

National Science Foundation
Office of International Science and Engineering

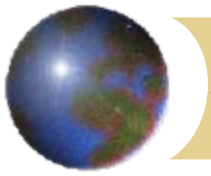


**Supporting the International Collaborations
of U.S. Researchers**



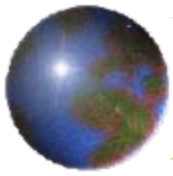
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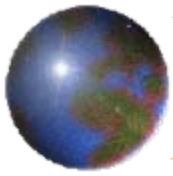
Outline

- The National Science Foundation
- Why we want to collaborate internationally
- International Collaboration at NSF
 - Integrated throughout the Foundation
 - Office of International Science & Engineering
 - Programs for Faculty
 - Programs for Postdoctoral Researchers
 - Programs for Undergraduate and Graduate Students
 - Research and Education Directorates



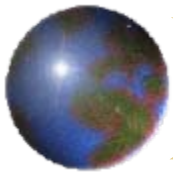
The National Science Foundation

- Is an Independent Agency of the Federal Government
- Was established in 1950 to promote and advance scientific progress in the United States by sponsoring scientific research and by supporting selected activities in science and engineering
- Mission includes support for all fields of fundamental science and engineering, except for medical sciences
- Does not conduct research itself

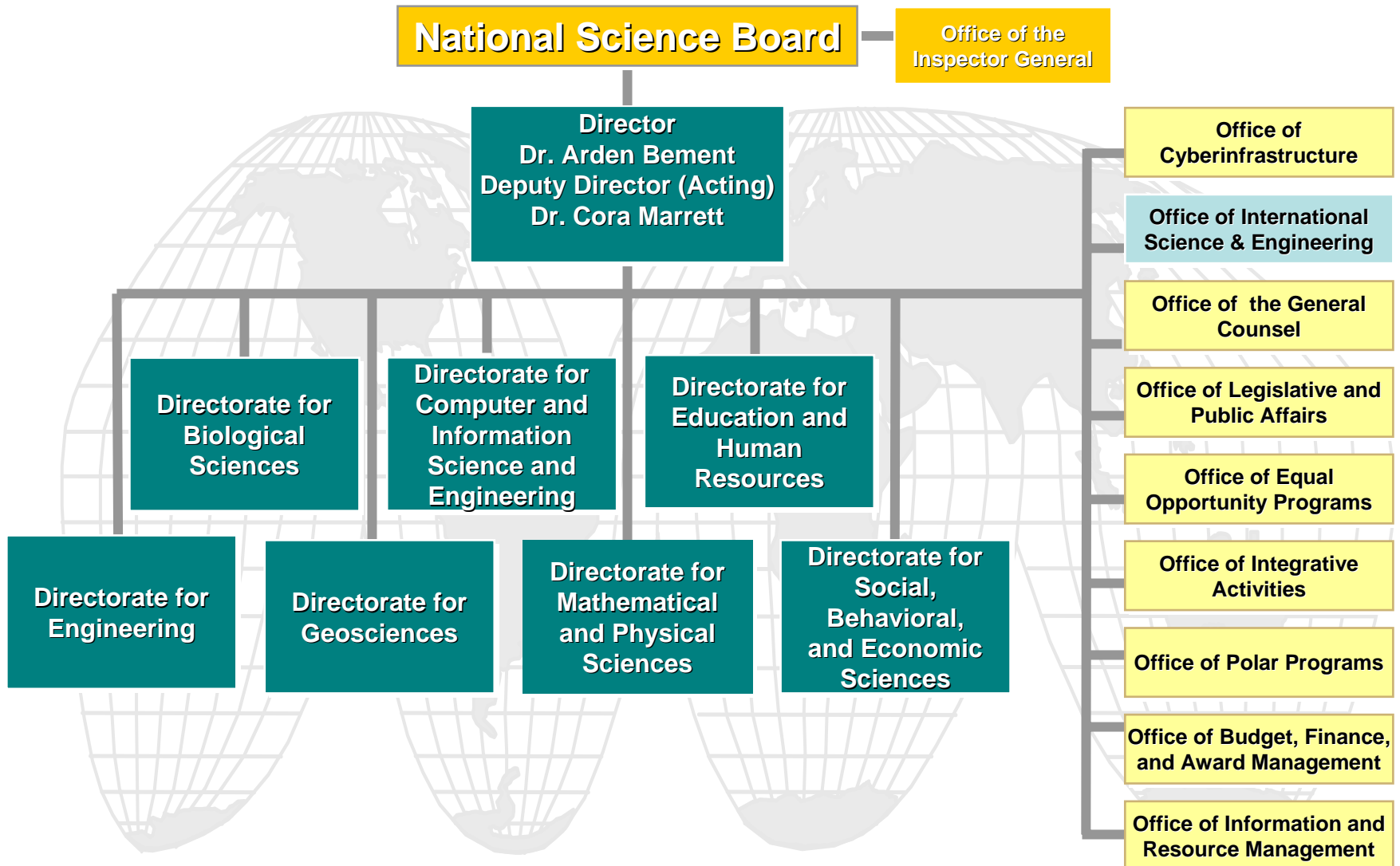


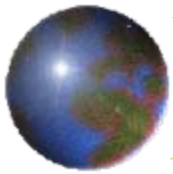
The National Science Foundation

- Has an annual budget of approximately \$6 billion
 - Received an additional \$3 billion through the American Recovery and Reinvestment Act of 2009
- Receives approximately 40,000 proposals each year
 - Approximately 11,000 are funded
- Merit Review Process
 - What is the intellectual merit of the proposed activity?
 - What are the broader impacts of the proposed activity?
- NSF Program Officers
 - Analyze input received from the external reviewers
 - Review scientific, technical and programmatic considerations
 - Make an "award" or "decline" recommendation



The National Science Foundation

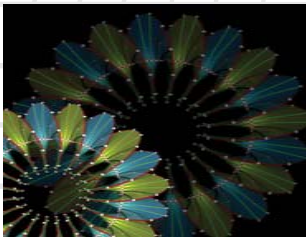




Why International Collaboration?

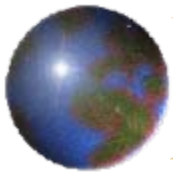
“International cooperation in science is not a luxury; it is a necessity – and the foundation for the future.”

*Arden L. Bement, Jr.
NSF Director
May 2006*



Investing in America's Future
Strategic Plan FY 2006-2011
NSF 06-48

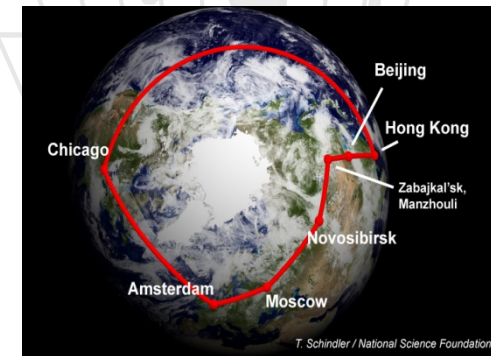
*Strengthen the nation's collaborative advantage by developing unique networks and innovative partnerships...both nationally and **internationally**, to leverage intellectual capabilities.*

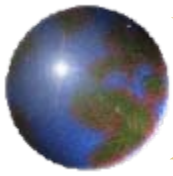


International Collaboration at NSF

NSF support for international collaboration aims to

- Advance the FRONTIERS of Science and Engineering
 - ACCESS to unique expertise, facilities, and phenomena
 - LEVERAGE limited resources
- Prepare a GLOBALLY-ENGAGED U.S. S&E workforce
 - DEVELOP understanding of science abroad
 - NURTURE capable young researchers with strong networks overseas



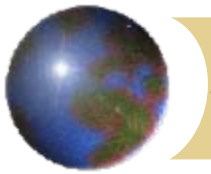


International Collaboration at NSF

Support for International Activities is integrated throughout NSF

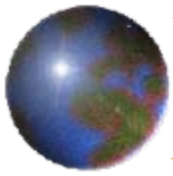
- New proposals to the Office of International Science and Engineering
- Integral part of new proposals to NSF research or education programs
- Supplements to existing NSF grants





OISE Overview

- Office of International Science & Engineering
 - Geographical Organization
 - + Cross-cutting Teams
 - Program Officer portfolios have region or country-focus
 - 3 Overseas Offices
 - Europe (Paris)
 - Tokyo
 - Beijing
- Budget
 - FY09 - \$47 million
- Supports costs of US based investigators



OISE Overview

➤ Key elements for OISE funding

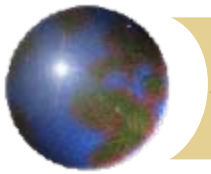
Collaborative research activities

Synergistic

Catalytic

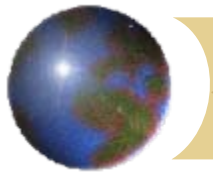
Engagement of students & junior researchers





OISE Opportunities

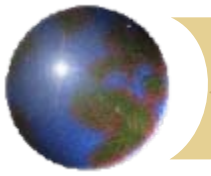
- Support for Faculty Members
 - Planning Visits
 - \$20,000 maximum
 - NSF 04 – 035
 - Workshops
 - \$25 – 60,000
 - NSF 04 – 036
 - Partnerships for International Research and Education (PIRE)
 - NSF Flagship International Program
 - No budget ceiling
 - NSF 09 – 505



Planning Visits, NSF 04-035

- Supports travel by small teams of U.S. researchers to plan *new* collaborations
 - Fully assess foreign expertise, sites, facilities, data, experimental protocols, etc.
- Intended outcome: Proposal to NSF Research Directorate
- 7-14 days on average
- http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12815&org=OISE&from=home





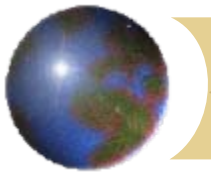
Planning Visits

- International Planning Grant: Pollination in a Biodiversity Hotspot
 - U.S. PI: Tia-Lynn Ashman, Univ. of Pittsburgh
 - Collaborator: Estación Biológica de Doñana (CSIC) in Seville, Spain
 - Unique hotspot in the southern Mediterranean
 - 2 field visits
 - Building on unfunded collaboration



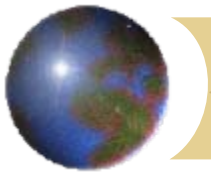
Workshops, NSF 04-035

- Small-scale, focused meetings co-organized by U.S. and foreign investigator to identify areas of joint research interest and develop new collaborations
- NSF supports U.S. faculty and students
- Intended outcome: research proposal to NSF research directorate
- http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12815&org=OISE&from=home



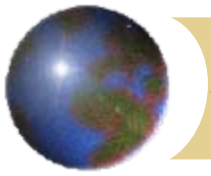
PIRE, NSF 09-505

- Partnerships for International Research & Education
- Objectives
 - Frontier research that leverages unique, complementary expertise of US, international partners
 - Innovative international education opportunities for students
 - Institutional transformation
- 5-year awards
- 32 active awards across all NSF disciplines
- http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12819&org=OISE&from=home



PIRE

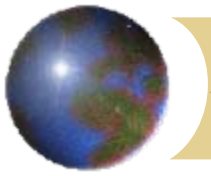
- PIRE: Speciation in Patagonia: Establishing Sustainable International Collaborations in Evolution, Ecology, and Conservation Biology
- U.S. PI: Jerry Johnson, BYU
 - International collaborators: Argentina, Chile
 - Impact of Climate and Geological events on the evolutionary history of animal and plant species in Patagonia
 - Reconstructing histories of 16 distinct species
 - Molecular marking and morphometric data



OISE Opportunities

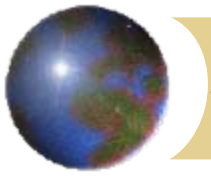
- Support for Postdoctoral Researchers
 - International Research Fellowship Program
 - Designed to introduce young researchers to international opportunities
 - Provides support for research at institution in foreign countries for 9-24 months
 - NSF 06 – 582
 - Inclusion in regular NSF research grants
 - Disciplinary postdoctoral fellowships





IRFP, NSF 06-582

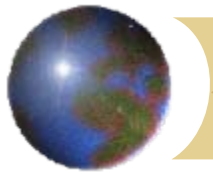
- US Citizens or permanent resident
- Ph.D. must be completed prior to commencement of IRFP
- Participants must have received Ph.D. within 2 years of start of grant
- Deadline: 2nd Tuesday in September
- http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5179&org=OISE&from=home



➤ International Research Fellowship Program:
Investigations of the Semiochemicals in the Mating
Sequence of the U.S. Invasive species *Anoplophora*
Glabripennis and related Sub-Families

U.S. PI: Jacob Wickham

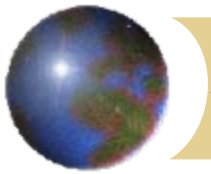
- Chinese Academy of Sciences
- Impact of Asian Longhorned Beetle
 - Serious pest for tree plantations in China
 - Infestations in the US
 - Studying mating sequence



OISE Opportunities

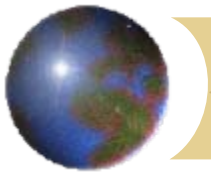
- Support for Undergraduate and Graduate Students
 - Doctoral Dissertation Enhancement Program (04 – 036)
 - International Research Experiences for Students (04 – 036)
 - East Asia and Pacific Summer Institutes for US Graduate Students (EAPSI) (08-603)
 - Pan-American Advanced Studies Institute (03-506)

 - Integrative Graduate Education and Research Traineeship (IGERT) Program
 - Graduate Research Fellowships
 - International REUs
 - Participation in OISE planning visits or workshops
 - Participation in PIRE awards
 - Participation in NSF disciplinary awards

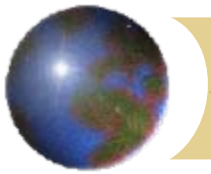


DDEP, NSF 04-036

- Provides travel support for doctoral research overseas
- Must be collaborative, with evidence of intellectual involvement of foreign institution
- U.S. faculty mentor is PI on proposal
- \$15,000 maximum
- No deadlines: Proposals welcome year-round
- http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12831&org=OISE&from=home

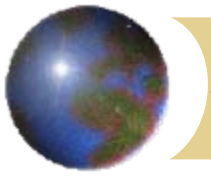


- Dissertation Research: Local Adaptation of Symbiotic Fungi to Serpentine Soils
 - Ecology Program in the Biology Directorate
 - US PI: Gregory Mueller, University of Chicago
 - Portuguese collaborator: Escola Superior Agraria de Braganca
 - Effects of extreme environments on organisms
 - Serpentine soils have high metal content
 - Investigation on serpentine and non-serpentine oak forests in northeast Portugal



IRES, NSF 04-036

- International Research Experiences for Students
- Graduate and/or undergraduate students
- Supports small groups of students for focused research experiences overseas
- \$150,000 max (\$50,000 per year for up to 3 years)
- Deadlines: 9/15 and 2/15
- http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12831&org=OISE&from=home



International Activities at NSF

- International Research Experiences for Undergraduates (iREU)
 - NSF-wide
 - All research directorates support
 - New awards ("sites") with ~10 students/year
 - "supplements" to existing awards (~1-2 students)
 - http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&org=NSF



Office of International Science & Engineering (OISE)



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Office of International Science & Engineering (OISE)

Important Notice

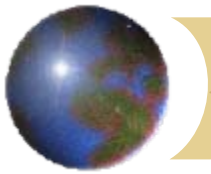
International science and engineering research and education activities are funded by all NSF directorates and offices.

Investigators seeking funding for international collaborative research may include an international component in **new proposals** submitted to their relevant NSF research program, or request [supplemental funding](#) to add international collaboration to projects supported by current NSF grants.

OISE works closely with other NSF directorates and offices to co-fund innovative, catalytic new awards and supplements that promote research excellence through international collaboration and develop the next generation of globally engaged U.S. scientists and engineers. OISE criteria for co-funding include:

- **True intellectual collaboration with a foreign partner** (The foreign partner's 2-page biographical sketch, communication outlining their role in the project, and a letter of endorsement from the foreign institution should be included.)
- **New** international collaborations, as opposed to well-established ones;
- Benefits to be realized from the **expertise and specialized skills, facilities, and/or resources** of the foreign collaborator; and
- Active research engagement of U.S. **students and junior researchers** at the foreign site.

Investigators should consult early in the application process with both the relevant disciplinary program manager and [OISE country program manager](#).



OISE



Thank You



<http://www.nsf.gov/oise>

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