

**OFFICE OF INTERNATIONAL SCIENCE
AND ENGINEERING (OISE)**

**\$51,020,000
+\$2,500,000 / 5.2%**

OISE Funding
(Dollars in Millions)

	FY 2014 Actual	FY 2015 Estimate	FY 2016 Request	Change Over FY 2015 Estimate	
				Amount	Percent
OISE	\$48.31	\$48.52	\$51.02	\$2.50	5.2%

Totals may not add due to rounding.

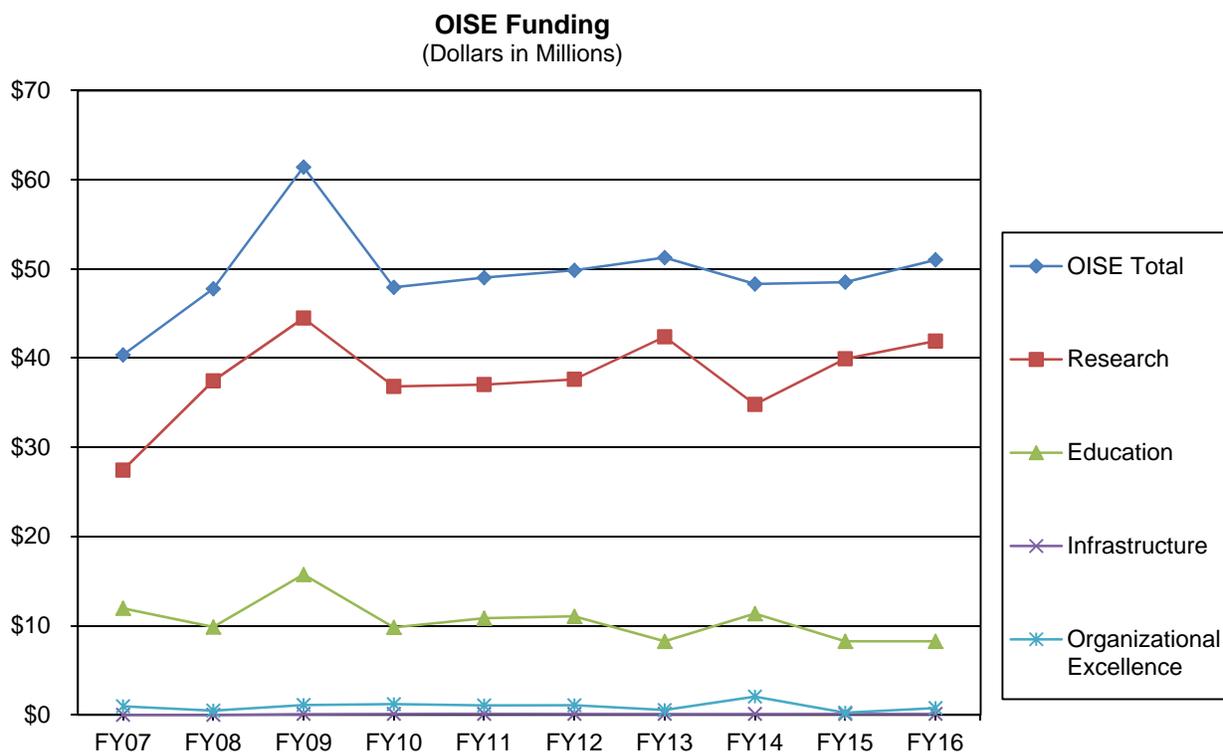
About OISE¹

The Office of International Science and Engineering (OISE) serves as the NSF focal point for international science and engineering activities. OISE’s goal is to promote an integrated, Foundation-wide international strategy and manage internationally-focused programs that are innovative, catalytic, and responsive to a broad range of NSF and national interests. In FY 2016, OISE will emphasize activities that augment and further integrate international engagement of research and education programs across NSF. OISE supports co-funding with NSF directorates and offices through two activities – Science Across Virtual Institutes (SAVI) and the Global Venture Fund (GVF). In addition, OISE manages and funds the Partnerships for International Research and Education (PIRE) program, the International Research Fellowship Program (IRFP), and the International Research Experience for Students (IRES), which support U.S. scientists, engineers, and students engaged in international research and education activities in all NSF-supported disciplines involving any region of the world. OISE’s programs and activities are designed to complement and enhance the Foundation’s broad research and education portfolio and to overcome barriers to international collaboration. America’s next generation of scientists and engineers must be able to work effectively in the global arena and marketplace. OISE supports programs that enable students and researchers to engage in international research and educational activities across such areas as cyberinfrastructure, complex biological systems, natural hazards prediction and mitigation, nanotechnology, water resources, climate, and energy sustainability.

OISE also coordinates much of NSF’s engagement with international organizations across diverse disciplines and initiatives. This includes efforts to strengthen collaborations with developing countries – increasingly important partners in addressing critical global issues, but partners which often present special challenges related to infrastructure and resources.

In addition, OISE manages NSF’s offices in Beijing, Paris (relocating to Brussels in FY 2015), and Tokyo. These offices report on and analyze in-country and regional science and technology developments and policies, promote greater collaboration between U.S. and foreign researchers, liaise with foreign counterpart agencies and research institutes, and facilitate coordination and implementation of NSF research and education programs.

¹ As part of the 2012 realignment of several offices, OISE was merged into the Office of International and Integrative Activities. Changes within and beyond NSF have now heightened attention across all of NSF to the importance of strong international engagement to fulfilling NSF’s mission. The Foundation, through initiatives led by OISE, has sought to infuse international issues into the very fabric of the agency. Realignment of OISE in the Office of the Director in FY 2015 will serve to enhance visibility of NSF’s global engagement and strengthen strategic coordination of international activities across the Foundation.



FY 2009 funding reflects both the FY 2009 omnibus appropriation and funding provided through the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

FY 2016 Summary

OISE Funding
(Dollars in Millions)

	FY 2014 Actual	FY 2015 Estimate	FY 2016 Request	Change Over FY 2015 Estimate	
				Amount	Percent
Total, OISE	\$48.31	\$48.52	\$51.02	\$2.50	5.2%
Research	36.86	40.17	42.67	2.50	6.2%
Education	11.35	8.25	8.25	-	-
Infrastructure	0.10	0.10	0.10	-	-

Totals may not add due to rounding.

Research

- The FY 2016 Request includes \$42.67 million for research, \$2.50 million above the FY 2015 Estimate.
- Funding for Science, Engineering, and Education for Sustainability (SEES) is maintained at \$10.0 million. This activity aims to lay the foundation for technologies to mitigate and adapt to environmental change that threatens sustainability.

- The FY 2016 Request includes funding to support international collaborations in Clean Energy Technology investments and Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS) (+\$1.28 million to a total of \$11.28 million). This will enable U.S. researchers to leverage NSF investments with those of other nations, sharing complementary expertise to enhance progress towards meeting global “grand challenges.”
- OISE will participate in Understanding the Brain (UtB) (+\$500,000 to a total of \$500,000) by supporting its international collaborative components, primarily through strategic co-funding.
- The OISE FY 2016 Request will co-fund international disciplinary and interdisciplinary activities largely through the GVF (an approximate increase of \$1.21 million). This will continue efforts to involve new funding partners to enable more and stronger research and education collaborations with developing countries. A key example is an NSF-U.S. Agency for International Development (USAID) Memorandum of Understanding that provides a framework under which NSF provides supplementary funding to U.S. investigators to enable collaboration with USAID-supported partners in developing countries. OISE manages NSF’s participation in this “Partnerships for Enhanced Engagement in Research” (PEER) program, and in FY 2016 will sustain an investment of approximately \$250,000 (usually matched by the cognizant program) for PEER supplements. These funds are further leveraged by approximately \$6.0 million in USAID funding.
- Since the inception of the Catalyzing New International Collaborations (CNIC) program in FY 2011, and its predecessor International Planning Visits and Workshops program, OISE has found significant catalytic impacts from international workshops and collaborations at scales larger than individual investigators (e.g., center-to-center collaborations between NSF-funded groups and international counterparts). The program assures focus on priority research areas through coordination with and across divisions, directorates, and (domestic and international) agencies. In order to optimize this impact in FY 2016, approximately \$1.50 million (unchanged from FY 2015) will be targeted to such activities, primarily through intra- and inter-agency co-funding. International components of individual collaborations will continue to be supported through co-funding (rather than proliferating small seed proposals).
- OISE will provide approximately \$19.0 million of the FY 2016 Request (a decrease of \$1.0 million below the FY 2015 Estimate) to support continuing grant increments for the 2012 and 2015 cohorts of PIRE projects. The FY 2015 level reflects the front-loading of one-time expenses (e.g., equipment) in starting the new cohort. This program is heavily leveraged both by other directorates within the Foundation and by international partners.

Education

- OISE supports international research and education activities for U.S. undergraduate and graduate students and post-doctoral fellows via the International Research Experiences for Students (IRES), East Asia and Pacific Summer Institutes for U.S. Graduate Students (EAPSI), and International Research Fellowship Program (IRFP) activities. The total OISE FY 2016 Request for these programs will remain \$8.25 million, with additional support available through GVF co-funding.

Infrastructure

- In FY 2016, OISE will continue to provide \$100,000 in support of the National Nanotechnology Coordinated Infrastructure (NNCI) to leverage connections and collaborations with foreign institutions. NNCI is the successor to the major multi-user facility, National Nanotechnology Infrastructure Network (NNIN). For information about NNCI, please refer to the Facilities chapter.

Major Investments

OISE Major Investments
(Dollars in Millions)

Area of Investment	FY 2014	FY 2015	FY 2016	Change Over FY 2015 Estimate	
	Actual	Estimate	Request	Amount	Percent
Clean Energy Technology	\$13.07	\$10.00	\$11.28	\$1.28	12.8%
INFEWS	-	-	1.28	1.28	N/A
SEES	10.00	10.00	10.00	-	-
Understanding the Brain	-	-	0.50	0.50	N/A

Major investments may have funding overlap and thus should not be summed.

- Clean Energy Technology (+\$1.28 million, to a total of \$11.28 million): OISE funding will focus on addressing relevant fundamental science drivers in locations and via partnerships around the globe that provide unique insights into associated challenges and opportunities.
- INFEWS (+\$1.28 million, to a total of \$1.28 million): OISE will co-fund meritorious proposals relevant to INFEWS with international components from across NSF. Targeted opportunities include new, synergistic collaborations that involve early career scientists, engineers, and students. Opportunities in this area are of importance in parts of the developing world, both because of regional needs and potential resources. OISE will work both programmatically and through its non-programmatic facilitation functions on these important efforts. OISE plans to coordinate with other federal agencies (U.S. Department of State, USAID, and U.S. Department of Agriculture) in this area.
- SEES (\$10.0 million or equal to the FY 2015 Estimate): OISE will continue to support international components as opportunities arise across the Foundation. It will also serve as a resource to help NSF-supported researchers understand relevant international policies impacting overseas studies.
- Understanding the Brain (+\$500,000, to a total of \$500,000): NSF’s UtB investment has extensive world-wide counterparts, with special foci in the European Union and China. OISE will provide co-funding to UtB programs across the Foundation to assure that U.S. researchers are able to both contribute to and benefit from complementary efforts around the globe. It will also consider relevance to this priority in assessing proposals it manages (e.g., PIRE and CNIC).

Summary and Funding Profile

OISE supports investment in core research and education as well as research infrastructure. A shift in emphasis between small-scale and larger-scale catalytic activities began in FY 2015, resulting in a decrease in the number of proposals and awards, and an increase in the median award size (increases in the average award size and duration reflect primarily the new cohort of 5-year PIRE awards (competitions for which are held on a biennial basis). These trends will continue in FY 2016; the number of research grant proposals is expected to decrease compared to the FY 2015 Estimate (reflecting also the absence of a PIRE competition in 2016). Average annualized award size and duration are estimated to decrease in FY 2016 due to the absence of a PIRE competition.

OISE Funding Profile

	FY 2014 Actual Estimate	FY 2015 Estimate	FY 2016 Estimate
Statistics for Competitive Awards:			
Number of Proposals	679	630	650
Number of New Awards	308	270	260
Funding Rate	45%	43%	40%
Statistics for Research Grants:			
Number of Research Grant Proposals	454	390	250
Number of Research Grants	83	70	45
Funding Rate	18%	18%	18%
Median Annualized Award Size	\$60,266	\$83,000	\$80,000
Average Annualized Award Size	\$98,812	\$280,000	\$100,000
Average Award Duration, in years	1.7	2.0	1.7

Program Monitoring and Evaluation

External Program Evaluations and Studies:

- An evaluation of the Foundation-wide International Research Fellowship program (managed by OISE) was performed during FY 2012 to investigate the international experiences and the research, educational, and employment outcomes of FY 1992-FY 2010 fellowship awardees.² The report was delivered to OISE in FY 2013. The evaluation found that fellows made important and enduring connections with researchers in their host country and that their subsequent collaborations with researchers in foreign countries were more productive than those of their peers. IRFP awardees were as productive in research as their peers, were as likely to hold a faculty rank of assistant, associate, or full professor, and were as likely to be tenured. The evaluation found the program to be effective and recommended continuation. In FY 2015, the NSF-wide Fellowship Coordinating Committee began an internal assessment of the optimum structure for advancing the interests of the program; implementation is expected in FY 2016.
- An evaluation of the first 59 Partnerships for International Research and Education funded since inception in 2005 is currently being conducted. A comparison group is being selected from projects funded by programs for which international collaboration was not required (but may have been encouraged), using criteria such as award amount, duration, type of grant, year funded, and disciplinary focus. Principal investigators (PIs), co-PIs, postdoctoral and graduate student participants from each PIRE project and the matched comparison projects will be surveyed. The report is expected in December 2015.

Science and Technology Policy Institute (STPI) Report:

- In FY 2013, OISE initiated a STPI study to assess the effectiveness of the NSF overseas offices. A preliminary report was received in February 2014. The draft was generally supportive of the mission and value offered by all three offices. Final results from this study are expected during FY 2015. The preliminary report is guiding planning for the offices, including a move of the Europe office to Brussels, and enhancement of IT capabilities at all offices.

² <http://abtassociates.com/AbtAssociates/files/58/581035b4-c55a-40b9-bd09-98b23cb59321.pdf>

Committee of Visitors (COV):

- The International Science and Engineering (ISE) Section of the Office of International and Integrative Activities (OIIA) held a triennial Committee of Visitors (COV) meeting on September 16-17, 2014. The resulting report, which was accepted by the Advisory Committee on International Science and Engineering (AC-ISE) at their November 6 virtual meeting, is posted along with the Office's response.³

Since the report was accepted by the AC-ISE, significant progress has been made towards responding to the recommendations.

The Performance chapter provides details regarding the periodic reviews of programs and portfolios of programs by external Committees of Visitors and directorate/office Advisory Committees. Please see this chapter for additional information.

Number of People Involved in OISE Activities			
	FY 2014	FY 2015	FY 2016
	Actual Estimate	Estimate	Estimate
Senior Researchers	504	510	540
Other Professionals	67	70	70
Postdoctorates	54	50	50
Graduate Students	145	150	160
Undergraduate Students	100	100	110
Total Number of People	870	880	930

³ www.nsf.gov/od/iia/activities/cov/covs.jsp#oia