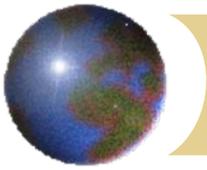




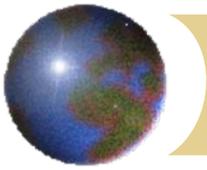
## International Research Collaboration: Opportunities and Resources at NSF

**Kathryn Sullivan**  
Senior Advisor, Office of Integrative Activities

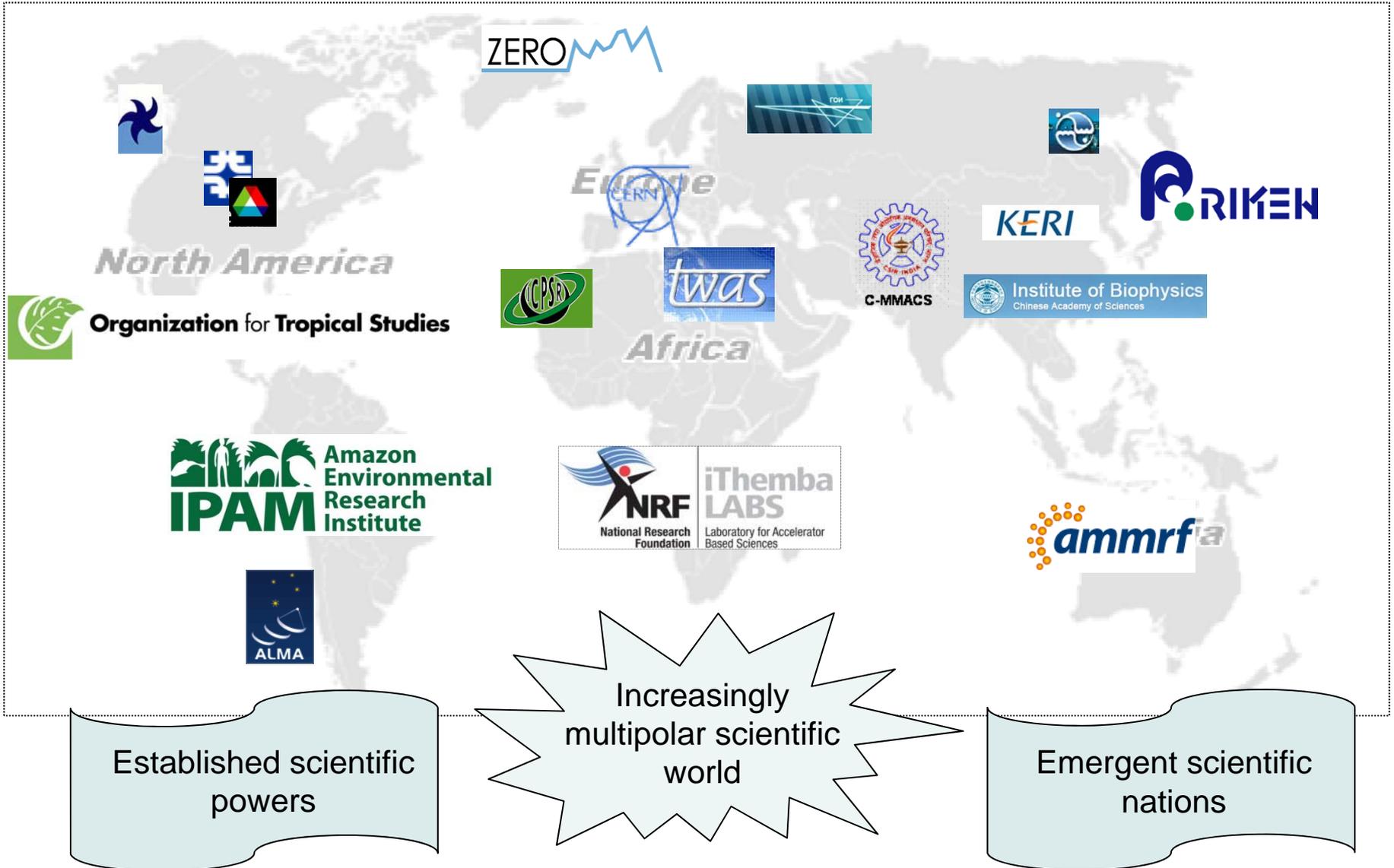


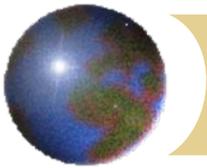
"Science without Borders" captures the ferment and promise that now characterize the research and education enterprise. The old borders—among disciplines, among institutions, among nations, and among people of all cultures—are dissolving...Many of today's most pressing research challenges are global in scale...These complex problems cannot be addressed effectively without concerted international effort..."

**Subra Suresh**  
**NSF Director**



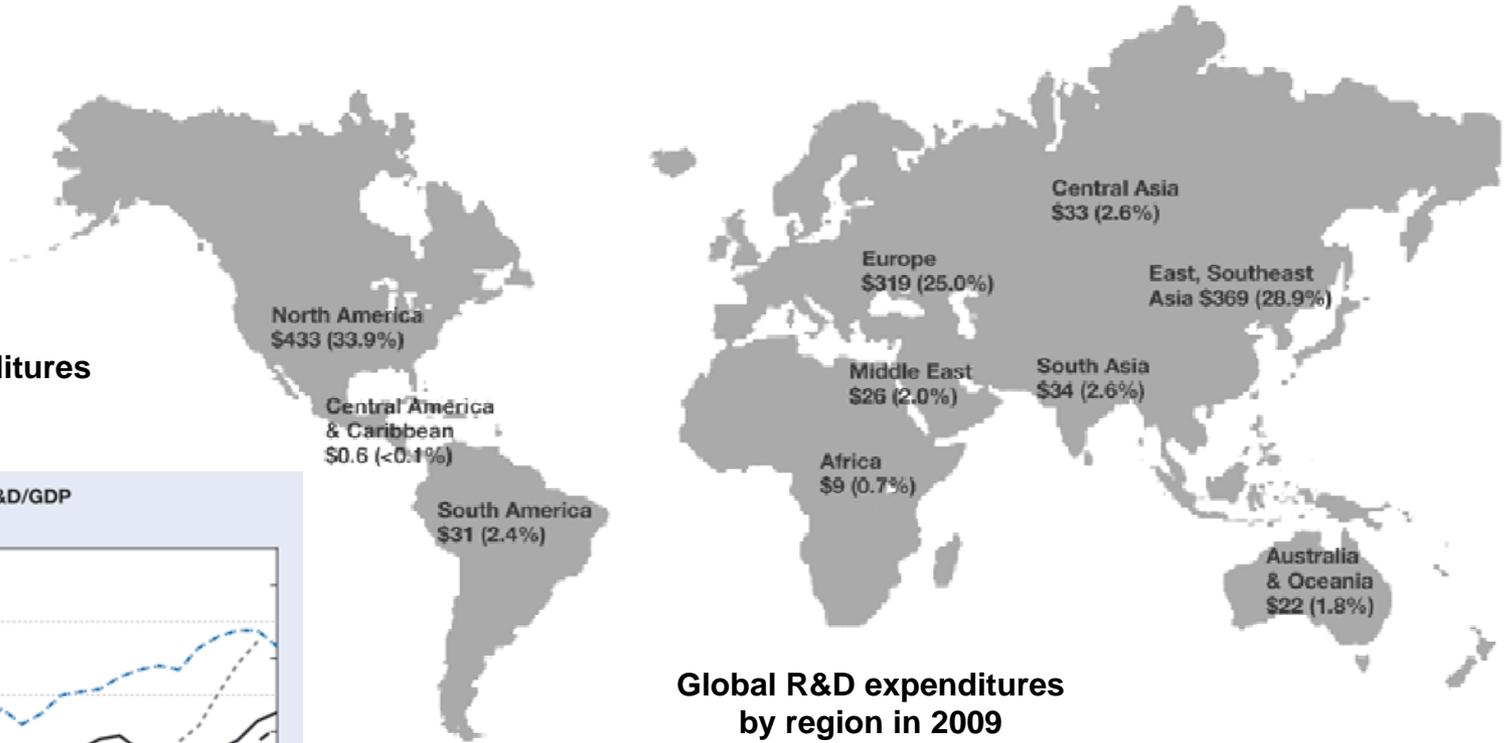
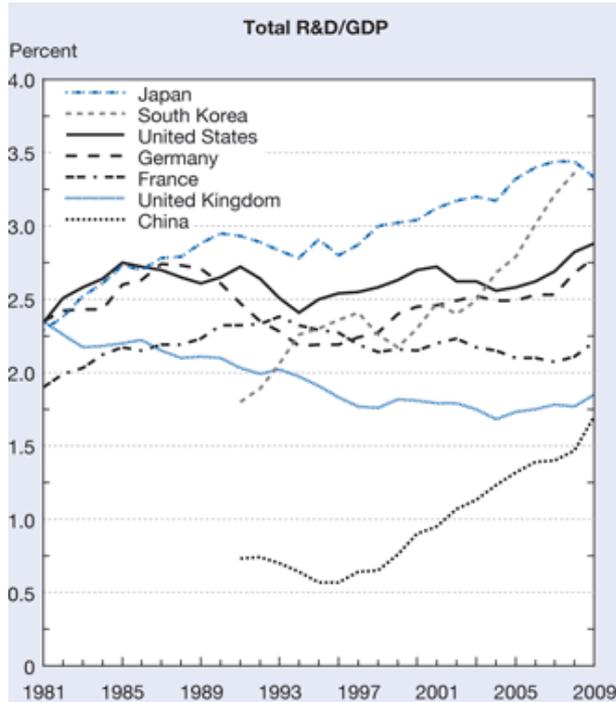
# Dynamic Scientific Landscape: Science is Global





# Dynamic Scientific Landscape: Worldwide R&D Investment Growing

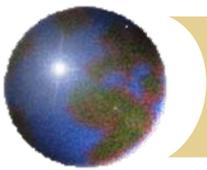
## Gross R&D expenditures as share of GDP



Global R&D expenditures  
by region in 2009

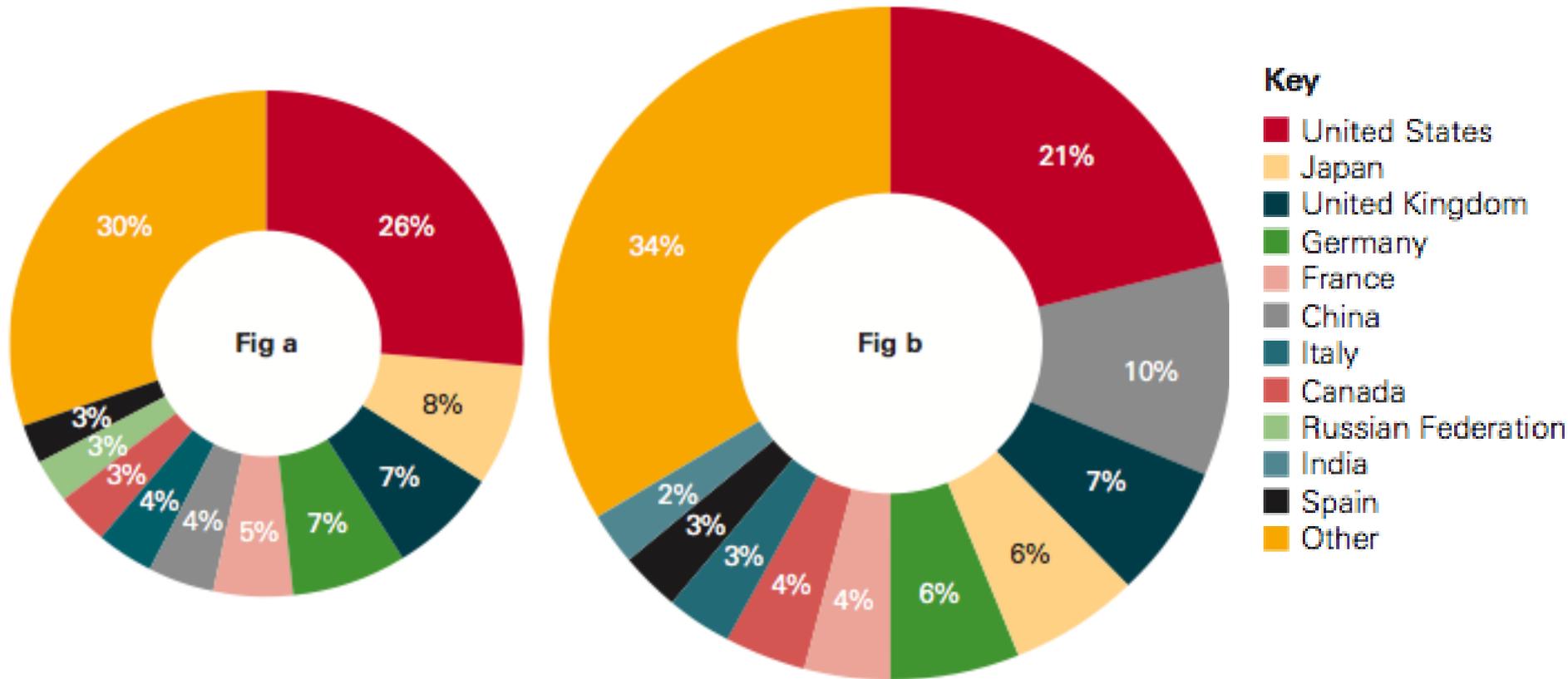
World Total = \$1,276 U.S.  
PPP dollars (billions)

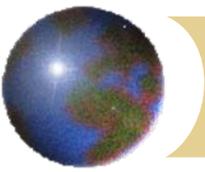
PPP = purchasing power parity



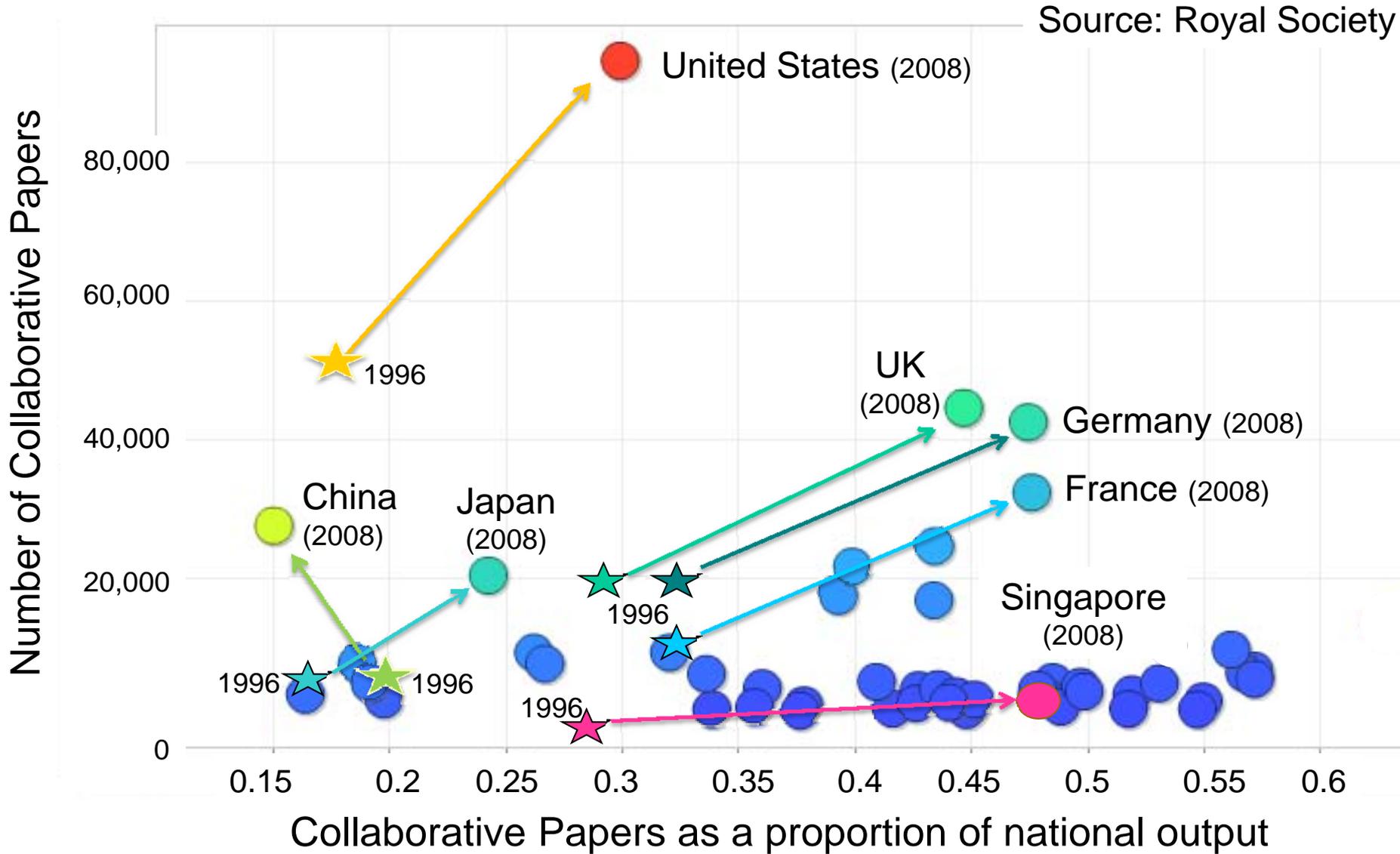
# Dynamic Scientific Landscape: R&D Productivity Diversifying

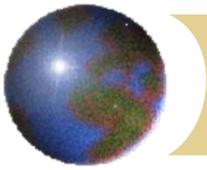
The top ten producing countries in each period are shown. **Fig a.** 1999-2003. **Fig b.** 2004-2008





# Dynamic Scientific Landscape: Increasingly Interconnected





# Drivers for International Research Collaboration

## *Resources*

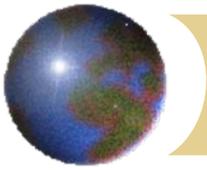
- **Access** to unique facilities and equipment
- **Share** costs and risks
- **Exchange** techniques and insights

## *Capacity*

- **Strengthen / Expand** knowledge base
- **Attract** talent
- **Enhance** S&T-led economic performance

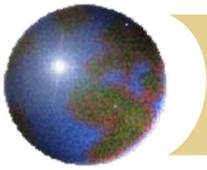
## *Objectives*

- **Address** national, transnational or global problems
- **Foster** science diplomacy
- **Access** foreign markets
- **Pursue** personal / professional goals



**“Good science anywhere is good for science everywhere** provided that a free and open flow of information through a transparent process with measures to promote scientific ethics and integrity flourishes everywhere.”

Subra Suresh  
NSF Director NSF

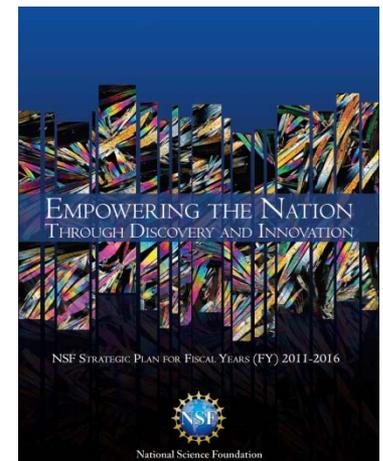


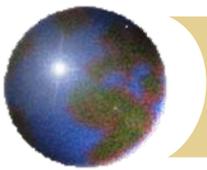
# NSF International Objectives

- ❖ **Access** to unique expertise, facilities, phenomena, data
- ❖ **Prepare** a globally engaged/competent U.S. S&E workforce
- ❖ **Nurture** strong networks overseas
- ❖ **Leverage** world-wide investments in STEM
- ❖ **Ensure** U.S. participation and, as appropriate leadership, in global science initiatives
- ❖ **Foster** cross-fertilization of ideas and adoption of “best practices”

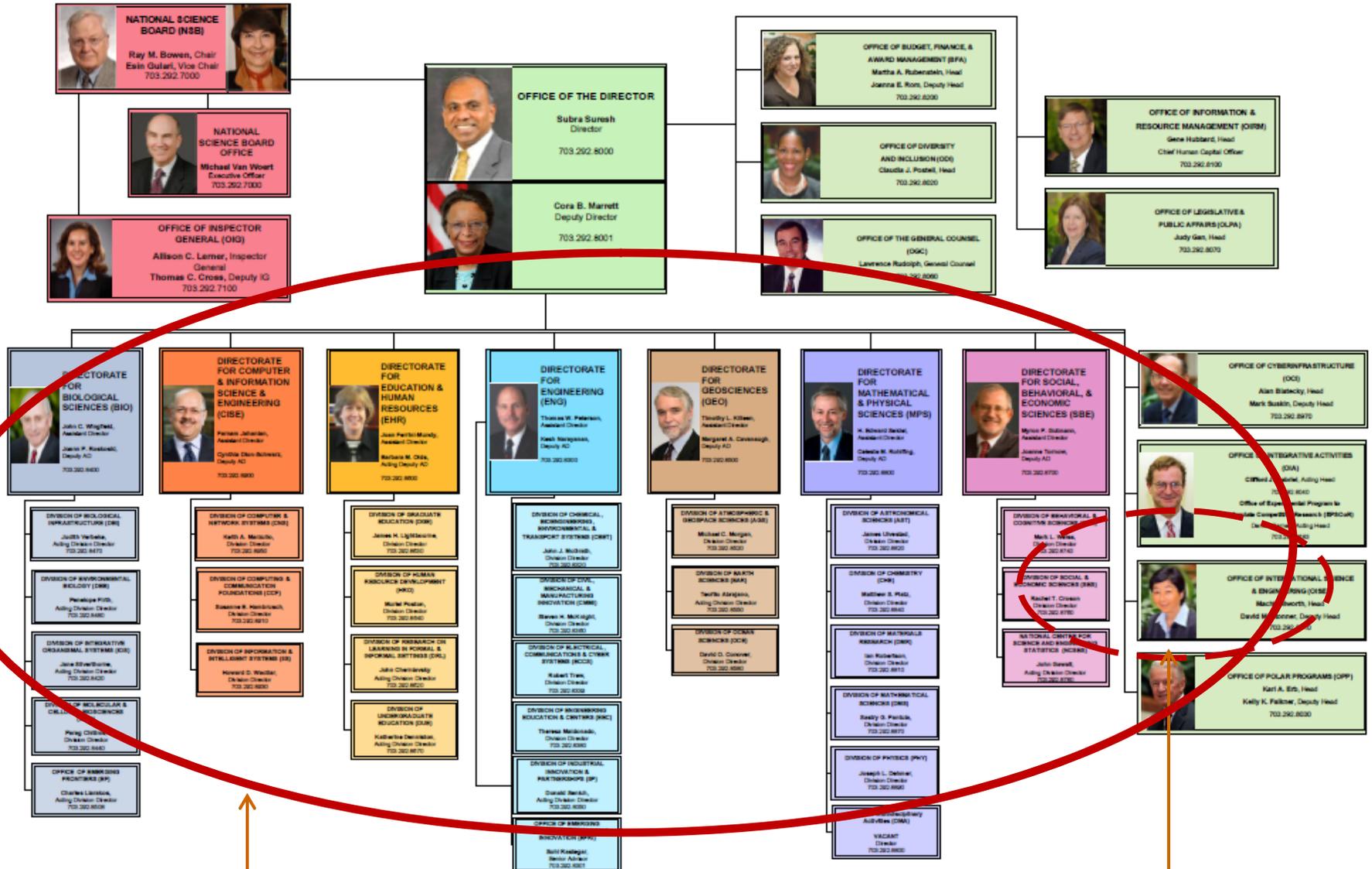
## *NSF Strategic Plan, Performance Goal #3*

Keep the United States globally competitive at the frontiers of knowledge by **increasing international partnerships and collaborations.**



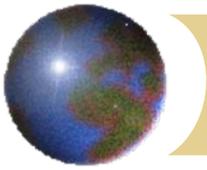


# Support for International Research Reflects OneNSF



**Disciplines**

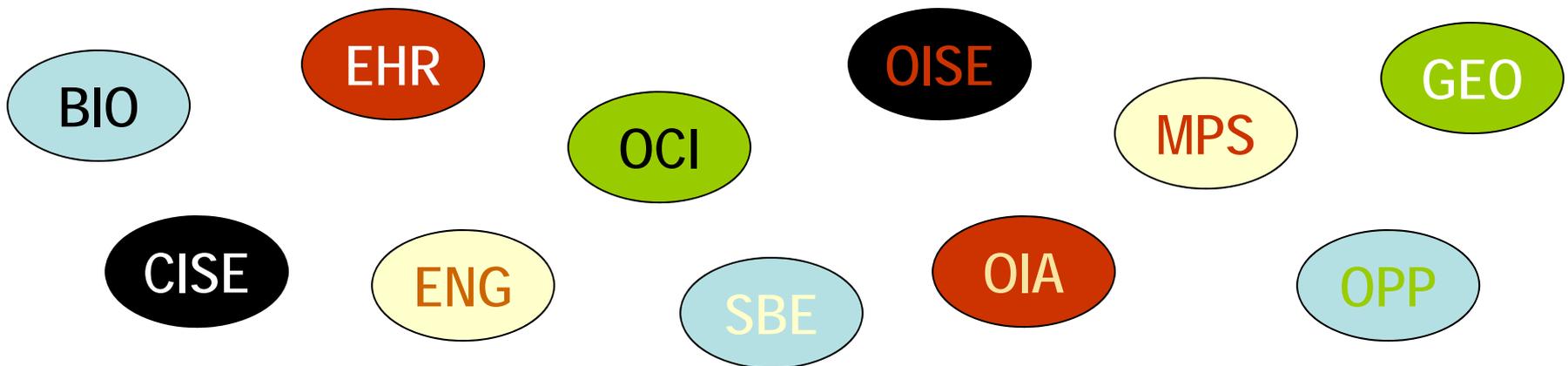
**International**

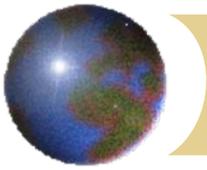


# NSF Funding for International Activities

Most international activities are **funded by the disciplinary programs:**

- As part of regular awards
- As supplements to regular awards





# NSF Funding for International Activities



The US  
**Long Term Ecological Research**  
Network

## Basic Research to Enable Agricultural Development (BREAD)

PROGRAM SOLICITATION  
NSF 11-579

REPLACES DOCUMENT(S):  
NSF 10-589



National Science Foundation  
Directorate for Biological Sciences  
Division of Integrative Organismal Systems

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

November 22, 2011



CISE



EXPLORE FUTURE INTERNETS AT SC  
Measurements  
NETWORK SCIENCE AND ENGINEERING  
At-scale experiment  
Open

## Ideas Lab on Synthetic Biology UK

BIO

**Computer & Information Science & Engineering (CISE)**



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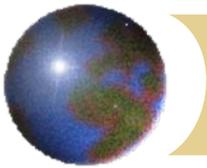
Email Print

### News From the Field **CRASAR Now in Japan With the International Rescue Systems Institute, Heading to Minami-Sanriku-Cho**

April 18, 2011



The five person, four marine-robot team has arrived in Japan to assist the International Rescue Systems Institute with inspecting damaged bridges, docks, and pipelines, as well as with victim recovery for five days. They will be experimenting with four different suitcase-sized remotely operated vehicles (ROV), smaller versions of the tethered ROVs used at the BP Oil Spill but just as capable. [Full Story](#)



# NSF Funding for International Activities

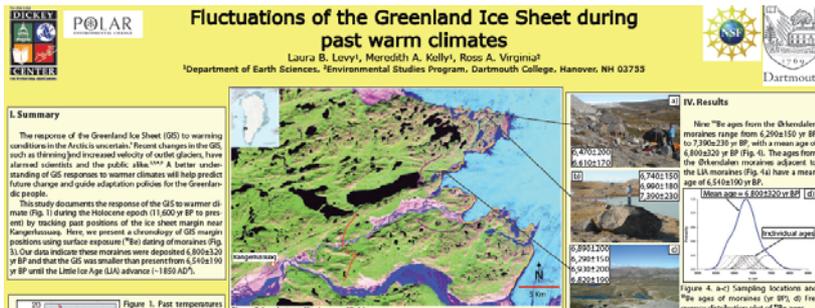
EHR

## NSF Graduate Research Fellowship Program (GRFP)

### GRF Nordic Research Opportunity

The Division of Graduate Education and the Office of International Science and Engineering announce the Nordic Research Opportunity, available as a Supplemental Award, for NSF Graduate Research Fellows (GRFs) to enable Fellows to gain international research experience and establish collaborations with counterparts at Norwegian, Finnish, Danish and Swedish research institutions. See details [here](#)

## NSF IGERT 2011 POSTER COMPETITION



## Louis Stokes Alliances for Minority Participation (LSAMP)

### International Research Component:

Senior-level alliances...are required to incorporate a plan to engage STEM students in international research opportunities, specifically laboratory experiences.

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February 6, 2012

### Engineering Safer Drinking Water in Africa

Community outreach helps technology solve water problems in Africa

In the United States and other developed countries, fluoride is often added to drinking water and toothpaste to help strengthen teeth. But too much

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## National Science Foundation WHERE DISCOVERIES BEGIN

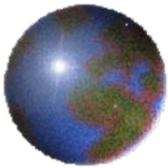
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NSF 11-024

### Dear Colleague Letter: US-China Collaborative Research in Advanced Sensors and Bio-inspired Technology (ASBIT) Opportunity

The U.S. National Science Foundation (NSF) and the National Natural Science Foundation of China (NSFC) jointly seek to enhance opportunities for collaborative activity between US and Chinese investigators and intend to jointly support transformative, cross-disciplinary, collaborative research on Advanced Sensors and Bio-Inspired Technologies (ASBIT).

ENG

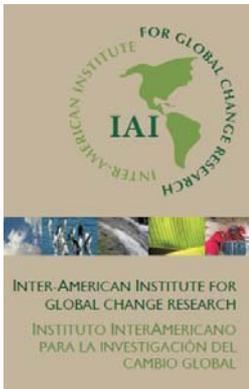


# NSF Funding for International Activities

GEO

Division of Materials Research

## Materials World Network: Cooperative Activity in Materials Research between US Investigators and their Counterparts Abroad (MWN)



**THE GLOBE PROGRAM**  
CONNECTING THE NEXT GENERATION OF SCIENTISTS

**APN**

Asia-Pacific Network for Global Change Research

### Research Coordination Networks (RCN) (NSF 11-531)

The goal of the RCN program is to advance a field or create new directions in research or education. Groups of investigators will be supported to communicate and coordinate their research, training and educational activities across disciplinary, organizational, geographic and international boundaries. The program has a SEES track.

**News Release:** [National Science Foundation Makes First Awards in Sustainability Research Coordination Networks \(NSF 11-228\) \(FY11 Awards\)](#)

**Discovery Article:** [Can Marcellus Shale Gas Development and Healthy Waterways Sustainably Coexist?](#) (December 9, 2011)



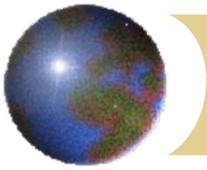
## International Collaboration in Chemistry between US Investigators and their Counterparts Abroad (ICC)

### CONTACTS

Name	Email	Phone	Room
<a href="#">Carina Barth</a>	<a href="mailto:cbarth@nsf.gov">cbarth@nsf.gov</a>	(703) 292-2251	
<a href="#">Dr. Zeev Rosenzweig</a>	<a href="mailto:zrosenzw@nsf.gov">zrosenzw@nsf.gov</a>	(703) 292-7719	
<a href="#">C Renee Wilkerson</a>	<a href="mailto:cwilkers@nsf.gov">cwilkers@nsf.gov</a>	(703) 292-4948	

Contacts and Web links to the ICC Program Announcement at International Partnering Agencies

MPS



# NSF Funding for International Activities

**Cyberinfrastructure Training, Education, Advancement, and Mentoring for Our 21st Century Workforce (CI-TEAM) (CI-TEAM) <sup>N</sup>**

## International Research Network Connections

Science of Science and Innovation Policy



SBE encourages research that brings U.S. scientists together with scientists from other countries to work on common projects. A Memorandum of Understanding is in place to encourage interdisciplinary research and facilitate the peer-review and joint-funding of US-UK collaborative research.

SBE

OCI

OPP



Arctic Sciences

OIA



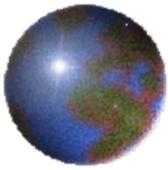
Antarctic Sciences

NSF EPSCoR Jurisdictions



STC

Science and Technology Centers: Integrative Partnerships



# International Activities: OISE-Managed Programs

*Focus on career stages  
From undergraduates to senior researchers*

International Research Experiences for Students - **IRES**

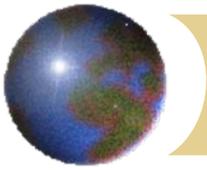
East Asia and Pacific Summer Institutes – **EAPSI**

Pan-American Advanced Studies Institutes – **PASI**

Partnerships for International Research and Education – **PIRE**

Science Across Virtual Institutes - **SAVI**





# Advancing NSF's Interests

## Internal

## External

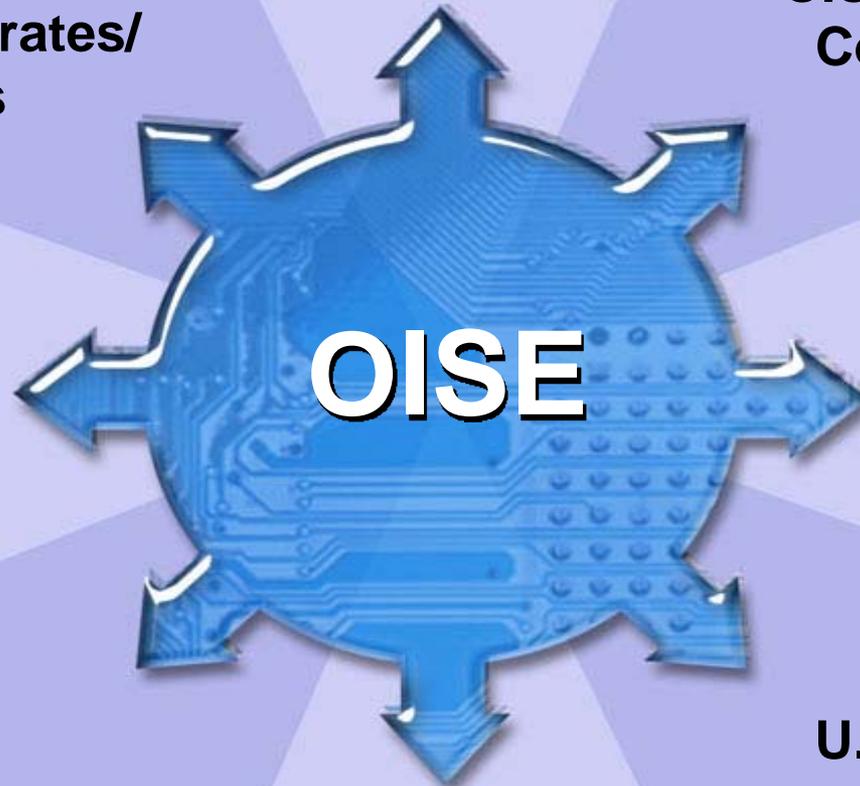
Info Exchange/  
Partnering with  
NSF Directorates/  
Offices

Oversight

Engaging  
U.S. Research  
Community

Leveraging  
Resources and  
Expertise

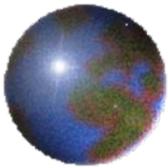
Strengthening  
Partnerships  
With Foreign  
Counterparts



Data

USG Agencies

U.S. Domestic  
Agency



# Tapping Into NSF Expertise – At Home



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## OISE Staff Country Assignments

Responsibility for proposal processing in OISE is mainly based on location of the international activity. Contact the Program Officer listed for the country/economy where your primary international activity will occur.

For any country/economy not specifically listed, contact the Program Officer for that geographic region. **Regions and regional organizations are [listed separately](#)** following the country/economy list.

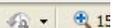
If the listed Program Officer is not available, contact the appropriate regional Program Coordinator. These are: for Europe & Eurasia - [Alexandra Stepanian](#); for the Americas - [Harold Stolberg](#); for East Asia & the Pacific region - [William Chang](#); and for Africa, the Near East, and South Asia - [Ed Murdy](#).

COUNTRY/Economy (in alphabetic order) -

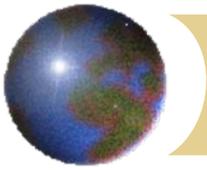
See [Regional contact](#) for unlisted country/economy or organization

Country	Program Officer	Contact email
Argentina	Anne-Marie Schmoltnner	<a href="mailto:aschmolt@nsf.gov">aschmolt@nsf.gov</a>
Australia	Clive Woods	<a href="mailto:rwoods@nsf.gov">rwoods@nsf.gov</a>

Local intranet



<http://www.nsf.gov/od/oise/country-list.jsp>



# Tapping Into NSF Expertise – Abroad

## NSF Overseas Offices



### Europe Office

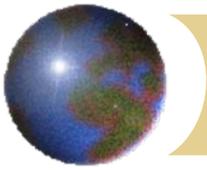
Email: [nsfeurope@nsf.gov](mailto:nsfeurope@nsf.gov)  
Carmen Huber, Office Head

### Beijing Office

Email: [nsfbeijing@nsf.gov](mailto:nsfbeijing@nsf.gov)  
Emily Ashworth, Office Head

### Tokyo Office

Email: [nsftokyo@nsf.gov](mailto:nsftokyo@nsf.gov)  
Anne Emig, Office Head



**For Further Information**

<http://www.nsf.gov/div/index.jsp?org=OISE>

**Thank You!**