ad hoc</i> reviews in technical specialties was a significantly improved since the last review.</p>	<p>YES</p>
<p>2. Did the program use reviewers balanced with respect to characteristics such as geography, type of institution, and underrepresented groups?</p> <p>Note: Demographic data is self reported, with only about 25% of reviewers reporting this information.</p> <p>Comments:</p> <p>The COV felt that the EPSCoR program used an excellent and diverse group of reviewers representing both EPSCoR and non-EPSCoR institution. The COV recognizes that this aspect of the program has significantly improved since the 2005 COV. Since the 2008 RII competition, the program reported detailed demographic and disciplinary data of reviewers in its review analyses.</p>	<p>YES</p>
<p>3. Did the program recognize and resolve conflicts of interest when appropriate?</p> <p>Comments:</p> <p>The EPSCoR program has implemented well-structured processes for recognizing, resolving, and documenting conflicts-of-interest.</p>	<p>YES</p>

² If “Not Applicable” please explain why in the “Comments” section.

4. Additional comments on reviewer selection:

A.3 Questions concerning the resulting portfolio of awards under review. Provide comments in the space below the question. Discuss areas of concern in the space provided.

<p align="center">RESULTING PORTFOLIO OF AWARDS</p>	<p align="center">APPROPRIATE, NOT APPROPRIATE, OR DATA NOT AVAILABLE</p>
<p>1. Overall quality of the research and/or education projects supported by the program.</p> <p>Comments:</p> <p>The COV felt that the quality of RII projects is high and improving.</p>	<p align="center">APPROPRIATE</p>
<p>2. Does the program portfolio promote the integration of research and education?</p> <p>Comments:</p> <p>The program portfolio reflects strong, synergistic integration of research and education.</p>	<p align="center">APPROPRIATE</p>
<p>3. Are awards appropriate in size and duration for the scope of the projects?</p> <p>Comments:</p> <p>Consistent with the EPSCoR 2020 Workshop Report recommendations, RII award size and duration have increased.</p>	<p align="center">APPROPRIATE</p>

<p>4. Does the program portfolio have an appropriate balance of:</p> <ul style="list-style-type: none"> • Innovative/potentially transformative projects? <p>Comments:</p> <p>The innovative and potentially transformative nature of the RII varied by project. The COV feels that it is important to recognize that what may be viewed as transformative needs to reflect jurisdictional context.</p>	<p>APPROPRIATE</p>
<p>5. Does the program portfolio have an appropriate balance of:</p> <ul style="list-style-type: none"> • Inter- and Multi- disciplinary projects? <p>Comments:</p> <p>Virtually all RII projects were multidisciplinary. The disciplinary scope of co-funded awards varied from individual research efforts to collaborative and group projects.</p>	<p>APPROPRIATE</p>
<p>6. Does the program portfolio have an appropriate balance among, for example, award size, single and multiple investigator awards, or other characteristics as appropriate for the program?</p> <p>Comments:</p> <p>A broad spectrum of award size, duration, and type is reflected in the overall EPSCoR portfolio.</p>	<p>APPROPRIATE</p>
<p>7. Does the program portfolio have an appropriate balance of:</p> <ul style="list-style-type: none"> • Awards to new investigators? <p>NOTE: A new investigator is an investigator who has not been a PI on a previously funded NSF grant.</p> <p>Comments:</p> <p>The COV felt that it was important that jurisdictions engage and support new and young investigators in their research activities. The COV felt that RII proposals should clearly articulate projected involvement of young investigators in RII activities.</p> <p>In co-funded actions, there is strong investment in CAREER awards.</p>	<p>APPROPRIATE</p>

<p>8. Does the program portfolio have an appropriate balance of:</p> <ul style="list-style-type: none"> • Geographical distribution of Principal Investigators? <p>Comments:</p> <p>Principal investigators from all 27 EPSCoR jurisdictions are supported.</p>	<p>APPROPRIATE</p>
<p>9. Does the program portfolio have an appropriate balance of:</p> <ul style="list-style-type: none"> • Institutional types? <p>Comments:</p> <p>Diversity of institutions is a requirement of RII proposals. Co-funded investments in a broad spectrum of institutional types are evident.</p>	<p>APPROPRIATE</p>
<p>10. Does the program portfolio have an appropriate balance:</p> <ul style="list-style-type: none"> • Across disciplines and sub disciplines of the activity? <p>Comments:</p> <p>There is evidence that the disciplinary reach of the EPSCoR program spans the intellectual breadth of Foundation programs.</p>	<p>APPROPRIATE</p>
<p>11. Does the program portfolio have appropriate participation of underrepresented groups?</p> <p>Comments:</p> <p>The EPSCoR portfolio shows thoughtful investment in underrepresented groups through RII, Co-Funding, and Outreach and Workshop mechanisms.</p>	<p>APPROPRIATE</p>
<p>12. Is the program relevant to national priorities, agency mission, relevant fields and other constituent needs? Include citations of relevant external reports.</p> <p>Comments:</p> <p>The program is extremely relevant to and cognizant of national priorities, agency mission, relevant fields, and other constituents. Particularly, since the last COV, the program has responded to recommendations outlined in the following reports:</p> <p>National Science Foundation (2006). <i>Investing in America's Future: Strategic</i></p>	<p>APPROPRIATE</p>

Plan FY 2006-2011. Arlington, VA.: National Science Foundation. NSF 06-48.

National Science Board (2005). *2020 Vision for the National Science Foundation*. Arlington, VA: National Science Board. NSB-05-142.

Odom, J. D. (2006). *EPSCoR 2020 Workshop*. EPSCoR 2020 Workshop Report. Grant Report (OIA 06307).

National Academies (2005). *Rising Above the Gathering Storm*. Washington, D.C.: National Academies Press.

National Science Foundation (2007). *Cyberinfrastructure Vision for 21st Century Discovery*. Cyberinfrastructure Council. Arlington, VA: National Science Foundation. NSF 07-28.

Franklin, S., Luker, M. and Sern, G. (2009). *National Science Foundation-Experimental Program to Stimulate Competitive Research (EPSCoR) Higher Education Bandwidth Networking Survey*. EDUCAUSE. Grant Report (EPS-0838100).

Domestic Policy Council (2006). *American Competitiveness Initiative: Leading the World in Innovation*. Washington, D.C.: Office of Science and Technology Policy.

Hart, G. and Rudman, W. (2001). *Road Map For National Security: Imperative for Change*. Hart-Rudman Report. Washington, D.C.: The United States Commission on National Security 21st Century.

13. Additional comments on the quality of the projects or the balance of the portfolio:

A.4 Management of the program under review. Please comment on:

1. Management of the program.

Comments:

The EPSCoR Director strives for transparency and does a good job in achieving it. A talented and respected staff has been assembled, and responsibilities have been delegated appropriately. The management of this program is now thoughtful, orderly, and of high caliber. Moving from EHR to OIA has also provided appropriate attention and oversight from the highest levels of the Foundation. Relations across the directorates of the Foundation appear to be strong. As a result, co-funding opportunities have continued to grow, leveraging EPSCoR dollars in significant ways. The COV finds that building strong relationships internally and appropriately growing those with other federal agencies has been done exceedingly well by the management team and should continue to be a priority.

2. Responsiveness of the program to emerging research and education opportunities.

Comments:

The program is promptly responsive to opportunities that take maximum advantage of the combination of research and education innovations, particularly as they are relevant to individual jurisdictions and the strengths within respective jurisdictions. Management is well attuned to the capacity for jurisdictions to engage in emerging trends and supports and encourages efforts to develop infrastructure and workforce capacity. Moreover, the COV applauds the efforts of management to be attuned to the economic development capacities within jurisdictions and to tie assessment and goal setting to the educational and research opportunities that also strategically expand economic development.

3. Program planning and prioritization process (internal and external) that guided the development of the portfolio.

Comments:

Planning and prioritizing for this program have shifted from a somewhat top-down and opaque process to one that is bottom-up and transparent. The EPSCoR Director and staff are trusted and respected both internally and externally. The use of committees in consultative ways has greatly strengthened the ability to leverage EPSCoR dollars and co-funding opportunities have grown. Goals and objectives are clearly stated, jurisdictions and PIs are given excellent and timely feedback, and funding for all initiatives continues to grow. The leadership is wise to keep the initiatives within the program well-focused in three areas (infrastructure development, co-funding and workshops), which allows for effective oversight and management of the activities by a modest-sized staff. This clearly conveys the desire to provide exceptional service while maximizing the funding that can be distributed to the jurisdictions.

4. Responsiveness of program to previous COV comments and recommendations.

Comments:

All of the suggestions from the previous COV have been addressed. Having the benefit of a member of the previous COV on this year's committee was deemed highly desirable and provided "institutional memory" that brought context to the progress achieved and enthusiasm for the great degree of responsiveness to past suggestions. The COV suggests that the next review be conducted in similar fashion and that every effort be made to include a member from this COV on the next EPSCoR review. Indeed, the progress made in the wake of the previous review has been impressive and is a testimony to how serious the leadership is about continuous progress and improvement in the program itself and the service that the Foundation provides to the country overall.

5. Additional comments on program management:

Three key events have led to significant improvements in program image, quality and overall management. First, the current leadership team is respected and responsive. Second, the EPSCoR 2020 committee report laid out critical pathways for the program to grow and develop and these pathways have been, by and large, followed. Finally, the shift from EHR to OIA allows the program to enjoy greater internal visibility and credibility, which has further resulted in the recruitment of strong talent to lead and manage the program.

PART B. RESULTS OF NSF INVESTMENTS

The NSF mission is to:

- promote the progress of science;
- advance national health, prosperity, and welfare; and
- secure the national defense.

To fulfill this mission, NSF has identified four strategic outcome goals: Discovery, Learning, Research Infrastructure, and Stewardship. The COV should look carefully at and comment on (1) noteworthy achievements based on NSF awards; (2) ways in which funded projects have collectively affected progress toward NSF's mission and strategic outcome goals; and (3) expectations for future performance based on the current set of awards.

NSF investments produce results that appear over time. Consequently, the COV review may include consideration of significant impacts and advances that have developed since the previous COV review and are demonstrably linked to NSF investments, regardless of when the investments were made.

To assist the COV, NSF staff will provide award "highlights" as well as information about the program and its award portfolio as it relates to the three outcome goals of Discovery, Learning, and Research Infrastructure. The COV is not asked to review accomplishments under Stewardship, as that goal is represented by several annual performance goals and measures that are monitored by internal working groups that report to NSF senior management.

B. Please provide comments on the activity as it relates to NSF's Strategic Outcome Goals. Provide examples of outcomes ("highlights") as appropriate. Examples should reference the NSF award number, the Principal Investigator(s) names, and their institutions.

B.1 OUTCOME GOAL for Discovery: *"Foster research that will advance the frontier of knowledge, emphasizing areas of greatest opportunity and potential benefit and establishing the nation as a global leader in fundamental and transformational science and engineering."*

Example #1-RII

Title:	Research Infrastructure for Nevada's Growth - Targeting Research with Uniqueness and Excellence
Award Number:	0447416
PI:	Dana, Gayle L
Institution:	Nevada System of Higher Education
Type:	RII
Rating:	E, E, VG, VG, VG
Intellectual Merit:	This proposal seeks to build infrastructure in three new focal areas: (1) environmental processes in arid soils, (2) sensor technology, and (3) cognitive information processing. Very large scale changes could be produced that will help state growth in technology, sustainability.

Broader Impact: Significant efforts are proposed, specifically targeted to: (1) undergraduate research opportunities (to address student drop out); (2) start-up packages for faculty hires from underrepresented groups; and (3) middle- and high-school programs.

Comments: This proposal was selected as a model program because it presents transformative research that is tailored to the needs of the region. This proposal selects science that can have large-scale impact. Although sensors may be an established technology, they chose a slice where they can carve out expertise (particularly, chemical and genetically engineered biological material for biosensors and (2) electrochemical, fluorescence, and optical-fiber-based sensors.) This is an exemplary model of doing good science locally and niche carving. It is a balanced proposal consisting of research efforts, personnel building, and infrastructural enhancements, which are clearly stated. The goals of the investment are transparent. Additionally, the goal to improve the science literacy for a diverse population is sought and fully described.

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Example #2-RII

Title: Investing in Maine Research Infrastructure: Sustainable Forest Bioproducts
Award Number: 0554545
PI: Eckardt, Michael
Institution: University of Maine
Type: RII

Rating: E, E, E, VG, VG, G

Intellectual Merit: This is an innovative award. The goals are to develop infrastructure to convert bioproducts to other sources of fuel. Specifically, the aim of this proposal is the conversion of polymers from trees into new bioproducts while preserving and improving existing forest products and integrating production of chemicals, energy, biopolymers, and fuels. It is Maine's efforts to proactively address issues of sustainability from a scientific vantage and create new technologies and jobs along the way.

Broader Impact: This proposal anticipates that a portfolio of products, chemicals, fuels, and/or energy, will be created to sustain the environment without injuring the forestlands. Conventional graduate student nurturing is presented and STEM efforts towards Native Americans are proposed (after some initial prodding from NSF).

Comments: It is clear from the documentation that this proposal drummed up lots of interest. Reviewers raised questions about the scientific feasibility and the outreach, but all concluded that if successful this would be a big win for the state of Maine. This proposal is a transformative effort that plans to change the industry and science of Maine. This proposal was selected as a model program because it represents the kind of innovation that is possible within the EPSCoR program.

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Example #3-Co-funding

Title: CAREER: Linking novel thermophiles with ecosystem function: Study of a model spring in Nevada

Award Number: 0546865

PI: Hedlund, Brian P.

Institution: UN-LV

Type: Co-Funding

Rating: E, E, VG, G, G, F*
*Reviewer thought the outreach part was too small.

Intellectual Merit: The PI is proposing to study the microbial communities responsible for primary production in an alkaline hot spring, Boiling Spring, in Nevada. It focuses on four main areas of interest concerning the function of bacteria in the hydrothermal community: 1) spring chemistry, 2) *in situ* respiratory activities, 3) identifying the organisms responsible for primary production, and 4) culturing these organisms.

Broader Impact: The PI described an education and training plan that will involve undergraduates, graduate students and a postdoctoral researcher. In addition, it includes a six-day summer course where undergraduates visit students and teachers from Pyramid Lake High School for Native American (Paiute) students. The proposal states that UNLV is a minority-serving institution.

Comments: EPSCoR served this proposal well, since it was able to capture a good proposal that might otherwise have been declined. (The "F" was given by one reviewer for limited outreach efforts). This application was a resubmission that attended to the earlier feedback. The award is considered transformative to its specific region.

B.2 OUTCOME GOAL for Learning: *"Cultivate a world-class, broadly inclusive science and engineering workforce, and expand the scientific literacy of all citizens."*

Proposal Number: EPS-0849385

Proposal Title: NSF EPSCoR Water Dynamics Workshop

Proposal Type: Workshop

Institution: University of Vermont

Project Director: Judith Van Houten

Ratings: VG/G*, VG, VG
*It is worth mentioning that the "good" part of the rating was well articulated in the review.

Brief project description:

The objectives of this workshop proposal were to:

- share information among NSF EPSCoR jurisdictions on the nature of water resources issues (*management, policy*) and the state-of-the-art in research (*science*) on water in the NSF EPSCoR jurisdictions
- explore collaboration and outreach strategies for researchers, managers and policy makers, and
- identify opportunities across NSF directorates for research support in water dynamics that will align with the expertise of scientists and engineers in NSF EPSCoR jurisdictions in order to improve funding competitiveness.

Intellectual merit:

The intent was to bring speakers from diverse groups who would highlight and share ideas on emerging scientific innovations in water dynamics. The presentations profiled new studies that focused on examining the dynamics of change in water systems and new research tools available to scientists and engineers to document and model these changes. The workshop was specifically designed to build collaborations among NSF EPSCoR researchers, thereby strengthening the nation's research capacity.

Broader impacts:

Workshop participants, from diverse interest groups and stakeholders addressed the relevance of research to water resource management and policy. They highlighted the opportunities for STEM educational outreach and workforce development through community based research. The social dynamics of the hydrological systems were explored, as were strategies for bringing the diversity of water researchers and students together in a forum that will contextualized all of these aspects.

Comments:

The subject of water dynamics while a bit outside the conventional "mainstream" was important, timely, and challenging. This workshop attracted researchers representing a wide range of interests and expertise areas and provided a forum for the free exchange of ideas and view points and was of great benefit to speakers and participants.

B.3 OUTCOME GOAL for Research Infrastructure: "*Build the nation's research capability through critical investments in advanced instrumentation, facilities, cyberinfrastructure and experimental tools.*"

Proposal Number: EPS - 0554657

Proposal Title: IMUA 2: NSF Hawaii EPSCoR

Proposal Type: RII

Institution: University of Hawaii

Project Director: James R. Gaines

Ratings: E, E, E, VG, VG, G, G*

*This reviewer was not familiar with NSF's rating system.

Brief project description:

This proposal is a continuation of a previous EPSCoR award (IMUA 1). The intent is to develop and expand research capabilities in two major areas:

- evolutionary and ecological genetics, and
- ecosystem responses to environmental change.

Intellectual merit:

This proposal serves as a continuation of a previous EPSCoR award with an emphasis on evolutionary genetics and ecosystems research. In addition, the proposal focuses on the development of appropriate cyber-infrastructure, primarily as a support function for these research areas. These focus areas take special advantage of Hawaii's unique environmental setting and diversity of species, together with existing research strengths.

Broader Impacts:

The proposed infrastructure development will promote discovery, teaching, and learning, and should significantly enhance knowledge in evolutionary ecology and ecosystem impact. Proposed activities (which represent a continuation of a previous EPSCoR award) will also build on the recent enhancements in personnel and facilities. The human resource development and outreach focus of the proposal addresses the declining number of Hawaii students who are pursuing degrees (and are retained) in STEM-related fields. One of the goals of the proposal is to broaden the participation of underrepresented groups, particularly native Hawaiians.

Comments:

This proposal had an especially well thought out outreach strategy that specifically targeted native Hawaiian students. The proposal addresses the declining number of Hawaii students who are pursuing degrees in STEM-related fields and intends to reverse this trend by integrating discovery, teaching, and learning in a way that takes full advantage of geographic location and ecosystems.

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Proposal Number: HRD - 0811826

Proposal Title: Langston's Integrated Network College Featuring The STEM Digital Village, LINC, Phase II

Proposal Type: Co-fund

Institution: Langston University (OK)

Project Director: John K. Coleman

Ratings: E, VG, VG, G

Brief project description:

This proposal represents a continuation/expansion of Langston's Integrated Network College (LINC)-Phase I featuring the STEM Digital Village. The project builds on the successes from the HBCU-UP program with particular emphasis on Competency Performance Recording for Learning (CPR-L).

Intellectual merit:

The method of Learning by Teaching has proven to be useful in helping students to learn and apply concepts in core courses. Students identify, analyze and solve problems. The activities promote exploration and originality; encourage discussions and sharing of ideas, which are essential for the learning to take place. The process enhances discipline and self reliance by students.

Broader Impacts:

Broader Impact: A wider community will be reached through the Digital Village Web site. The interactive nature of the Digital Village activities fosters critical thinking as well as a sense of community. Special emphasis is placed on student retention rates.

Comments:

This project represents a very nice combination of an integrated learning system coupled with cyberinfrastructure (Digital Village Web site). As such, it may well represent a "test-bed" for new teaching and evaluation/assessment methods.

PART C. OTHER TOPICS

C.1. Please comment on any program areas in need of improvement or gaps (if any) within program areas.

The COV finds that the EPSCoR program has been extremely responsive to the recommendations in the last COV Report (2005). The COV finds no gaps or program areas in need of improvement.

C.2. Please provide comments as appropriate on the program's performance in meeting program-specific goals and objectives that are not covered by the above questions.

The COV commends the Program for its responsiveness to the EPSCoR 2020 Workshop Report and encourages the Program to continue to focus on strategic priorities outlined in the Report.

C.3. Please identify agency-wide issues that should be addressed by NSF to help improve the program's performance.

The COV commends the Program for collaborating with research directorates in the implementation of activities, such as the highly successful workshop on water issues. Similarly, the COV believes that recognition by the Foundation of the connectivity of energy, water and environmental issues presents a unique opportunity for broad engagement of the research directorates by EPSCoR.

C.4. Please provide comments on any other issues the COV feels are relevant.

- EPSCoR management should continue to work with jurisdictions to track and analyze outcome data related to the success and retention of scientists, postdocs and students supported with EPSCoR funding, including those supported in grants that have been closed for some time. The EPSCoR program invests heavily in developing talent in EPSCoR states

through activities associated with RII awards and with co-funding. It can take a longer period of time than the length of an RII or CAREER award to determine the outcome of such investments. For example, the impacts on the success, retention, and contribution to jurisdictional science and technology efforts of junior faculty who received the first co-funded CAREER awards are probably just reaching the time where such metrics can be evaluated. Understanding the relationship of EPSCoR investments in people to the relative success of those researchers, and the likelihood that those researchers are retained, could be useful in the evolution of strategies that maximize the development and retention of scientific talent in EPSCoR states. Additionally, the scientific impacts of EPSCoR investment in research infrastructure can take years beyond the original investment before they come to fruition. EPSCoR management should work with jurisdictions to systematically capture major scientific advances that arise as a result of a foundation built by EPSCoR, both to help articulate the importance of EPSCoR to quality science, and to use as a tool in understanding how to maximize the positive impacts of infrastructure investments.

- The COV noted a few cases where EPSCoR management proceeded to fund RII proposals that received relatively low reviewer ratings (e.g., several “fair” review scores) and were “not recommended” or “fund only if...” by the review panel. The COV has two comments related to this observation:
 - In the cases mentioned above, PIs were asked to respond in detail to several questions/concerns posed by program officers. In general, the COV found the analysis of the reviews and the PI responses by program officers to be well done and the funding decision well justified. Nonetheless, the COV recommends that EPSCoR use a systematic method or approach to document the assessment of the PI responses to reviewer concerns, particularly in cases where the review panel does not strongly support funding a proposal, but EPSCoR management decides to fund.
 - The COV commends the EPSCoR program for using well known, high quality reviewers from EPSCoR jurisdictions and non-EPSCoR states. Most reviewers are usually familiar with success rates in the research directorates and are familiar with the type of review scores usually associated with funding recommendations. In the cases mentioned above, some members of the COV were concerned that some of these reviewers might be somewhat put off upon learning that proposals were funded that had received relatively low review scores from the review panel they served on. If so, this could serve to dampen the credibility of the EPSCoR program among the non-EPSCoR state reviewer community in addition to causing some individuals to not want to participate in EPSCoR reviews. Therefore, the COV recommends that EPSCoR management keep these concerns in mind when making a decision to fund a proposal that the original panel did not strongly support.

It is important that EPSCoR jurisdictions not be intellectually isolated from non-EPSCoR jurisdictions. Collaboration among scientists from EPSCoR jurisdictions and non-EPSCoR states can leverage the scientific impact of EPSCoR investments as well as potentially create a better understanding of the quality of science in EPSCoR states. Yet, the COV is sensitive to the importance of focusing EPSCoR funding in EPSCoR states. The co-funding mechanism appears to be an attractive tool to facilitate collaborations among researchers from EPSCoR and non-EPSCoR jurisdictions because it can increase the probability of success of collaborative proposals by leveraging regular NSF program funds with support for the EPSCoR side of the collaboration. Such use of co-funding already occurs, and the COV recommends that EPSCoR management work to highlight this aspect of co-funding. EPSCoR management may also wish to

consider working with the EPSCoR community to develop other mechanisms to foster collaborations among researchers from EPSCoR jurisdictions and non-EPSCoR states.

C.5. NSF would appreciate your comments on how to improve the COV review process, format and report template.

The COV commends the EPSCoR staff for an excellent job in posting the materials for electronic access in advance of the COV meeting. This facilitated a more efficient review process as the COV was able to review materials in a more timely fashion.

SIGNATURE BLOCK:

For the 2009 EPSCoR COV
Willie Pearson, Jr.
Chair

From: "W. Lance Haworth" <lhaworth@nsf.gov>
To: "Willie Pearson, Jr." <kingvassie@comcast.net>
Cc: "Henry N. Blount" <hblount@nsf.gov>
Sent: Thursday, August 27, 2009 2:53:02 PM GMT -05:00 US/Canada Eastern
Subject: RE: EPSCoR COV

Thanks again, Willie. We have no clarifications to request - it's a very clear report!

Best / Lance

From: Willie Pearson, Jr. [<mailto:kingvassie@comcast.net>]
Sent: Tuesday, August 25, 2009 8:30 PM
To: Haworth, W. Lance
Subject: Re: EPSCoR COV

Lance,

Thanks for your prompt rely. Please let me know if you need clarification on anything. The group was very thorough. I hope that you enjoyed your trip.

willie

----- Original Message -----

From: "W. Lance Haworth" <lhaworth@nsf.gov>
To: "Willie Pearson, Jr." <kingvassie@comcast.net>
Sent: Tuesday, August 25, 2009 6:54:02 PM GMT -05:00 US/Canada Eastern

Subject: RE: EPSCoR COV

Willie,

Many thanks for the report and the cover letter you enclosed. I will send a formal response shortly. Meanwhile, on behalf of the EPSCoR community and of NSF, we truly appreciate the time and effort put in by the COV members and in particular by the COV chair! I'm delighted to see this detailed and incisive report - it will be critical for NSF in keeping EPSCoR on the right track.

With best personal regards

Lance

W. Lance Haworth

Director, Office of Integrative Activities

Office of the Director

National Science Foundation, Room 1285N

4201 Wilson Boulevard, Arlington, VA 22230

Tel: 703-292-8040

lhaworth@nsf.gov <<mailto:lhaworth@nsf.gov>>

From: Willie Pearson, Jr. [<mailto:kingvassie@comcast.net>]
Sent: Monday, August 24, 2009 3:22 PM
To: Haworth, W. Lance
Subject: EPSCoR COV

Lance,

Please find attached: (a) letter of transmittal and (b) report. We missed you at the COV sessions.

Willie

PS Let me know if you require any additional information, such as hard copies.
