Responses to OMB questions about NSF's Evaluation of EAPSI/IRFP

1. **Evaluation design**
   a. **Please provide the research questions the evaluation is designed to answer and how those cross walk to program goals.**

The evaluation is designed to answer the following seven overarching research questions:

1. What are the characteristics of people who apply for and participate in the EAPSI and IRFP programs?
2. What motivates individuals to apply for and participate in the programs, and what are individuals' experiences during the application process?
3. What are the program experiences of program participants and managers?
4. What are the perceived outcomes of program participation?
5. Do fellows' post-award career activities and job characteristics differ from unfunded applicants?
6. Does the extent to which former Fellows engage in international collaborations differ from those of unfunded applicants?
7. Do the outcomes of program participation extent beyond the direct participants?

The table below demonstrates how the research questions maps onto the program goals.

IRFP/EAPSI Program Goals	RQ1	RQ2	RQ3	RQ4	RQ5	RQ6	RQ7
Introduce early career scientists and engineers to opportunities for international research collaboration	x	x		x			
Build research capacity and global perspective of participants	x		x	x			
Forge long-term relationships between US and foreign STEM researchers				x	x	x	x

   b. **Please explain whether the program's goal and administration has basically stayed the same since 1999 or whether there have been changes that would affect the interpretation of survey results.**

OISE has prepared 2 spreadsheets (one for EAPSI and one for IRFP) to address this question. (See spreadsheets attached at the end of the responses to questions that provide the program details for the EAPSI and IRFP programs.) The spreadsheets present information from all EAPSI and IRFP solicitations since 1999. These spreadsheets show that the program goals and administration of IRFP and the EAPSI programs have remained relatively stable since 1999.

EAPSI goal—The goal of the EAPSI program has not changed since its inception. The goal of this program is "to introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future".

EAPSI administration—The number of awards during the period has gradually increased from 140 to 195. The funding amount has increased from approximately $500,000 in 2000 to almost

$2 million in 2009. Deadline dates have remained the same—December of each year. The number of sponsors and co-sponsors (NSF, NIH, USDA) has decreased from 3 to 1—NSF. The fellowship period has remained the same at--8 weeks. The award amount has gradually increased during the period from $2500 stipend (provided by the NSF EAPSI program)+travel+living expenses (provided by foreign hosts) to $5000 stipend (provided by the NSF EAPSI program)+travel+living expenses (provided by foreign hosts). The number of foreign host East Asian countries has gradually increased from Japan, Korea, Taiwan in 2000 to Australia, China, Japan, Korea, New Zealand, Singapore, Taiwan in 2009. While eligibility criteria and evaluation criteria have had some changes between 2000 and 2009 we do not believe these changes will affect the interpretation of the study results, as long as they are accounted for in the analysis.

IRFP goals--The goals of the EAPSI program since its inception had only two small changes. The wording in the first part of the goal "to introduce scientists and engineers in the early stages of their careers to opportunities abroad" remained the same throughout the time period. The second part of the goal had a small change in 2003 from "thereby furthering NSF's goal of establishing productive, mutually beneficial relationships between U.S. and foreign science and engineering communities" to "thereby furthering NSF's goal of creating a diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, and technologists, and well-prepared citizens". Again in 2007 there was another small change from "thereby furthering NSF's goal of creating a diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, and technologists, and well-prepared citizens" to "thereby furthering their research capacity and global perspective and forging long-term relationships with scientists, technologists, and engineers abroad".

IRFP administration— The number of awards made during the period has gradually increased from 20 to 35. The funding amount has increased from approximately $1 million in 2000 to almost $3.5 million in 2009. Deadline dates have varied during the period—September, October, or November of each year. NSF has been the sole sponsor of this program since its inception. The fellowship period has remained the same at between 9 months to 24 months. The award amount has gradually increased during the period from $50,000 to $150,000 (provided by the NSF IRFP program) for the fellowship period. While eligibility criteria and evaluation criteria have had some changes between 2000 and 2009 we do not believe these changes will affect the interpretation of the study results, as long as they are accounted for in the analysis.

    c.   Please explain how applicants were selected for the programs. For example, were applicants assigned scores and those above a certain cut off selected? What criteria or inputs went into the application process?

Applicants were assigned scores by ad-hoc reviewers and/or panel members. The evaluation criteria identified in the attachments were given consideration by the ad-hoc reviewers and/or the panel members. In addition during panel discussions other criteria were also used for portfolio balance purposes. These included: host country portfolio balance; disciplinary field balance; adequate representation of underrepresented minorities; adequate representation of women scientists and engineers; and preference for applicants who have not had international research experiences. The panels were responsible for making these decisions.

   d.   **Please explain how the non-selected applicants provide for a sufficiently comparable group when by definition they did not meet selection criteria. If scoring was used, did NSF consider an RDD design instead?**

In planning the evaluations of the IRFP and EAPSI fellowship programs, we considered using a regression discontinuity design but deemed it to be inappropriate because of the way award decisions are made for these programs. As described in our response to 1c, although reviewers assigned scores to applicants' proposals, final decisions are not made based on a cut-score, but instead additional criteria (e.g., discipline, gender, membership in an under-represented minority group, prior international experience, proposed host country) are used to maintain portfolio balance of awards made. The use of such factors mitigated against a regression discontinuity design.

Instead, we will use propensity-score matching to construct a comparison group based on the pre-award characteristics of all applicants and their proposal scores. Each applicant's mean proposal score across reviewers will be included in the propensity-score matching along with demographic characteristics, prior international experience, proposed host country, and professional accomplishments at the time of application (e.g., number of peer-reviewed publications). To ensure comparability between the treated (IRFP fellows) and comparison (unfunded applicants) groups, only those applicants' with propensity scores in the "area of common support" will be included in impact analyses.

The exhibit below illustrates this notion. Using pre-award characteristics of all applicants, PSM predicts the likelihood (or propensity) that each applicant would have received an award. The propensity scores of actual awardees and declinees (unfunded applicants) are then compared. Any awardee whose propensity score falls outside the range of scores in the unfunded applicant group is dropped from impact analyses; likewise, any unfunded applicant whose propensity score falls outside the range of scores in the awardee group is dropped from impact analyses. As a result, only those applicants with propensity scores in an overlapping range (i.e., the area of common support) are included in hypothesis tests of the impact of IRFP on post-award outcomes.

Actual awardee status	Propensity scores for individual applicants														
Awardee	.99	.99	.97	.91	.84	.84	.83	…	.14	.13	.10	.09			
Unfunded Applicant				.91	.84	.84	.84	…	.12	.11	.10	.09	.05	.01	.01
	Dropped from impact analyses			**Area of common support: included in impact analyses**									**Dropped from impact analyses**		

2. Sample size

a. Please justify why NSF proposes to conduct a census of all participants when sampling should be sufficient especially for groups larger than 1,000. We remain concerned about the number of NSF and Dept of ED studies that target many of the same faculty and advanced degree students and would like NSF to carefully consider trimming the size of this study.

We have carefully reviewed available data from a variety of sources and considered sampling participants by respondent type but quickly realized that by sampling we would not be able to detect meaningful differences in the comparison groups. After identifying individuals who appear in program records across multiple years so that they appear only once in our respondent lists, the numbers in each of the respondent groups are as follows: EAPSI Fellows (1,300), EAPSI Unfunded Applicants (810), EAPSI Advisors (1,047), EAPSI hosts (1,300), EAPSI location staff (20), IRFP Fellows (581), IRFP Unfunded Applicants (1,105), and IRFP Hosts (581). The tables of respondent burden have been adjusted to reflect the updated numbers in each of the respondent groups as shown below.

Respondent Type	Target group	Number of responses	Time per response (hours)	Total time burden (hours)
EAPSI Fellows	1,300	975	0.5	487.5
EAPSI Unfunded Applicants	810	608	0.5	303.8
EAPSI US Advisors	1,047	785	0.25	196.3
EAPSI Foreign Hosts	1,300	975	0.25	243.8
EAPSI Location Staff	20	20	0.5	10.0
IRFP Fellows	581	436	0.5	217.9
IRFP Unfunded Applicants	1,105	829	0.5	414.4
IRFP Foreign Hosts	581	436	0.25	108.9
Total	**6,744**	**5,063**	**N/A**	**1,982.5**

Respondent Type	Target group	Number of Responses	Time per response (hours)	Total Time Burden (hours)	Hourly salary estimate	Estimated cost per respondent	Estimated overall cost
EAPSI Fellows	1,300	975	0.5	487.5	35	17.5	17,062.50
EAPSI Unfunded Applicants	810	608	0.5	303.8	35	17.5	10,631.25
EAPSI US Advisors	1,047	785	0.25	196.3	43	10.75	8,441.44
EAPSI Foreign Hosts	1,300	975	0.25	243.8	43	10.75	10,481.25
EAPSI Location Staff	20	20	0.5	10.0	43	21.5	430.00
IRFP Fellows	581	436	0.5	217.9	35	17.5	7,625.63
IRFP Unfunded Applicants	1,105	829	0.5	414.4	35	17.5	14,503.13
IRFP Foreign Hosts	581	436	0.25	108.9	43	10.75	4,684.31
Total	**6,744**	**5,063**		**1982.5**			**73,859.50**

While the EAPSI Fellows, IRFP Unfunded applicants, and EAPSI Advisors and Hosts are larger than 1,000, we propose to survey they entire population because there may be loss in the analytic sample as a result of our find rate, the study's response rate, and the loss as we exclude respondents who fall outside the common support in the propensity score model.

We believe that reducing the target sample might create serious limitations for the study, in that it might result in a study that is underpowered to detect differences between the awardees and unfunded applicants. By targeting the entire population, our final analytic samples should still be sufficiently powered to detect expected differences should our sample fall to 60%, instead of the projected 75% response rate.

Below we present the minimum detectable effect sizes if our response rate is at 75% and at 60% of the full populations. These estimates are based on the following assumptions and parameters: (i) two-tailed hypothesis tests with the usual significance level = 0.05, (ii) statistical power = 0.8, and (iii) amount of variation in the outcomes explained by covariates (R^2) = 0.1. Note that MDD estimates in the second table also depend on the mean value of the outcome in the comparison group.

Minimum Detectable Effect Sizes for Continuous Outcomes (MDES)

	75% of all applicants	60% of all applicants
EAPSI		
Sample Size	1582	1266
MDE	0.14	0.15
IRFP		
Sample Size	1264	1011
MDE	0.17	0.19

Minimum Detectable Differences for Binary Outcomes (MDD)

	75% of all applicants	60% of all applicants
EAPSI	**(n=1582)**	**(n=1266)**
Control group mean		
0.2	6.1%	6.9%
0.4	7.2%	8.0%
0.5	7.2%	8.1%
0.6	6.9%	7.8%
0.8	5.4%	6.0%
IRFP	**(n=1264)**	**(n=1011)**
Control group mean		
0.2	7.0%	7.8%
0.4	8.2%	9.1%
0.5	8.3%	9.2%
0.6	8.0%	8.9%
0.8	6.3%	6.9%

3. **Survey methods**
   a. **Please provide an estimate of the projected response rate for participants between 0-5 and 5-10 years separately.**

We anticipate that response rates may vary by the length of time it has been since individuals applied to and/or participated in the programs, with a lower response rate among those with a longer length of time since the program. The projected response rates are supplied in the table below.

Projected Response Rate	Length of Time Between Participation and Data Collection
85%	0-5 years
60%	6-10 years

   b. **Why does NSF believe it can do so much better than the GK-12 Fellow program?**

Because no other single NSF program exactly duplicates the EAPSI and IRGP programs, estimates for response rates were made using actual response rates from a variety of NSF programs.

NSF's expectations that we will exceed the GK-12 response rates for individuals who participated in the program over 5 years ago are based on two important differences (1) EAPSI and IRFP applicants apply directly to NSF and grants are awarded directly to individuals, while the faculty at institutions of higher education apply for the GK-12 grants, these are awarded to intuitions, who in turn distribute funding to individuals; and (2) the records of program participants for IRFP and EAPSI are maintained by NSF, while the records for GK-12 are maintained by individual PIs. The first difference, the applicants' direct relationship with NSF, makes our sample more familiar with NSF and the programs under study than the GK-12 sample. The second difference, the manner or record keeping, should improve both the identification of participants as well as their contact information.

   c. **Is NSF concerned that those who did not remain in academia will be much harder to locate?**

OISE conducted a small in-house experiment using Google to find current resumes on IRFP fellows and succeeded in locating resumes for approximately 80 percent of a small random sample of the IRFP fellows and 70 percent of a small random sample of the EAPSI fellows. IRFP fellows have a higher likelihood of remaining in academia because they already have a doctorate (the doctorate in S&E is an eligibility requirement for the fellowship). An S&E doctorate is not a requirement for an EAPSI fellowship, enrollment in an S&E graduate program is the eligibility requirement. Accordingly there is a larger portion of EAPSI fellows than IRFP fellows who are employed outside of academia. The methodology reports of the NSF Survey of Doctorate Recipients and the National Survey of Recent College Graduates confirm that there is a lower response rate for sample members who are employed outside of academia in both of those surveys. There is also more difficulty locating sample members who are employed outside of academia. We expect to experience the same difficulty in locating and response for the non-

academic cohort in our surveys of IRFP and EAPSI fellows. Abt Associates will employ a variety of methods to locate all sample members in both surveys. They will conduct web searches and contact former institutions to locate current contact information for individuals. In addition, they will use available SSNs, along with name and address to locate individuals using the locator AccurInt, which will identify the last known addresses and phone numbers for the respondent. This approach has yielded current addresses for 84% of the IRFP applicants and phone numbers for 86% of the sample, and we expect similar rates for the EAPSI fellows. The use of SSNs has been approved by NSF's Office of General Counsel, and the use of SSNs and process for data security have been approved by Abt's Institutional Review Board (IRB).

4.   Questionnaire
a.   What testing of survey items was done on with individuals from the older cohort? We believe that recall could be a challenge for a number of items.

A total of 9 respondents from the 1992, 1993 and 2000 cohorts participated in a pilot test of the applicant survey. Pilot respondents were asked to identify items for which recall was a problem, comment on the length of time needed to complete the survey, point out any question wording that was unclear, and list any response options they felt were omitted or redundant.

Based on the results of the pilot test, we have eliminated 29 items from the IRFP applicant survey and 28 items from EAPSI applicant survey. Items eliminated included several that pilot respondents indicated difficulty recalling the relevant information (e.g., "How did you first learn about [the program]?" and "Did you experience any of the following difficulties during the application process?" In addition, pilot respondents pointed out a few redundancies in the survey items and some found it to be lengthy (although all completed the entire survey in its original form). A list of the items removed from the IRFP and EAPSI applicant surveys is below:

IRFP Item		Change	Net change (# items)
B1	How did you learn about IRFP?	Cut (poor recall)	-1
B4	Any difficulties during the application process?	Cut (poor recall)	-1
C7	Table with # of different types of pre-award publications	3 rows eliminated: Original computing software, algorithms, etc. Books, graduate level Books, undergraduate or layperson level	-3
D2	Was language a barrier?	Cut (redundant with other items)	-1
D5	Did you experience any barriers to participation in cultural/professional events	Combined with Item D8	-1
D6	What were the primary benefits of the cultural and professional activities you attended…?	Cut (too vague)	-1
D8	Did you experience any of the following difficulties during your fellowship…?	Combined with Item D5	0
D9	About how often did you meet with your host research?	Cut (poor recall)	-1
D10	What type of advice or guidance did your host…give you?	Cut (poor recall)	-1

IRFP Item		Change	Net change (# items)
F2	Is your employer an educational institution?	Swap order of F2 & F3; if employer is educational institution, SKIP F3	-1 or 0
F3	Which of the following best describes your primary employer during the week of October 1, 2010		
F5	Between [date] and [date], did you receive any awards or honors based on your research?	Combine with F10 (redundant with other items)	0
F5b	What was the name of the most prestigous award for research you have received and who was it from?	Added request for respondent to write out full name of awarding agency	+1
F6	Table with # of different types of post-award publications	3 rows eliminated: Original computing software, algorithms, etc. Books, graduate level Books, undergraduate or layperson level	-3
F8	Between [date] and [date] did you ever: Host a foreign colleague in US…? Co-sponsor a professional conference…? Communicate with colleagues from other countries?	Cut all 3 rows (redundant with other items)	-3
F9	Between [date] and [date] did you ever: Serve as chairperson Serve as director of research center Obtain tenure Receive elevation in faculty rank Receive an award for teaching Receive an award for service Receive an endowed chair Receive a prize or recognition from a professional association… Serve as editor Serve on a visiting committee or advisory panel	Cut all 10 rows (redundant with other items or information not critical to the study)	-10
F10	Between [date] and [date] did you ever receive funding as PI/co-PI?	Cut; incorporated into F5	-1
F10a	Was the funding you received during this period as a PI, co-PI, or both	Incorporated into F5	0
F10b	What was the total awarded amount of the most prestigious single research grant/award you received as a Principal Investigator	Cut	-1
F10c	What was the total awarded amount of the most prestigious single research grant/award you received as a Co-Principal Investigator	Cut	-1
F13	At institutions where you have worked between [year of IRFP application +2] and October 1, 2010, have you done any of the following: I have persuaded others to pursue an international collaboration	Cut last row in table (Redundant with other items)	-1
		Total net change	**-29 items**

EAPSI Item		Change	Net change (# items)
B1	How did you learn about program?	Cut (poor recall)	-1
B4	Any difficulties during the application process?	Cut (poor recall)	-1
C8	Table with # of different types of pre-award publications	3 rows eliminated: Original computing software, algorithms, etc. Books, graduate level Books, undergraduate or layperson level	-3
D2	Was language a barrier?	Cut (redundant with other items)	-1
D5	Did you experience any barriers to participation in cultural/professional events	Combined with Item D8	-1
D6	What were the primary benefits of the cultural and professional activities you attended…?	Cut (too vague)	-1
D8	Did you experience any of the following difficulties during your fellowship…?	Combined with Item D5	0
D9	About how often did you meet with your host research?	Cut (poor recall)	-1
D10	What type of advice or guidance did your host…give you?	Cut (poor recall)	-1
F1	As of October 1, 2010, what is the highest degree you have completed?	Added (needed for outcome)	+1
F1a	Since receiving your first doctoral degree how many postdoctoral appointments have you held? have?	Cut (not an outcome of interest for EAPSI)	-1
F2 F3	Is your employer an educational institution? Which of the following best describes your primary employer during the week of October 1, 2010	Swap order of F2 & F3; if employer is educational institution, SKIP F3	-1 or 0
F5	Between [date] and [date], did you receive any awards or honors based on your research?	Combine with F10 (redundant with other items)	0
F5b	What was the name of the most prestigous award for research you have received and who was it from?	Added request for respondent to write out full name of awarding agency	+1
F6	Table with # of different types of post-award publications	3 rows eliminated: Original computing software, algorithms, etc. Books, graduate level Books, undergraduate or layperson level	-3
F8	Between [date] and [date] did you ever: Host a foreign colleague in US…? Co-sponsor a professional conference…? Communicate with colleagues from other countries?	Cut all 3 rows (redundant with other items)	-3

EAPSI Item		Change	Net change (# items)
F9	Between [date] and [date] did you ever: Serve as chairperson Serve as director of research center Obtain tenure Receive elevation in faculty rank Receive an award for teaching Receive an award for service Receive an endowed chair Receive a prize or recognition from a professional association… Serve as editor Serve on a visiting committee or advisory panel	Cut all 10 rows (redundant with other items or information not critical to the study)	-10
F10	Between [date] and [date] did you ever receive funding as PI/co-PI?	Cut; incorporated into F5	-1
F10a	Was the funding you received during this period as a PI, co-PI, or both	Incorporated into F5	0
F10b	What was the total awarded amount of the most prestigious single research grant/award you received as a Principal Investigator	Cut	-1
F13	At institutions where you have worked between [year of IRFP application +2] and October 1, 2010, have you done any of the following: I have persuaded others to pursue an international collaboration	Cut last row in table (Redundant with other items)	-1
		Total Net Change:	**28**

In addition, survey sections have been re-ordered to ensure that respondents complete the items most critical for the impact analyses first, before Fellows complete items that will inform descriptive analyses (e.g., aspects of the Fellowship experience). Thus, if a respondent discontinues the survey part-way through, we have a greater likelihood of receiving responses on items critical to impact analyses. Revised versions of the instruments are included in Appendix A.

b.   The race question must include the instruction – Mark (or check) one or more.

The question has been revised to read.

##. What is your race? *Check one or more.*
   ❑ American Indian or Alaska native
   ❑ Asian
   ❑ Black or African American
   ❑ Native Hawaiian or other Pacific Islander
   ❑ White

c. **US Federal and international statistical agency work has determined that a yes/no question about disability does not produce valid results. Please replace the disability question. Our suggestion is to consider using the one from the SDR (currently pending at OMB but also used for the latest round of the other SRS SESTAT surveys).**

We agree. NSF's Division of Science Resources Statistics has tested this question in focus groups and in pretests of SESTAT survey questionnaires. In addition, the Survey of Doctorate Recipients (SDR) has produced valid statistical estimates with their disability question (questions E13-E15 from the SDR). Accordingly, per your recommendation we will use the same disability question in our IRFP and EAPSI evaluation questionnaires (see questions from SDR below). The question has been revised in our surveys.

The next several questions are designed to help us better understand the career paths of individuals with different physical abilities.

##. What is the USUAL degree of difficulty you have with.
Mark one answer for each item.

	None	Slight	Moderate	Severe	Unable to Do
1 SEEING words or letters in ordinary newsprint (with glasses/contact lenses, if you usually wear them) 1	☐	2 ☐	3 ☐	4 ☐	5 ☐
2 HEARING what is normally said in conversation with another person (with hearing aid, if you usually wear one) .. 1	☐	2 ☐	3 ☐	4 ☐	5 ☐
3 WALKING without human or mechanical assistance or using stairs 1	☐	2 ☐	3 ☐	4 ☐	5 ☐
4 LIFTING or carrying something as heavy as 10 pounds, such as a bag of groceries 1	☐	2 ☐	3 ☐	4 ☐	5 ☐

##.   ☐ Mark this box if you answered "None" to all the activities in question ##, and go to question ##.

##. What is the earliest age at which you first began experiencing any difficulties in any of these areas?

AGE ☐☐ OR   ☐ ← SINCE BIRTH

	INTERNATIONAL RESEARCH FELLOWSHIP PROGRAM					
Cohort	2001	2002	2003	2004	2005	2006
announcement number	NSF 00-141	NSF 01-135	NSF 02-149	NSF 02-149	NSF 02-149	NSF 05-599
Goals	To introduce scientists and engineers in the early stages of their careers to opportunities abroad, thereby furthering NSF's goal of establishing productive, mutually beneficial relationships between U.S. and foreign science and engineering communities.	To introduce scientists and engineers in the early stages of their careers to opportunities abroad, thereby furthering NSF's goal of establishing productive, mutually beneficial relationships between U.S. and foreign science and engineering communities.	To introduce scientists and engineers in the early stages of their careers to research opportunities abroad, thereby furthering NSF's goal of creating a diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, technologists, and well-prepared citizens.	To introduce scientists and engineers in the early stages of their careers to research opportunities abroad, thereby furthering NSF's goal of creating a diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, technologists, and well-prepared citizens.	To introduce scientists and engineers in the early stages of their careers to research opportunities abroad, thereby furthering NSF's goal of creating a diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, technologists, and well-prepared citizens.	To introduce scientists and engineers in the early stages of their careers to research opportunities abroad, thereby furthering NSF's goal of creating a diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, technologists, and well-prepared citizens.
Sponsors and co-sponsors	NSF	NSF	NSF	NSF	NSF	NSF
Estimated number of awards	20-30	20-30	30-35	30-35	30-35	30-35
Anticipated funding amount	$1,000,000	$1,000,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000
Eligibility	Applicants must: A) be U.S citizen or permanent resident as of November 15, 2000. B) have been awarded a doctoral degree within six years before the date of the application or expect to receive the doctoral degree by the award date. C) desire to conduct scientific research at appropriate academic, government or non-profit research institutions, which are located outside of the United States.	Applicants must: A) be U.S citizen or permanent resident as of October 22, 2001. B) have been awarded a doctoral degree within six years before the date of the application or expect to receive the doctoral degree by the award date. C) desire to conduct scientific research at appropriate academic, government or non-profit research institutions, which are located outside of the United States.	Applicants must: A) be U.S citizen or permanent resident as of the second Tuesday in October annually. B) have been awarded a doctoral degree within three years before the date of the application or expect to receive the doctoral degree by the award date. C) desire to conduct scientific research at appropriate academic, government or non-profit research institutions, which are located outside of the United States. D) Applicants who are permanent residents of the U.S. may not request a host site in their native country. E) Recipients of previous International Research Fellowship Awards are not eligible. Applicants may submit only one fellowship application each year.	Applicants must: A) be U.S citizen or permanent resident as of the second Tuesday in October annually. B) have been awarded a doctoral degree within three years before the date of the application or expect to receive the doctoral degree by the award date. C) desire to conduct scientific research at appropriate academic, government or non-profit research institutions, which are located outside of the United States. D) Applicants who are permanent residents of the U.S. may not request a host site in their native country. E) Recipients of previous International Research Fellowship Awards are not eligible. Applicants may submit only one fellowship application each year.	Applicants must: A) be U.S citizen or permanent resident as of the second Tuesday in October annually. B) have been awarded a doctoral degree within three years before the date of the application or expect to receive the doctoral degree by the award date. C) desire to conduct scientific research at appropriate academic, government or non-profit research institutions, which are located outside of the United States. D) Applicants who are permanent residents of the U.S. may not request a host site in their native country. E) Recipients of previous International Research Fellowship Awards are not eligible. Applicants may submit only one fellowship application each year.	Applicants must: A) be U.S citizen or permanent resident as of the application deadline date; B) have been awarded a doctoral degree within n three years of the application deadline date or expect to receive the doctoral degree by the start of the project (if the Ph.D. has not been awarded by the of an award recommendation, a clause will be written in the grant letter stating that no funds will be released until proof of the degree is provided.); C) desire to conduct scientific and engineering research at appropriate institutions of higher education, industrial research institutions/laboratories, government research institutes/laboratories/centers, nonprofit research organizations, and foreign centers of excellence located outside of the U.S.
Type of award	Fellowship	Fellowship	Fellowship	Fellowship	Fellowship	Fellowship

Cohort	2001	2002	2003	2004	2005	2006
Average Amount of award	$50,000	$50,000	$100,000	$100,000	$100,000	$100,000
Deadline date	November 15, 2000	October 1, 2001	Second Tuesday in October	Second Tuesday in October	Second Tuesday in October	October 11, 2005
Anticipated date	March	March	March	March	March	March
fellowship	9-24 months	9-24 months	9-24 months	9-24 months	9-24 months	9-24 months
Evaluation criteria	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.

Cohort	2007	2008	2009
announcement number	NSF 06-582	NSF 06-582	NSF 06-582
Goals	To introduce scientists and engineers in the early stages of their careers to international collaborative research opportunities, thereby furthering their research capacity and global perspective and forging long-term relationships with scientists, technologists and engineers abroad.	To introduce scientists and engineers in the early stages of their careers to international collaborative research opportunities, thereby furthering their research capacity and global perspective and forging long-term relationships with scientists, technologists and engineers abroad.	To introduce scientists and engineers in the early stages of their careers to international collaborative research opportunities, thereby furthering their research capacity and global perspective and forging long-term relationships with scientists, technologists and engineers abroad.
Sponsors and co-sponsors	NSF	NSF	NSF
Estimated number of awards	30-35	30-35	30-35
Anticipated funding amount	$3,500,000	$3,500,000	$3,500,000
Eligibility	Applicants must: A) be U.S citizen or permanent resident as of the application deadline.(Applicants who are permanent residents of the U.S. may not request a host site in their country of origin.); B) have been awarded a doctoral degree within two years before the date of the application or expect to receive the doctoral degree by the start of the project.(If an applicant is recommended for an award, the award may be made before the Ph.D. is awarded, but the applicant must provide proof of the degree before any funds are released); C) Propose collaboration with foreign host (cannot be an American national) to conduct scientific and engineering research at appropriate institutions of higher education, industrial research institutions/laboratories, government research institutes/laboratories/centers, nonprofit research organizations, and foreign centers of excellence located outside of the U.S.	Applicants must: A) be U.S citizen or permanent resident as of the application deadline.(Applicants who are permanent residents of the U.S. may not request a host site in their country of origin.); B) have been awarded a doctoral degree within two years before the date of the application or expect to receive the doctoral degree by the start of the project.(If an applicant is recommended for an award, the award may be made before the Ph.D. is awarded, but the applicant must provide proof of the degree before any funds are released); C) Propose collaboration with foreign host (cannot be an American national) to conduct scientific and engineering research at appropriate institutions of higher education, industrial research institutions/laboratories, government research institutes/laboratories/centers, nonprofit research organizations, and foreign centers of excellence located outside of the U.S.	Applicants must: A) be U.S citizen or permanent resident as of the application deadline.(Applicants who are permanent residents of the U.S. may not request a host site in their country of origin.); B) have been awarded a doctoral degree within two years before the date of the application or expect to receive the doctoral degree by the start of the project.(If an applicant is recommended for an award, the award may be made before the Ph.D. is awarded, but the applicant must provide proof of the degree before any funds are released); C) Propose collaboration with foreign host (cannot be an American national) to conduct scientific and engineering research at appropriate institutions of higher education, industrial research institutions/laboratories, government research institutes/laboratories/centers, nonprofit research organizations, and foreign centers of excellence located outside of the U.S.
Type of award	Fellowship	Fellowship	Fellowship

Cohort	2007	2008	2009
Average Amount of award	$150,000	$150,000	$150,000
Deadline date	October 3, 2006	September 11, 2007	September 9, 2008
Anticipated date	March	March	March
fellowship	9-24 months	3-24 months	9-24 months
Evaluation criteria	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.	1) What is the intellectual merit of the proposed activity; 2) What are the broader impacts of the proposed activity; 3) Integration of Research and Education; 4) Integrating Diversity into NSF Programs, Projects, and Activities; 5) Prospective benefits to the applicant, the scientific discipline and the United States; 6) Qualifications of proposed host and host institution and complementarily; 7) Qualifications of applicant, including applicant's potential for continued growth; 8) Merit of the proposed international collaboration; 9) Expected mutual benefit to be derived from the contribution of the scientists and engineers in each country.

EAST ASIA PACIFIC SUMMER INSTITUTES						
Cohort	2000	2001	2002	2003	2004	2005
Program announcement number	NSF-99-152	NSF-99-152	NSF-02-007	NSF-02-174	NSF-02-174	NSF 03-608
Goals	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future
Sponsors and co-sponsors	NSF, NIH, USDA	NSF, NIH, USDA	NSF, NIH	NSF, NIH	NSF, NIH	NSF, NIH
Estimated number of awards	140	140	105	135	175	165
Anticipated funding amount	$500,000	$500,000	$500,000	$650,000	$887,500	$1,000,000
Eligibility	US citizen or permanent resident and enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research	US citizen or permanent resident and enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research	US citizen or permanent resident and enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research	(1)US citizen or permanent resident; (2) enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research;(3)Pursuing studies in fields of S&E supported by NSF and NIH	(1)US citizen or permanent resident; (2) enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research;(3)Pursuing studies in fields of S&E supported by NSF and NIH	(1)US citizen or permanent resident; (2) enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research;(3)Pursuing studies in fields of S&E supported by NSF and NIH;(4)Pursuing studies in S&E fields represented among host institutions at desired location
Type of award	Fellowship	Fellowship	Fellowship	Fellowship	Fellowship	Fellowship

Cohort	2000	2001	2002	2003	2004	2005
EAST ASIA PACIFIC SUMMER INSTITUTES						
Amount of award	$2500 stipend + travel + living expenses	$2500 stipend + travel + living expenses	$2500 stipend + travel + living expenses	$2500 stipend + travel + living expenses	$3000 stipend + travel + living expenses	$3000 stipend + travel + living expenses
Deadline date	December 1-1999	December 1-2000	December 1-2001	December 1-2002	December 1-2003	December 1-2004
Anticipated date	May 1-2000	May 1-2001	May 1-2002	May 1-2003	May 1-2004	May 1-2005
fellowship	8 weeks	8 weeks	8 weeks	8 weeks	8 weeks	8 weeks
East Asia countries	Japan, Korea, Taiwan	Japan, Korea, Taiwan	Japan, Korea, Taiwan	China, Japan, Korea, Taiwan	Australia, China, Japan, Korea, Taiwan	Australia, China, Japan, Korea, Taiwan
Evaluation criteria	(1) Competence in S&E and potential for continued professional growth as a research scientist and engineer; (2) Relevance of professional interest to research done in East Asian countries; (3) Willingness and preparation to live and adapt to foreign cultures	(1) Competence in S&E and potential for continued professional growth as a research scientist and engineer; (2) Relevance of professional interest to research done in East Asian countries; (3) Willingness and preparation to live and adapt to foreign cultures	(1) Competence in S&E and potential for continued professional growth as a research scientist and engineer; (2) Relevance of professional interest to research done in East Asian countries; (3) Willingness and preparation to live and adapt to foreign cultures	(1) What is the intellectual merit of the proposed activity;(2) What are the broader impacts of the proposed activity;(3)Relevance of professional interests to research done in chosen location;(4)The probable effect of participation on the applicant's career	(1) What is the intellectual merit of the proposed activity;(2) What are the broader impacts of the proposed activity;(3)Relevance of professional interests to research done in chosen location;(4)The probable effect of participation on the applicant's career	(1) What is the intellectual merit of the proposed activity;(2) What are the broader impacts of the proposed activity;(3)Qualifications of applicant, including potential for continued growth and probable effect of participation in Summer Institute on the applicant's career;(3) Resources and capabilities of the proposed host institutions and researchers and/or the current stature of research in the student's field of interest in the chosen location;(4)Merit, complimentarity, and expected mutual benefits of the proposed international collaboration

Cohort	2006	2007	2008	2009
Program announcement number	NSF 05-617	NSF 06-602	NSF 07-584	NSF 08-603
Goals	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future	To introduce U.S. graduate students to East Asian science and engineering and to initiate personal relationships that will enable collaboration with foreign counterparts in the future
Sponsors and co-sponsors	NSF, NIH	NSF, NIH	NSF	NSF
Estimated number of awards	165	180	195	195
Anticipated funding amount	$1,000,000	$1,300,000	$1,950,000	$1,950,000
Eligibility	(1)US citizen or permanent resident; (2) enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research;(3)Pursuing studies in fields of S&E supported by NSF and NIH;(4)Pursuing studies in S&E fields represented among host institutions at desired location	(1)US citizen or permanent resident; (2) enrolled in a U.S. master's or doctoral S&E program or MD program with interest in biomedical research;(3)Pursuing studies in fields of S&E supported by NSF and NIH;(4)Pursuing studies in S&E fields represented among host institutions at desired location	(1)US citizen or permanent resident; (2) enrolled in a research oriented master's or Ph.D. program at a U.S. institution located in the United States(3)Pursuing studies in fields of S&E research and education supported by NSF;(4)Pursuing studies in fields supported by foreign cosponsoring organization	(1)US citizen or permanent resident; (2) enrolled in a research oriented master's or Ph.D. program at a U.S. institution located in the United States(3)Pursuing studies in fields of S&E research and education supported by NSF;(4)Pursuing studies in fields supported by foreign cosponsoring organization
Type of award	Fellowship	Fellowship	Fellowship	Fellowship

Cohort	2006	2007	2008	2009
Amount of award	$3000 stipend + travel + living expenses	$4000 stipend + travel + living expenses	$5000 stipend + travel + living expenses	$5000 stipend + travel + living expenses
Deadline date	December 13-2005	December 12-2006	December 12-2007	December 9-2008
Anticipated date	May 1-2006	May 1-2007	May 1-2008	May 1-2009
fellowship	8 weeks	8 weeks	8 weeks	8 weeks
East Asia countries	Australia, China, Japan, Korea, Taiwan	Australia, China, Japan, Korea, New Zealand, Taiwan	Australia, China, Japan, Korea, New Zealand, Singapore, Taiwan	Australia, China, Japan, Korea, New Zealand, Singapore, Taiwan
Evaluation criteria	(1) What is the intellectual merit of the proposed activity;(2) What are the broader impacts of the proposed activity;(3)Qualifications of applicant, including potential for continued growth and probable effect of participation in Summer Institute on the applicant's career;(3) Resources and capabilities of the proposed host institutions and researchers and/or the current stature of research in the student's field of interest in the chosen location;(4)Merit, complimentarity, and expected mutual benefits of the proposed international collaboration	(1) What is the intellectual merit of the proposed activity;(2) What are the broader impacts of the proposed activity;(3)Qualifications of applicant, including potential for continued growth and probable effect of participation in Summer Institute on the applicant's career;(3) Resources and capabilities of the proposed host institutions and researchers and/or the current stature of research in the student's field of interest in the chosen location;(4)Merit, complimentarity, and expected mutual benefits of the proposed international collaboration	(1) What is the intellectual merit of the proposed activity;(2) What are the broader impacts of the proposed activity;(3)Qualifications of applicant, including potential for continued growth and probable effect of participation in Summer Institute on the applicant's career;(3) Resources and capabilities of the proposed host institutions and researchers and/or the current stature of research in the student's field of interest in the chosen location;(4)Merit, complimentarity, and expected mutual benefits of the proposed international collaboration	(1) What is the intellectual merit of the proposed activity;(2) What are the broader impacts of the proposed activity;(3)Qualifications of applicant, including potential for continued growth and probable effect of participation in Summer Institute on the applicant's career;(3) Resources and capabilities of the proposed host institutions and researchers and/or the current stature of research in the student's field of interest in the chosen location;(4)Merit, complimentarity, and expected mutual benefits of the proposed international collaboration