

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

**\$46,240,000
-\$2,740,000 / -5.6%**

OISE Funding
(Dollars in Millions)

	FY 2018	FY 2019	FY 2020	Change over	
	Actual	(TBD)	Request	FY 2018 Actual Amount	Percent
Total	\$48.98	-	\$46.24	-\$2.74	-5.6%

About OISE

OISE is the focal point for NSF’s international science and engineering activities. OISE’s mission is to promote an integrated, Foundation-wide international engagement strategy and manage internationally-focused programs that are innovative and catalytic. OISE focuses on international activities to promote innovation for U.S. researchers through access to international knowledge, infrastructure, and capabilities. OISE’s FY 2020 Request supports this by focusing on three activities: (1) promoting the development of a globally engaged workforce, (2) facilitating and supporting international partnerships, and (3) providing opportunities for U.S. leadership to shape the global science and engineering agenda.

In FY 2018, OISE launched the Accelerating Research through International Networks (AccelNet) program through a call for white papers, funded four workshops, and released a solicitation for funding in FY 2019. The goals of the AccelNet program are to accelerate the process of scientific discovery and prepare the next generation of U.S. researchers for multiteam international collaborations. The AccelNet program supports strategic linkages among U.S. research networks and complementary networks abroad that will leverage research and educational resources to tackle grand scientific challenges that require significant coordinated international efforts. The program seeks to foster high-impact science and engineering by providing opportunities to create new collaborations and new combinations of resources and ideas among linked global networks. At the FY 2020 Request level, OISE will release a modified solicitation using lessons learned from the FY 2019 competition. OISE expects the FY 2020 solicitation to use new mechanisms for the international research community to accelerate discovery through network-to-network collaboration. In FY 2020, AccelNet will focus on NSF-priority investment areas, including NSF’s Big Ideas. Each AccelNet award will build a network of networks across international and interdisciplinary boundaries. AccelNet will provide the funding to connect U.S. research networks with their international counterpart networks. These efforts will ensure the United States has access to the best ideas, people, and facilities wherever they may be.

In FY 2020, OISE will continue to expand opportunities for STEM undergraduate and graduate students through the International Research Experiences for Students (IRES) program. The IRES program supports the development of a diverse, globally-engaged U.S. science and engineering workforce. The IRES program supports active research in all disciplines of research funded by NSF. Given the increasingly global nature of science and engineering, the long-term goal of IRES is to enhance U.S. leadership by developing the next generation of STEM leaders. In FY 2020, IRES will continue to focus on three tracks. Track I focuses on the development of world-class research skills in international cohort experiences. Track II is dedicated to targeted, intensive learning and training opportunities that leverage international knowledge at the frontiers of research. Track III calls for U.S. institutional partnerships and coalitions to develop and evaluate innovative models for high-impact, large-scale international research and professional development experiences for graduate students, as individuals or groups.

In FY 2018, NSF launched MULTIPLIER—MULTIPLYing Impact Leveraging International Expertise in

Research Missions. MULTIPLIER replaced NSF’s static international strategy of maintaining three overseas offices. MULTIPLIER expeditions focus on fields of science and engineering where researchers are making significant developments and have the potential to benefit U.S. prosperity, security, health, and well-being. MULTIPLIER expands NSF’s commitment to international outreach by:

- Identifying emerging scientific research areas worldwide through a collaborative survey approach;
- Providing subject matter experts and international specialists to apply analytic approaches and diplomatic connections to leverage international capabilities that may benefit the U.S.;
- Organizing short-term missions for information gathering, ground truthing and network building; and
- Preparing analysis on country- and discipline-specific insights, as well as reports and presentations.

In FY 2020, OISE will support the Partnerships in International Research and Education (PIRE) program through continuing awards. PIRE is an NSF-wide program that funds international research opportunities for U.S. investigators across all NSF-supported disciplines. PIRE also supports high quality research and education that could not occur without international collaboration. PIRE seeks to catalyze a higher level of international engagement in the U.S. science and engineering community. The PIRE program is currently paused for submission of new proposals. The release of a new solicitation is anticipated for FY 2021, with funding in FY 2022.

OISE will continue to co-fund with NSF directorates on meritorious proposals that include international collaboration through its Global Venture Fund. OISE will provide support to assure that U.S. researchers contribute to, and benefit from, complementary efforts around the globe.

In FY 2019, OISE will contribute to the NNA and QL NSF Big Ideas.

- In FY 2020, OISE will continue supporting NNA at a level of \$1.0 million, which will support research that builds on and extends existing observing networks and scientific knowledge as well as logistics support expertise to address the convergent scientific challenges in the changing Arctic. Interagency, state government, and international partnerships will be further developed to achieve pan-Arctic and Arctic-global perspectives.
- In FY 2020, OISE will invest in QL at a level of \$1.0 million. The Quantum Leap Big Idea will continue to build upon and extend the existing knowledge of the quantum world, fostering breakthroughs in the fundamental understanding of quantum phenomena and enabling the exploitation of these phenomena to disrupt the Nation’s science and engineering landscape. These advances will unleash the potential of the Nation’s quantum-based scientific enterprise, economy, and security.

Funding Profile

OISE Funding Profile			
	FY 2018		
	Actual	FY 2019	FY 2020
	Estimate	(TBD)	Estimate
Statistics for Competitive Awards:			
Number of Proposals	234	-	300
Number of New Awards	52	-	70
Funding Rate	22%	N/A	23%
Statistics for Research Grants:			
Number of Research Grant Proposals	225	-	100
Number of Research Grants	43	-	40
Funding Rate	19%	N/A	40%
Median Annualized Award Size	\$100,000	-	\$100,000
Average Annualized Award Size	\$138,888	-	\$150,000
Average Award Duration, in years	2.7	-	2.3

In FY 2020, the number of competitive proposals is expected to increase as a result of AccelNet proposal submissions. AccelNet funds network-to-network collaborations and not research, so while the total number of competitive proposals will increase, the number of research grant proposals is expected to decrease by 55 percent compared to the FY 2018 Actual Estimate. OISE expects to award about 40 research grants from the IRES program. The decrease in the number of expected research proposals in FY 2020 is attributed to the pause of the PIRE program.

Program Monitoring and Evaluation

External Program Evaluations and Studies:

An evaluation of the IRES program began in September 2018 and will produce deliverables at various stages of the evaluation. The evaluation is expected to be completed in early 2021. The evaluation will review educational and career trajectories of principal investigators and students and the extent of their international engagement as a result of participating in the program. The final results are expected by Fall 2021.

Workshops and Reports:

In FY 2018, five workshops were funded through the AccelNet program to stimulate the exchange of ideas and leverage international resources.

Committees of Visitors (COV):

- December 2017, a COV convened to review OISE's programs and activities. The COV chair presented the report to the NSF International Science and Engineering Advisory Committee January 2018. OISE responded to the COV's recommendations in February 2018.¹
- Spring 2018, a COV reviewed awards to the National Academies of Sciences, Engineering, and Medicine (the National Academies) Board on International Science Organizations (BISO). BISO's mission is to strengthen science for the benefit of society through U.S. leadership, collaboration, and representation in international scientific organizations and initiatives. BISO provides information about these international scientific organizations and initiatives to the leadership of the National Academies, NSF, the Department of State, and other organizations.
 - The BISO COV chair presented their report virtually to the AC-ISE, which convened May 2018, and OISE responded to those recommendation, June 2018.²

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

¹ OISE COV Report: www.nsf.gov/od/oise/OISECOV-Doc/OISE_COVReport/OISE_FY2018_COV_Final.pdf; Responses: www.nsf.gov/od/oise/OISECOV-Doc/OISE_COVReport/ResponsesToThe2018_OISE_COV_Report.pdf

² BISO COV Report: www.nsf.gov/od/oia/activities/cov/oise/2018/OISE_BISO_2018_COV_Report.pdf; Responses: www.nsf.gov/od/oise/OISECOV-Doc/BISOCOV/OISE_Response%20to%202018_BISO%20COV%20Report.pdf

People Involved in OISE Activities

Number of People Involved in OISE Activities			
	FY 2018		
	Actual	FY 2019	FY 2020
	Estimate	(TBD)	Estimate
Senior Researchers	270	-	250
Other Professionals	58	-	50
Postdoctoral Associates	23	-	20
Graduate Students	139	-	120
Undergraduate Students	49	-	50
Total Number of People	539	-	490