

**LSAMP FINAL REPORT
For
FY 2010 NSF COMMITTEE OF VISITOR (COV) REVIEW**

Guidance to NSF Staff: This document includes the FY 2010 Committee of Visitors Final Report of the LSAMP Program. The COV followed the specific guidance for the COV review process as described in Subchapter 300-Committee of Visitors Reviews (NSF Manual 1, Section VIII) at: www.inside.nsf.gov/od/oia/cov.

The COV report provides a balanced assessment of NSF's performance in two primary areas: (A) the integrity and efficiency of the **processes** related to proposal review; and (B) the quality of the **results** of NSF's investments that appear over time. The COV also explores the relationships between award decisions and program/NSF-wide goals in order to determine the likelihood that the portfolio will lead to the desired results in the future. The COV studied confidential material for Part A of the Core Questions such as declined proposals and reviewer comments. The *COV report does not contain confidential material or specific information about declined proposals*. Discussions leading to answers for Part B of the Core Questions involved the study of non-confidential material such as results of NSF-funded projects. The report is useful in assessing agency progress in order to meet government-wide performance reporting requirements that are available to the public. We understand that material from COV reports may appear in NSF performance reports and may be subject to an audit.

**FY 2010 NSF COMMITTEES OF VISITORS (COV)
REPORT FOR LSAMP**

The table below has been completed by program staff.

Date of COV: August 31-September 2, 2010
Program/Cluster/Section: Louis Stokes Alliances for Minority Participation
Division: Human Resource Development
Directorate: Education and Human Resources
Number of actions reviewed: Awards: 35 Declinations: 3 Other: 0
Total number of actions within Program/Cluster/Division during period under review: 51 Awards: 197 Declinations: 18 Other: 0
Manner in which reviewed actions were selected: Random sample of award and non-award actions ending in the numerals "3", "5" and "8" at end or second from end of award/decline identification number. The sample includes new, incremental and supplemental actions other than this methodology to form a representative sample of the portfolio. <i>Innovation through Institutional Integration (I3) declines may be included in the total number of actions but were not reviewed by this Committee of Visitors. The program awarded no I3 proposals during this review period.</i>

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: The merit review procedures appeared to be appropriate. Some proposals required site visits. Selection criteria for those who received site visits were unclear but the site visit report seemed critical to the decision-making process.</p>	<p>Yes</p>
<p>2. Are both merit review criteria addressed</p> <p>a) In individual reviews? b) In panel summaries? c) In Program Officer review analyses?</p> <p>Comments:</p> <p>a) The majority of the individual reviews addressed both merit review criteria although some were much more thorough than others. b) The panel summaries were very good in addressing both criteria. c) The Program Officer’s review analyses thoroughly addressed both merit review criteria and provided rationalization for disagreement. Data were provided to support the analyses.</p> <p>Overall, the review, summaries and analyses were full, comprehensive, and explicit.</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 majority of the individual reviewers provided substantive comments to explain their assessment of the proposals. Declination was [mostly] due to weak assessment plans, lack of a management plan or an unclear plan structure. There was also variance in addressing strengths & weaknesses.</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>Overall, the panel summaries gave a very detailed rationale for the panel's consensus.</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>In general, documentation in the jackets was thorough. However, there were anomalies associated in the cases of site visits and unsolicited proposals in which the rationale for award or declination was not explicit.</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 documentation to the PI provided adequate rationale for the award/declination decision. Declinations were always accompanied by a list of specific weaknesses to be addressed in a subsequent submission. In general, the panel summary and/or the Program Officer analysis did a good job in tracking details relative to decisions made.</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 time to decision was generally appropriate and within the NSF target. In the 2008 competition, however, there were instances where the timeline from proposal submission to notification exceeded the NSF target.</p>	<p>Yes</p>
<p>8. Additional comments on the quality and effectiveness of the program's use of merit review process:</p> <p style="text-align: center;">No additional comments noted.</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.

<p>SELECTION OF REVIEWERS</p>	<p>YES , NO, DATA NOT AVAILABLE, or NOT APPLICABLE²</p>
<p>1. Did the program make use of reviewers having appropriate expertise and/or qualifications?</p> <p>Comments:</p> <p>Review of the documentation indicated that reviewers with appropriate expertise and/or qualifications were used.</p>	<p>Yes</p>

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

<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>Although documentation indicated that reviewers were from a variety of states, it appeared that there were some “favorite” states (such as Oklahoma and Texas). Gender balance appeared to be appropriate in most panels. It was difficult to ascertain whether there was sufficient representation of other under-represented groups.</p>	<p>Yes</p>
<p>3. Did the program recognize and resolve conflicts of interest when appropriate?</p> <p>Comments:</p> <p>Great care seemed to be exercised to ensure there were no conflicts of interest. For example, NSF staff identified a conflict of interest with one reviewer whose review was not used.</p>	<p>Yes</p>
<p>4. Additional comments on reviewer selection:</p> <p style="text-align: center;">No additional comments noted.</p>	

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>RESULTING PORTFOLIO OF AWARDS</p>	<p>APPROPRIATE, NOT APPROPRIATE³, OR DATA NOT AVAILABLE</p>
<p>1. Overall quality of the research and/or education projects supported by the program.</p>	<p>Appropriate</p>

³ If “Not Appropriate” please explain why in the “Comments” section.

<p>Comments:</p> <p>There was evidence of significant partnerships and collaborations. In general, the alliances appeared to be quite strong based on “Results from Prior NSF Support” that were included in the proposal. In some cases, however, only one annual report had been filed (by the PI) for this three-year funding cycle.</p>	
<p>2. Does the program portfolio promote the integration of research and education?</p> <p>Comments:</p> <p>In a traditional sense, there was integration of research and education through the socialization and professionalization activities. Many proposals were appropriately directed to outcomes focused on student retention in STEM programs and degree completion. In those cases, integration of research and education was implicit in the proposals rather than explicitly stated. Overall, the integration was appropriate.</p>	Appropriate
<p>3. Are awards appropriate in size and duration for the scope of the projects?</p> <p>Comments:</p> <p>The size and duration of most of the awards appeared to be appropriate. One proposal was deemed to be innovative and excellent, although the budget was cut requiring the elimination of some of the innovative strategies.</p>	Appropriate
<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>Given the nature of the submissions, there were few instances of innovative and potentially transformative projects. Only 1 of the 51 proposals reviewed was lauded as being innovative in the Program Officer’s review.</p> <p>Overall, proposals emphasized the implementation of best practices rather than innovation.</p>	Appropriate
<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>There appears to be an appropriate balance of multi-disciplinary projects.</p>	Appropriate

<p>6. Does the program portfolio have an appropriate balance considering, for example, award size, single and multiple investigator awards, or other characteristics as appropriate for the program?</p> <p>Comments:</p> <p>All awards appeared to comply with the Alliance characteristics.</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 proposal solicitation severely restricts opportunities for new investigators since senior administrators are required to serve as PI.</p> <p>With respect to the funding of new sites, the ongoing commitment to current sites may preclude the selection of new sites and hence new investigators.</p> <p>Example: Of 12 jackets examined by one panelist, only one was indeed new; eight were at the senior level; two were mid-level; one, the unsolicited proposal, was unclassified.</p> <p>If participation is to be substantially broadened, efforts must be enhanced to increase the pool of truly new sites.</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>While efforts were made to maintain a balance of PIs in all geographical areas, alliances are largely located in the East, near Mid-west, and Southern states. There is no representation in the far Western states, such states as Wyoming, Utah, Nevada, Idaho, Oregon, the Plains states, and the upper Northeast. Since the FY07 COV, progress has been made in California but it is not comprehensive (only 47 institutions are represented).</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>Several alliances demonstrate a varied mix of majority- and minority-serving institutions spanning community colleges, primarily undergraduate, and</p>	<p>Appropriate</p>

<p>research-intensive institutions (Colorado, Florida-Georgia, with New Mexico and WASEO being viewed as outstanding examples of forming alliances that span the post K-12 continuum). However, various other alliances emphasize majority institutions (for example, Northeast and Upstate). More attention should be directed toward Minority-serving Institutions. These institutions (HBCUs, HSIs, and TCUs) represent only 154/555 (28%) of alliance institutions.</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 appears to be an appropriate balance across disciplines and sub-disciplines of the activity.</p>	<p>Appropriate</p>
<p>11. Does the program portfolio have appropriate participation of underrepresented groups?</p> <p>Comments:</p> <p>Both LSAMP and BD demonstrate excellent underrepresented-minority participation.</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>Both LSAMP and BD are relevant to national priorities, NSF’s mission, relevant fields and other constituent needs.</p>	<p>Appropriate</p>
<p>13. Additional comments on the quality of the projects or the balance of the portfolio:</p> <p style="text-align: center;">No additional noted.</p>	

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

1. Management of the program.

Comments:

Overall, the management of the program appears to be comprehensive with no obvious errors or omissions. They do a good job with limited staff and rotating Program Directors.

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

Comments:

The emphasis on emerging research and education opportunities is not as apparent as is broadening participation to include underrepresented groups in STEM disciplines.

The COV recommends more intra-agency partnerships and collaboration (i.e. REU, STEP and OISE) to provide additional opportunities for students.

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

Comments:

From the documents provided to the COV panel, it was not apparent how formative and efficiency assessments guided the development of the portfolio.

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

Comments:

We found documented evidence that previous COV comments and recommendations have been used for programmatic planning and prioritization. However, it was not apparent that this is reviewed and discussed on an annual basis.

5. Additional comments on program management:

The COV noted a need for additional NSF personnel to support the LSAMP and BD programs if NSF is to expand the program to areas of significant underserved and underrepresented populations.

The COV recommends developing a comprehensive website to inform the STEM community of the LSAMP program and its efforts (i.e. IGERT, CPATH, and MSP).

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 (NSF Act of 1950).

In this Section, the COV commented on (1) noteworthy achievements based on NSF awards in the portfolio under discussion; (2) ways in which funded projects have collectively affected progress toward NSF’s mission and the strategic outcome goals of Discovery, Learning, and Research Infrastructure; and (3) expectations for future performance based on the current set of awards.

The COV review included 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. Additionally, the COV noted the impact of NSF supported contributions to the field.

We also examined award “highlights” as well as information about the program and its award portfolio and used this information, members’ own knowledge of the field, and other appropriate information to develop its comments for this section.

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.”*

This category includes NSF’s disciplinary and interdisciplinary research in science and engineering, education research, and centers.

Comments:

The portfolios provided evidence that the students and Alliance leadership are engaged in current research with national and global applications.

Evidence/Examples:

- Authentic research in collaboration with faculty mentors (national & international)
- Dissemination/Presentations at conferences
- Peer-reviewed journal publications

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

This category includes K-12, undergraduate, graduate, and postdoctoral education and training; public understanding of science; and lifelong learning.

Comments:

The portfolio provided evidence of goal attainment through the increased number of students from underrepresented racial and ethnic groups graduating with STEM degrees. All funded renewal proposals demonstrated this increase to varying degrees.

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

This category includes facilities, research instrumentation, and cyberinfrastructure.

Comments:

Alliance linkages with DOE Supplements provide additional means by which students are gaining experience with advanced instrumentation, facilities, and experimental tools. All of the submitted supplemental proposals were supported. While the LSAMP program does not generally fund infrastructure, proposals showed evidence of leveraging LSAMP funds to achieve this objective.

PART C. OTHER TOPICS

FINAL CROSS-TALK SUMMARY

SUMMARY OF BUNDLED HRD COV CROSS-TALK REMARKS September 2, 2010

A group of COV review team members came together from 5 separate teams on September 2nd to discuss their differences in program perspectives, to find synergies that exist among the programs, and to identify mutual areas of concern that can help gain leverage and traction in broadening participation and increasing program effectiveness. The team members reviewed and evaluated the AGEP, CREST, HBCU, LSAMP, and TCUP programs before joining forces and sharing their views at the cross-talk session. Members were enthusiastically in alignment with anticipating the changing national education needs, encouraging collaboration and communication, and accelerating participation in global enterprises. The following summary represents major concerns of the assembled group.

- ❖ **Linkages/feedback mechanism across organizational lines:** The COV panel advocates improved linkages among the programs in HRD, and encourages the use and sharing of tracking and feedback mechanisms used by the programs.
 - A recommendation emerged that any awarded proposal should have the approval of the external review panel regarding its proposed broadening participation emphasis.
 - Several participants want to see more successful, collaborative efforts with other NSF programs, other agencies, National Laboratories, private industry, private foundations, and entrepreneurial research from small companies.
 - The group encourages private-public partnerships to facilitate technology transfer.
 - While use of Ad Hoc reviewers is an acceptable practice, the COV found that mainstream reviewers had more experience and seemed to do a better job. One suggestion to NSF is to provide a clear example of what a strong review looks like to facilitate better quality reviews.
 - Tracking of projects is sometimes difficult when the work ends. The team recommends practices that encourage sustainability and support for the projects.

- ❖ **Leadership Transition at the Top:** With new leadership coming in the opportune time exists to propose new methods of doing business. Panelists suggested that it is time to refine/restate NSF's commitment to BP. Some members recommended that NSF assess their structure to see if it promotes or discourages BP.
 - The panelists encourage the new Director of NSF to engage the affected community of institutional leadership and researchers in the first 90 days. Participants felt that by early engagement in the major concerns of the community, the first 90 days would make it possible to at the very least reinforce and/or establish a framework to meet objectives.
 - Considerable discussion revolved around which agency is best qualified to take the lead in managing a national education agenda. Besides NSF, the panel suggested National Institute of Health (NIH) with its very large budget, the Department of Education (DOE) which they did not feel has the needed clout and the Department of Defense (DOD) as possible candidates. The panel suggested that leadership

belongs with NSF which is well-positioned to take advantage of leveraging opportunities between agencies. With a formal leveraging mechanism in place, more opportunities to fund education would be possible. The NSF could consider developing a position called the Director of Integration to coordinate leveraging.

- IGERT represents a successful example of different directorates working together and cutting across the institutions as a flagship of graduate education. Panelists recommend identifying more programs like this that fund not just hard sciences but also social sciences to actually promote interdisciplinary education and thereby broaden participation.
- Encouraging collaborative grants with other institutions/organizations and/or companies may greatly expand and leverage the work across many programs and institutions.
- Developing leadership skills provides not only resources but also the type of leverage that enhances partnerships.

❖ **Broadening Participation:** Put teeth into it in the review process; identify a clear definition in the Strategic Plan that outlines goals and strategies for broadening participation.

- Consider using individuals who participate in programs and panels as mentors. Panels teach others how to do a better job of writing new proposals.
- A number of participants identified a need to increase the presence of minorities on panels.
- Generate increased participation from those who have been excluded from awards, grants, and fellowships over the years, particularly in STEM areas.
- Broader participation could come not only from giving others the opportunity to see what it is to develop an excellent proposal but also from obtaining diverse viewpoints from panelists.
- Develop a stand-alone section in standards that speaks to Broadening Participation so that it is not necessary to dilute what you emphasize in the science section.
- Several COV team members support the model of a separate panel or ad hoc reviewers to ensure that BP receives proper commentary and that PIs understand the need to incorporate it. The significance of the panel input drives the level of funding as determined by the scientific review, and appropriately, funds are not released until the criterion has been met. Be sure that panels have the expertise to deal with broadening participation and speak strongly to it.
- The funding structure should work to broaden participation rather than hinder it; if funding criteria are too bureaucratic, the result is a negative effect. The concern is that NSF does not have a mechanism in place that would allocate funding unless every piece of the proposal was rewritten to reflect a significant number of smaller proposals.
- Broadening Participation as a required criterion would also be appropriately included at the annual review stage and clearly addressed before the release of continuing grant increments.
- The panel asks which broad impacts NSF wants and further suggests setting standards and achievement metrics that NSF will examine yearly.
- Members suggested that NSF include reviewers who can do a critical analysis of broader impact. Most of the focus seems to be on intellectual merit.
- Improve communication between programs/agencies/organizations to strengthen alliances and make use of existing resources.

- ❖ **Structure of NSF – does it help or hinder Broadening Participation:** The consensus of the HRD COV Teams is that NSF should not consolidate these five programs. Other concerns emerged that ask whether NSF had a role in determining what is in the best interest of the country to leverage and improve on education.
 - Objections have been raised over proposed consolidation of the HRD programs. From a financial standpoint, some panelists feel that putting all the grant money in one pot is going to be a detriment especially to HBCU and TCUP and that the funding structure is short-sighted with the possibility of backfiring on the goal of broadening participation.
 - While the group recognized that human capital resources in some programs showed an increase since the time of the last program evaluations, a suggestion emerged to increase staffing to better manage programs and strengthen opportunities to meet goals for BP and BI.
 - A focus of new hires in specialized areas would allow for an increase in site visits by PIs that adds value to assessing programs, hiring individuals with experience in techniques for broadening participation increases the chance for achieving BP goals, and hiring someone at the executive level with expertise in leveraging opportunities among key parties/agencies.
 - Concerns emerged in discussions that smaller institutions don't have the sophistication to compete with larger institutions and if programs merge, the communities with small institutions will "hear" a message that the federal government doesn't care, and they fear loss of identity.
 - Talk to affected parties before making the organizational and funding changes that are going to generate long-term consequences.
 - Even with structure that has to be addressed and realigned, and with internal problems that have to be solved, the NSF is the ideal agency to carry the banner and lead the national initiative to improve the quality of research and higher education.
 - The incentive is there for NSF to emerge as a leader and to get creative to generate and leverage diverse funding pools.
 - The panelists would like to see NSF become an advocate of change – emerge as the federal "Change Agent" in pursuit of advanced education and funding resources.

❖ **Allocation of Resources:**

- Look for ways to fund infrastructure development that includes equipment and laboratories or a way to leverage program resources with other NSF opportunities.
- Put funds directly into supporting students and personnel without taking away from the dollars set aside for research-related expenses.
- Find a way to train students to become active members of faculty by learning how to write proposals, develop networks, and engage with people to expand partnerships and innovative research.
- Set aside funding for information technology tools along with the training to work with new software so that emerging science moves into the next generation with quality results and smooth transitions.
- To ensure that programs are sustainable provide increased support so that you can measure outcomes.
- Look for innovative programs that cultivate entrepreneurial students and programs. Students want to know how they can earn a living, make money and enjoy their work. Without the incentive, they may choose other options that have less satisfying results.

- Consider engaging with private industry to forge partnerships that support internships for students within the organization. Identify success stories where these partnerships have worked.
- ❖ **Demonstrate the Effectiveness of the HRD Programs:** A number of participants believe that NSF programs have a weak system for disseminating information on the successes coming out of these programs. Panelists feel that more investment of funds in NSF programs would be possible if a plan to attract other organizations was in place. Members advocate strengthening the information pipeline and generating national publicity for program accomplishments.
- Use simple graphs; convince people on the outside with presentations that are simple and straightforward.
 - Publicize accomplishments of note; even consider putting ads in major media outlets
 - Consider engaging the services of public relations firms to create interest in investors that have the resources to fund programs.
 - Tell other institutions what we do, that NSF looks for opportunities to engage in collaborative grants and are looking for partnerships and new funding sources to advance education globally.
 - Widely disseminate information on best practices to share information at the national level.
 - Get the attention of the internal press, the Office of Legislative and Public Affairs, and ultimately the media to put the spotlight on successful NSF programs.
 - Develop data bases and target groups to share program information.
- ❖ **Role of the National Science Board:** Some discussion came up about how the National Science board can set priorities with respect to addressing BP and hold programs responsible for addressing it or do without funding. Perhaps this is an enforcement role for NSB.
- Revisited the discussion regarding the possibility of weighting the merit review criteria.
 - Members were in passionate agreement that the composition of the National Science Board needs more diversity.
 - Broadening impact has to be evident throughout the structure including the National Science Board.

LSAMP COV COMMENTS

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

Across the Portfolio

- ❖ Intra-agency communication and collaboration between LSAMP and other NSF programs (e.g. REU, STEP, OISE) should be more explicitly emphasized and encouraged.
- ❖ Improved communication and coordination between AGEP and LSAMP-BD is necessary to leverage resources and achieve common goals in increasing the number of underrepresented minority (URM) students who obtain graduate degrees in STEM.

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.

Across the Portfolio

- ❖ How robust are the Directorate's databases that track demographics and other data on the programs' target populations? Is the Directorate's use of money and performance evaluated with respect to those numbers?

Program-Specific

- ❖ The evaluation completed by the Urban Institute showed LSAMP to be highly effective. LSAMP is at the forefront of using data to demonstrate impact, including the use of quasi-experimental design. More frequent formative feedback would be an asset to the LSAMP program.
- ❖ It would be helpful if program officers (POs) could provide prospective principle investigators (PIs), Co-PIs, and project evaluators with resources (i.e. instruments, metrics, and indicators) as well as additional information on assessment plans, designs, and results via a comprehensive website.

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

Across the Portfolio

- ❖ The Foundation should assess the extent to which each directorate is involved in advancing the Broadening Participation (BP) agenda and take corrective steps where appropriate. Preparing a yearly report on the progress in this area to share what strides other programs are making in BP would be informative and useful.
- ❖ The COV recommends that solicitations from other NSF programs encourage collaboration with HRD programs.
- ❖ Electronically-assembled panels should be established to ensure that proposals recommended for funding fulfill BP criteria.

- ❖ BP has an enormous agenda and the majority of the responsibility to carry out this agency-wide initiative is being placed on the smallest directorate with the least amount of resources, the Directorate for Education and Human Resources (EHR). While EHR is well-suited to provide leadership, all of the directorates should participate in fulfilling this directive. NSF policies with respect to BP should reflect that it is an agency-wide commitment and the Foundation needs to be clearer about what is expected from the various directorates.
- ❖ A more rigorous definition of BP is needed. In order to provide leadership on this issue, NSF should have explicit merit review procedures associated with the BP component of proposals.
- ❖ PIs should be provided with more information regarding the BP aspect of the merit review process. Additionally, the BP portion of the merit review process should be addressed separately in some way. For instance, one person from each panel could look specifically at the BP-related award components. Ultimately, a separate review is the best way to proceed.
- ❖ Make BP a more explicit part of future metrics and assessment so that accountability is built into BP goals.

Program-Specific

- ❖ Enhance collaboration within NSF to coordinate and facilitate BP efforts and leverage individual programmatic resources. For example, channeling student participation in REU programs and providing a means for REU PIs to communicate opportunities to LSAMP scholars and the Broadening Participation in Computing (BPC) program, which also uses an alliance approach.

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

Across the Portfolio

- ❖ Mandate BP within the Broader Impacts criterion and develop associated implications for non-compliance.
- ❖ Identify ways NSF can partner with government and private entities to pool resources to broaden participation.

Program-Specific

- ❖ Historically, data have shown that in order to broaden participation in STEM it is essential to target financial support at MSIs. The Comprehensive Broadening Participation of Undergraduates in STEM (CBP-US) proposal to change the funding structure of BP initiatives at NSF is short-sighted, misinformed, and likely to have a negative impact on BP (according to federal guidelines that define underrepresentation in STEM).
- ❖ Currently funded LSAMP sites identify and implement a set of common best practices. An unintended consequence of this is that it limits innovative thinking and/or risk-taking. One suggestion is to create a separate proposal track or supplement opportunity that specifically funds innovative approaches.
- ❖ There are a limited number of alliance partners that are not institutions of higher education. PIs should be strongly encouraged to partner with private entities and leverage other external resources to provide viable career options to their growing pool of URM STEM graduates.

- ❖ Identify ways to truly integrate research and education as part of the curriculum early in the undergraduate experience.

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

Across the Portfolio

- ❖ Provide systematic training in the steps to be used in extracting programmatic data.
- ❖ The off-site processes allowed the COV to concentrate on the specifics of the program and helped the group cover the materials and come to agreement more quickly.
- ❖ The links and PDFs embedded in the PowerPoint presentations increased accessibility to the materials.
- ❖ In a bundled COV, it would have been nice to touch base with the other programs prior to the cross-talk discussion. Being isolated from each group limited the potential benefits of a more diverse pool of ideas.
- ❖ It is difficult to reconcile the concerns put forward by individual sub-panels into a single document. Some recommendations/concerns may be diluted by other sub-panel observations.
- ❖ Sub-panels may have experienced an unequal emphasis in preparation for the COV, which led to logistical problems.

Program-Specific

- ❖ It would have been helpful to provide the introductory LSAMP presentation given to the subpanel on Wednesday morning earlier in the COV process, such as in an LSAMP specific Webinar. The information provided onsite would have been useful before eJacket reviews.

SIGNATURE BLOCK:

For the LSAMP COV
James Renick
Chair

Tujuanda Jordan
Sub Chair