Recommendations of the OISE COV 2008
with responses from OISE

RECOMMENDATION 1: OISE should continue its efforts to train reviewers for more specific and relevant responses to the review criteria. In particular, program officers should be more proactive in educating external reviewers and panelists on the "broader impacts" review criterion.

2008 response
OISE was pleased that the COV found that 97% of OISE-proposal reviewers addressed both review criteria. OISE Program Officers will continue to strive to achieve 100% compliance with reviewers on this requirement.

RECOMMENDATION 2: Programs necessarily entail review or handling by several program officers. Consistency of review analyses among program officers within a program should be improved. A common template could be developed to ensure this consistency.

2008 response
OISE agrees with this recommendation. Several OISE programs have already adopted a template format for review analyses and OISE will explore whether or not all programs should/can do so.

RECOMMENDATION 3: OISE should maintain a uniform reporting process for the results of reviews and program officer summary comments. The denial letters/reports should contain more detailed explanation for denials of highly rated proposals. Adequate information should be provided to investigators in order to guide their future efforts and expectations.

2008 response
OISE agrees with this recommendation. Prior to the official notification from NSF, OISE Program Officers should contact PIs via email or telephone to provide them an explanation of the decision on their proposal. If a telephone conversation occurs, the PO should document this in ejacket using a diary note. Email correspondence between the PO and the PI should also be uploaded into ejacket. Declinations of highly-rated proposals do require greater detail and justification in both the review analysis and in the communication(s) with the PI.

RECOMMENDATION 4: We recommend that reviewers should be strongly encouraged to provide information on their race and ethnicity.

2008 response: Reviewers are not, nor can they be, required to provide demographic information since such responses are voluntary under the Privacy Act. Efforts by the NSF Office of Information and Resource Management (OIRM) to enhance Reviewer Management will begin before the end of FY2008. This effort should improve the quality of reviewer information in the future.

RECOMMENDATION 5: NSF should further refine its database by (1) adding minority serving institutions in "the type of institutions" category; and (2) separating "business" from the "state, local governments and others" category.

2008 response: Both a minority serving institution (MSI) designation and the performing organization type are currently available for each proposal. That data could be used to identify MSI's as well as break out the "Business" category. Reports including those details could be provided for future COV meetings, using the Office of Budget, Finance, and Award Administration's (BFA) Enterprise Information System (EIS) assistance when program data are prepared. BFA will consider adding MSI as breakout subcategory in a future EIS enhancement. .

RECOMMENDATION 6: OISE should benchmark integration of research and education with other NSF programs to find examples in proposal solicitations and funded projects. The now-defunct Recognition Awards for the Integration of Research and Education (RAIRE) and Awards for the Integration of Research and Education (AIRE) may also provide useful examples.

2008 response
NSF's close involvement with academic institutions gives it the ability to promote the closer coupling of research and education, an ability the Foundation has used effectively for the last decade or so. To respond to this recommendation, OISE proposes to incorporate the following explanation of "integration of research and education" into our future program announcements:

Effective integration of research and education means that both the findings and methods of research can be quickly and effectively communicated in a broader context and to an expanded audience. This enhances the impact of the research and strengthens the infrastructure of science and technology. Education in a research-rich environment permits informed decisions on what can and should be taught and emphasizes for students the importance of generating new ideas and approaches, preparing them to do the same in their future careers. It also serves to produce the next generation of research-trained college and university faculty and a teaching corps that understands the real nature of science, a regeneration process that keeps the entire system vital.

RECOMMENDATION 7: In order to increase size and duration of grants, the COV urges OISE to proactively explore collaborations with other funding organizations, public and private.

2008 response
OISE has been successful recently in developing a Memorandum of Agreement with the United States Agency for International Development (USAID), to provide for joint funding of mutually acceptable projects whereby NSF, which cannot support the international participants in collaborative research, will fund the US costs of research and USAID will fund the non-US costs. This will not only increase the size of awards but also allow for more equitable support of

collaborative research. The National Institutes of Health has subsequently asked to explore the possibility of joining this Memorandum of Agreement, and other discussions are ongoing with other US government agencies (for example, the US Department of Agriculture), other national governments (Brazil), quasi-governmental agencies (UNESCO), private corporate and foundation funders (Hewlett-Packard and the International Foundation for Science). Discussions have also been held with eight other funding organizations.

RECOMMENDATION 8: Data aggregation and reporting for business, state, local, foreign and other institutions should be revised to clearly separate categories, including individual graduate students, postdocs, and faculty.

2008 response
As with the response to Recommendation #5, currently available data does identify awards to individuals via the Institution Name (recorded as "Individual Award(s)" when made directly to individuals). The Proposals by Institution Report could be modified to include that subcategory for future COV meetings, using BFA EIS assistance when detailed program data are prepared.

RECOMMENDATION 9: Applicants for OISE funding should be encouraged to partner with primarily undergraduate institutions and community colleges when appropriate.

2008 response
OISE Program Officers routinely provide guidance for proposal preparation to potential applicants for OISE funding. This guidance includes information to broaden the participation of underrepresented groups at all career levels (K-grey) in regards to gender, ethnicity, institutions (e.g. primarily undergraduate institutions, community colleges, other non-research intensive institutions of higher education, and other institutions of formal and informal learning) and geographical areas (e.g. EPSCoR jurisdictions). OISE program officers also participate in outreach activities to institutions of all kinds during which time the program officers describe the potential advantages of collaborations between institutions. These efforts are woven into the OISE fabric and will continue to be emphasized.

RECOMMENDATION 10: OISE should provide disciplinary data on all awards.

2008 response
The EIS COV Report tool is based on funding or managing directorate, division, or program, not 'discipline'. However, OISE does use Special Program Data Elements (SPDE) to record related division/directorate on all awards. Special reports can be generated to provide this information.

RECOMMENDATION 11: OISE should continue its efforts to encourage more women and minority investigators to participate in the PIRE and PASI programs.

2008 response

OISE will continue its efforts to encourage more participation by women and minority researchers through its programs and staff efforts. All OISE solicitations strongly encourage the participation of women and minorities in keeping with the Foundation's goal to broaden participation. OISE program managers actively participate in domestic outreach programs like the regional NSF Days Programs, routinely make visits to minority-serving institutions, and attend grantees meetings of other Directorates, like EHR and ENG, where women and minority researchers are strongly encouraged to consider participating in international activities. The 2008 AAAS Annual meeting, attended by a number of OISE staff, was the latest example of this effort.

The PASI program has an unusual number of Latino and minority participants and the most recent PIRE competition (2007) involved a larger number of awards to institutions with ties to Latin America, Africa, and Asia. These institutions are expected to increase the diversity of participants in international activities. OISE staff has also sought out connections with other agencies like USAID, the Peace Corps, and the Fulbright Commission, which are expected to lead to a greater diversity of individuals participating in our programs. Furthermore, the OISE web page is regularly updated to include information on all our PIRE and PASI awards and abstracts, to make them easily available to the community and thus encourage more participation by underrepresented groups in international activities.

RECOMMENDATION 12: NSF should increase the budget for OISE operations to permit timely response to international opportunities as well as participation in meetings and workshops held by other directorates by OISE staff.

2008 response
OISE agrees with this recommendation. OISE resources (both programmatic and travel) are currently limited.

RECOMMENDATION 13: OISE should continue its catalytic role in facilitating and expanding the development of programs to address emerging global research "grand challenges"

2008 response
Globalization has amplified the worldwide competition for ideas, for science and engineering talent, and for leadership in turning new knowledge into real world applications. For the last half century, the U.S. has held the commanding position in all three areas. Now, other nations are implementing new policies and stepping up investments in research and training new talent. These global initiatives pose new challenges for America's innovation enterprise.

The OISE portfolio aims to maintain powerful momentum across all fields of science and engineering, support potentially transformative research, and build a world-class science and engineering workforce. No new OISE programs are

envisaged for the near term, but OISE will respond accordingly, and with alacrity, to any "grand challenges" where we believe OISE can play a significant role.

RECOMMENDATION 14: Funding permitting, OISE should explore the expansion of EAPSI-like programs into additional geographic regions.

2008 response
OISE agrees that sending more U.S. graduate students abroad for international research, cultural and language experiences furthers OISE's mission to prepare the next generation of globally-engaged scientists and engineers. Any growth of EAPSI-like programs should be considered in the context of both the OISE portfolio and the landscape of existing mechanisms that support graduate students conducting research abroad.

Like many NSF programs, EAPSI provides fellowships to graduate students holding U.S. citizenship or permanent resident status, matriculating in a research-intensive Masters or Ph.D. program at universities in the United States. The EAPSI program is characterized by several distinctive features. Specifically, it is the student (not the institution) who is awarded an individual fellowship to pursue a research project in any NSF-supported field; thus, individual research and country-specific interests can be accommodated. Second, foreign counterpart agencies share responsibility for selection of grantees and management of the program. The foreign counterpart agencies fund the in-country costs, provide a week-long orientation to the host language and culture, and contribute logistical support throughout the students' sojourn. Third, OISE conducts this program itself, rather than via a grant to a university. This feature makes staffing and budget implications salient considerations. The EAPSI-model entails a significant commitment of resources not only from NSF, but from the host-country counterpart agency as well.

In considering whether to expand EAPSI to other regions, OISE believes that it should look at all available mechanisms for graduate student international training to determine which mechanism for a particular situation would best meet OISE and NSF goals.

The OISE Europe and Eurasia region, for example, is developing plans for EAPSI-like activities with Nordic countries (Norway and Sweden) that would be open on a competitive basis to current recipients of Graduate Research Fellowships (GRF) awarded by NSF's Division of Graduate Education. This pilot with Norway and/or Sweden also responds to direct expressions of interest from these countries, and is intended to leverage resources, in ways that are similar to the EAPSI model.   Additionally, France has indicated a strong interest in a doctoral student exchange program with the U.S. OISE is currently working with interested universities in the U.S. and in France to determine the best way to implement such an activity. Expansion of EAPSI is an option, but by remaining flexible, OISE ensures that alternative graduate student program models may be

explored on a case by case basis, taking into consideration country-specific needs and designed accordingly for mutual benefit.

RECOMMENDATION 15: NSF should seek increased funding for OISE program officers for travel to "their" regions especially in conjunction with project visits by directorate program officers or senior staff, as well as travel to domestic conferences, professional meetings, site visits and workshops.

2008 response
OISE agrees with this recommendation. OISE resources (both programmatic and travel) are currently limited.

RECOMMENDATION 16: Science assistant and program assistant support is needed to enable program managers to focus on programs and catalytic activities.

2008 response
OISE agrees with this recommendation. OISE has completed the recruitment for its first Science Assistant. OISE is also beginning the recruitment of a Program Technology Specialist for a retiring Program Assistant.

RECOMMENDATION 17: Additional international perspective should be added to the overall vision and goals of the NSF strategic plan for 2006-2011, and international strategic planning activities across the Foundation should be aligned.

2008 response
The current NSF Strategic Plan (2006-2011) includes the following in one of the core values, "…exploring every opportunity for partnerships, both nationally and internationally." This statement enables OISE to support international partnerships that foster cooperation, build global research capacity, and advance the frontiers of science for the benefit of all. OISE will ensure that similar statements and perspectives are included in the next version of the NSF Strategic Plan.

The International Coordinating Committee (ICC), a group that cuts across the Foundation, examines Foundation-wide, international-related challenges and activities. OISE works both through the ICC as well as directly with the research directorates and offices at all levels to inform NSF colleagues on OISE's mission and activities. (See response to Recommendation #18).

RECOMMENDATION 18: Building on the recommendation of the 2005 COV, we urge OISE to make the strategic planning process a high priority, and develop a vision, mission, goals, strategies and metrics, linking the strategic plan with operations, outcomes assessment, and budget. This effort will enhance OISE credibility both internally and externally. It will aid in accruing resources and ideas from sister organizations and the private sector worldwide for the development of transformative programs.

2008 response

OISE agrees that strategic planning should be a high priority, and should include development of a vision, mission, goals and strategies. The strategic plan that is currently being developed will be forwarded to NSF senior management this summer, and then finalized with their input. As the COV notes, effective use of the strategic planning process will require development of assessment metrics, and linking of the plan with operations and budgets.

RECOMMENDATION 19: Although there is broad participation across NSF in the newly created OISE Strategic Planning committee, OISE should involve external stakeholders (industry, academic institutions, funding organizations, geographic regions) in the process at the appropriate time.

2008 response
OISE will involve external stakeholders in development of its strategic plan via the NSF Advisory Committee for International Science and Engineering. The draft strategic plan will be discussed by the Advisory Committee at its June 9, 2009 meeting.

RECOMMENDATION 20: Given the growing importance of the Office, NSF should implement succession planning for the position of Director of OISE. Visionary leadership and proactive strategies are needed to serve OISE well in the future. Careful thought should also be given to succession of OISE program officers, whose expertise is often deep and difficult to duplicate within the general community served by NSF.

2008 response
The current OISE Director will retire at the end of June 2008. At this time, the NSF Office of the Director has not announced how it intends to replace the current OISE Director. OISE agrees with the COV that both vision and leadership are essential qualities that an OISE Director should possess. Similarly, OISE Program Officers possess qualities and perform many tasks that other NSF Program Officers do not. As the requisite knowledge of a particular country and/or region that an OISE Program Officer should possess can take years to obtain, it is not easy to replace OISE Program Officers especially on a short-term, temporary basis. The current configuration of OISE Program Officers is top-heavy with senior-level individuals, many at or near retirement age. OISE agrees with the COV that considerable thought and care must be given to how to replace these individuals.

RECOMMENDATION 21: OISE should articulate and highlight the importance of its non-award-related activities in its new strategic plan. The extent of these activities and the time devoted to them should be documented, and this documentation provided to the next COV. Metrics should be developed to assess the impact of "facilitation" relative to distribution of awards, to determine an appropriate balance between these two types of activities in OISE.

2008 response
The OISE strategic plan will include both the Office's role in administering grant programs, as well as providing leadership and expertise within and across the

entire Foundation related to international science and engineering research and education. As noted, OISE needs to develop ways to account for staff time devoted to non-award-related activities, and metrics for assessing the impact of "facilitation."