International Research & Education Opportunities & Resources at NSF

NSF Grants Conference
May 20-21, 2019
Los Angeles, California

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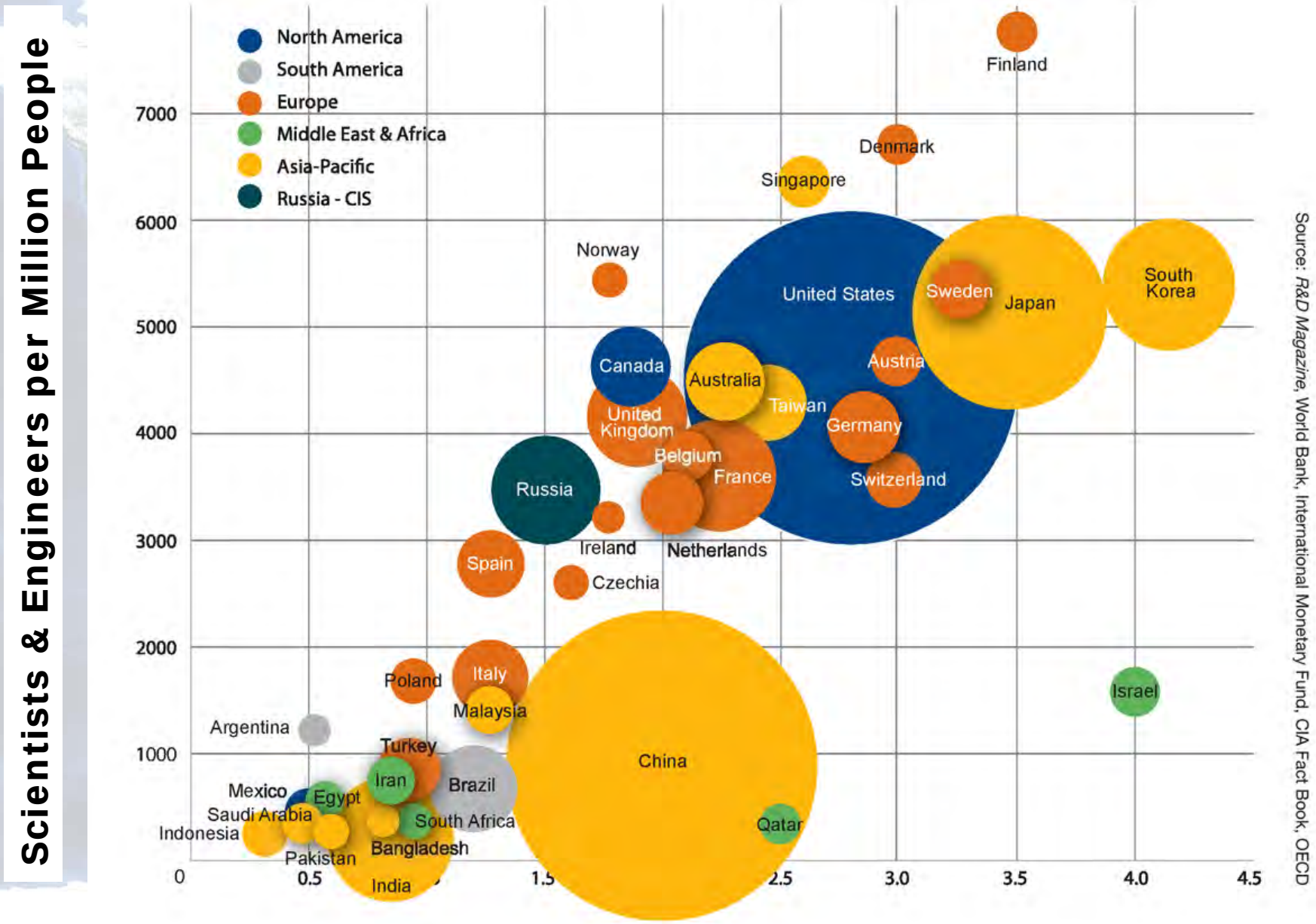
NSF Office of International Science and Engineering (OISE)

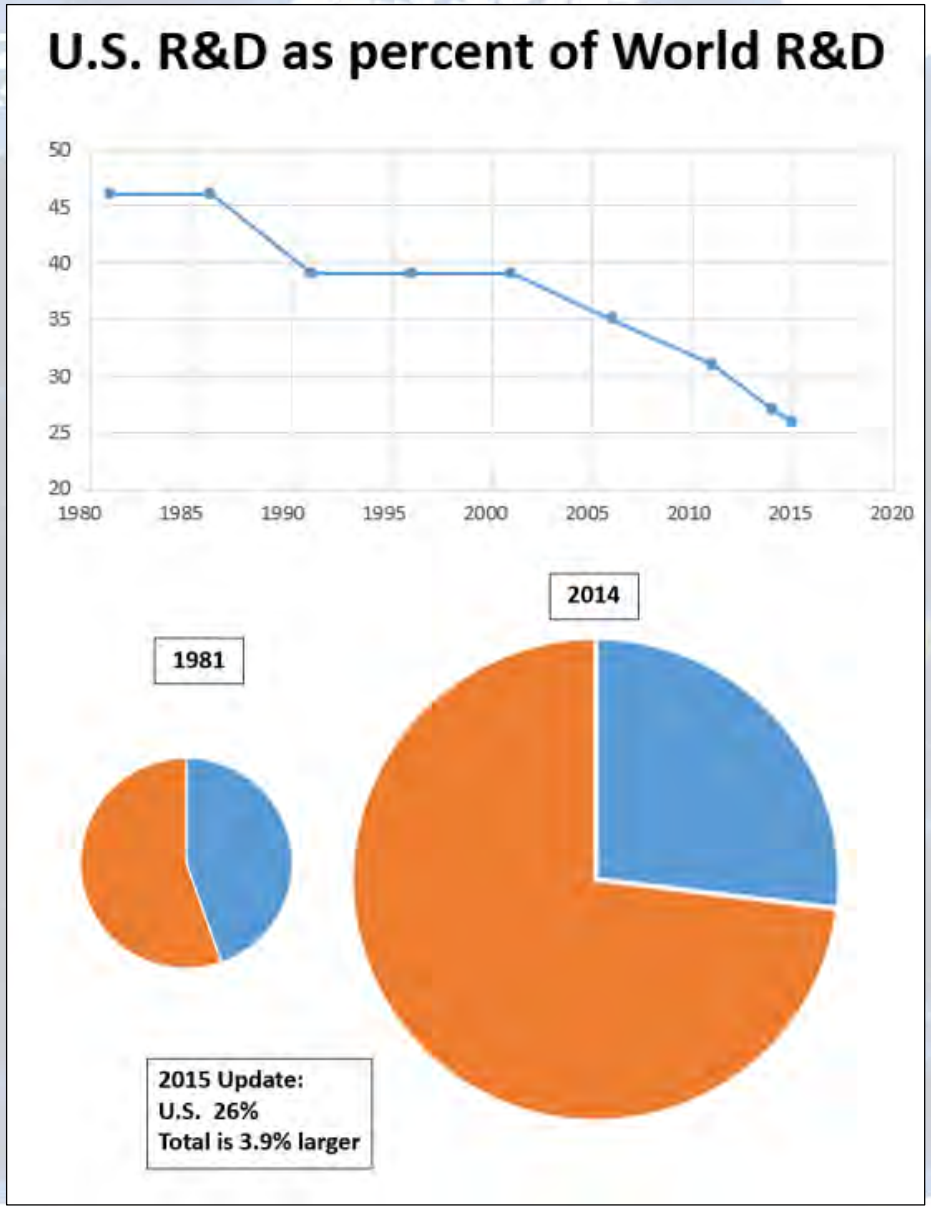
- Scientific research is increasingly international
- International collaborations supported across NSF
- OISE facilitates international engagement and promotes an integrated, Foundation-wide strategy
- OISE manages internationally-focused programs that are innovative and catalytic

Global R&D Investment 2017

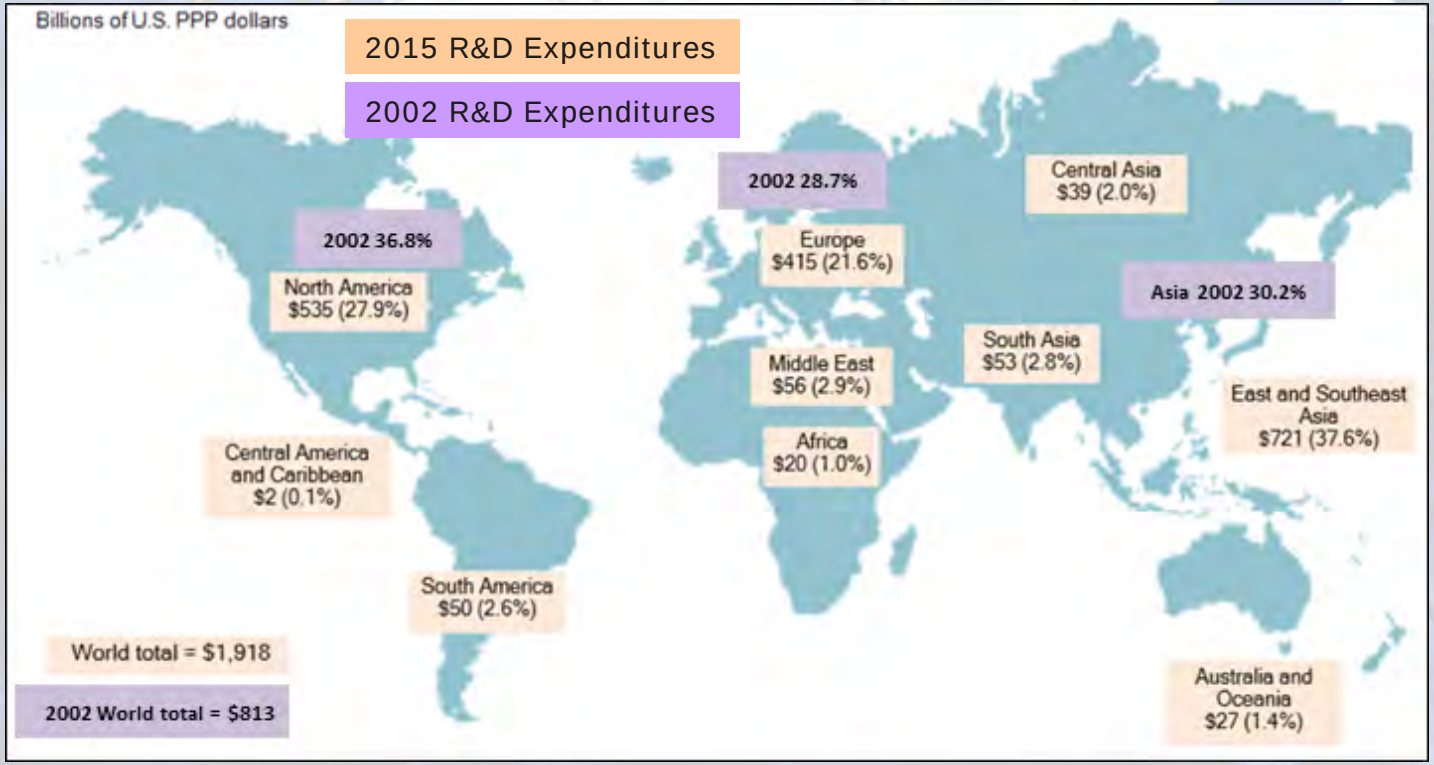


WHERE DISCOVERIES BEGIN

U.S. Science in a Global Context



Source: OECD Science, Technology and R&D Statistics

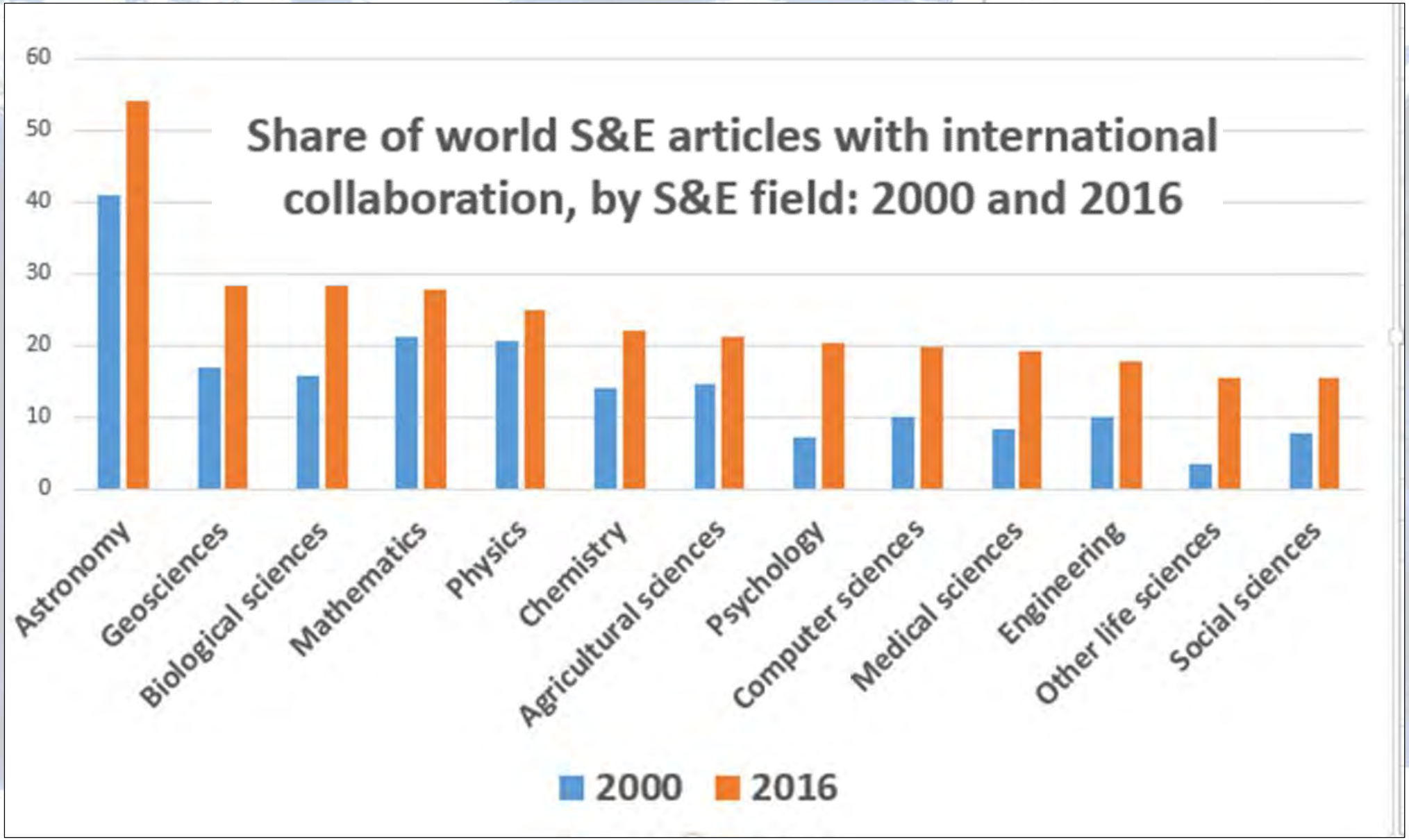


Source: Science and Engineering Indicators: 2008, 2018

International science collaboration

- Opportunity for U.S. universities

International Co-authorship Increasing

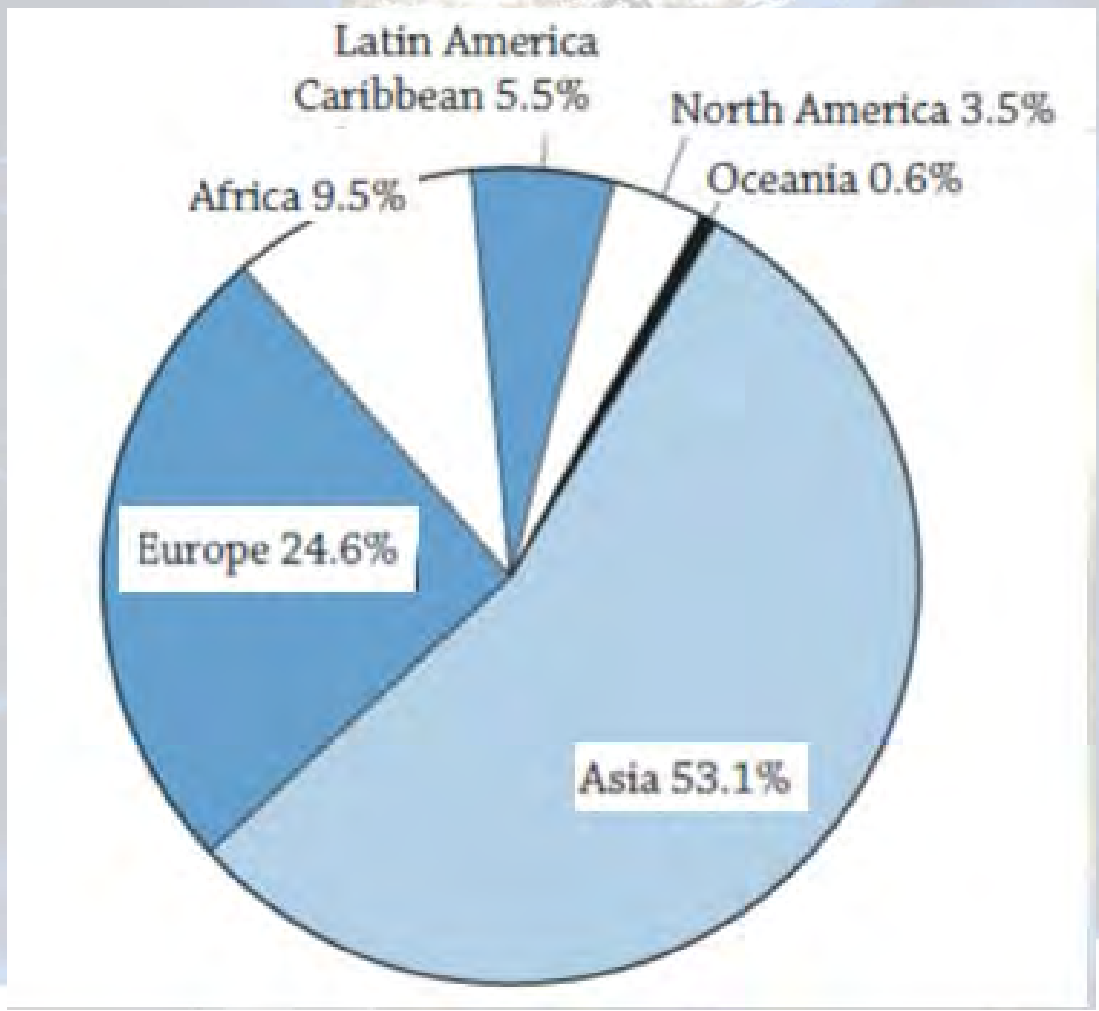


Source: Science and Engineering Indicators 2018

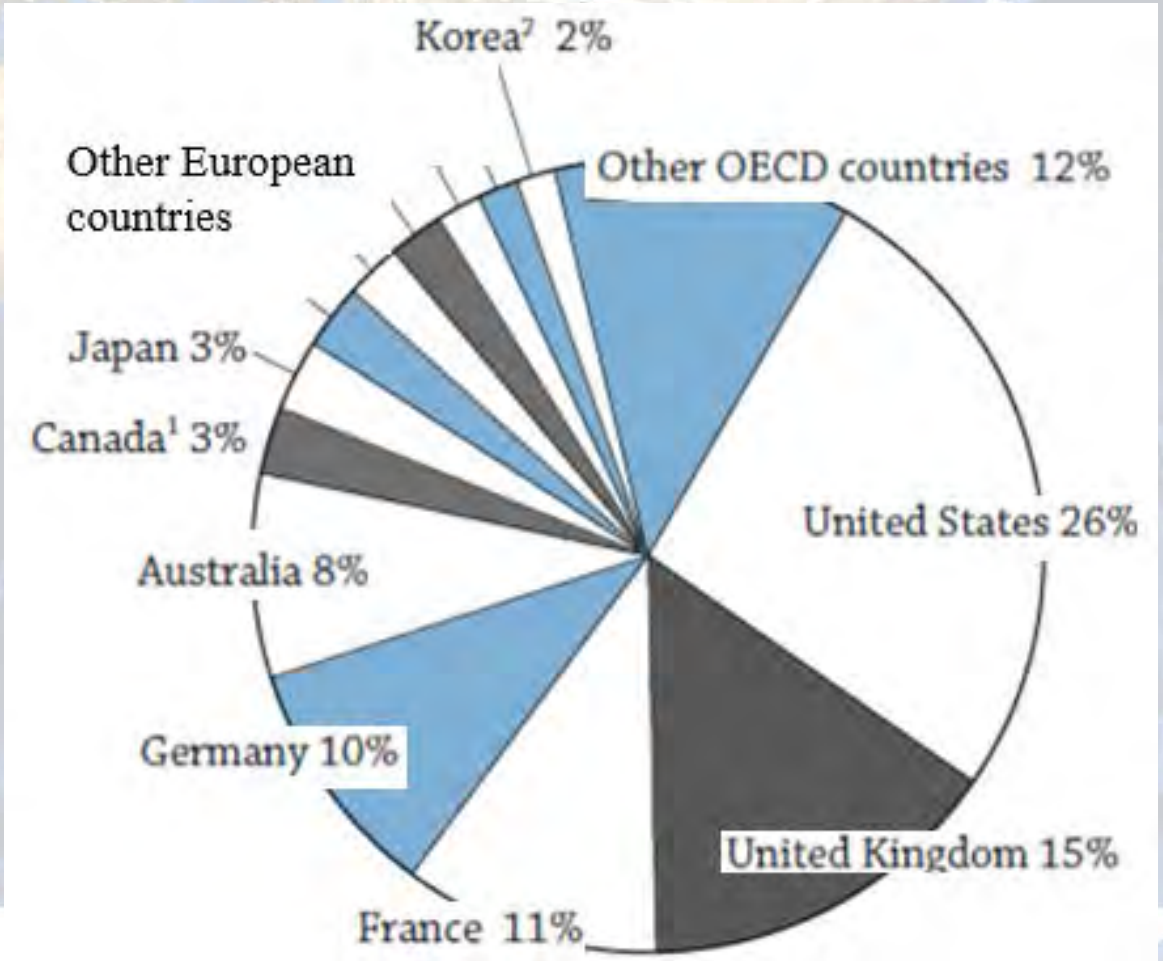
Highly Mobile International Graduate Students

OECD Countries in 2014

Region of Origin



Region of Destination



Source: Education at a Glance 2016: OECD Indicators © OECD 2016

Other European countries includes Italy, Austria, Switzerland, Belgium, Netherlands

NSF International Priorities

Promoting the development of a globally engaged workforce

Facilitating and supporting international partnership

Providing opportunities for U.S. leadership to shape the global science and engineering agenda

NSF Goals for International Engagements

Advance the FRONTIERS of Science and Engineering

- ACCESS to unique expertise, facilities, and phenomena
- LEVERAGE limited resources
- EXCHANGE insights and techniques
- ADDRESS national, transnational, and global challenges

Prepare a GLOBALLY-ENGAGED U.S. S&E Workforce

- NURTURE capable young researchers with strong networks overseas
- DEVELOP a global perspective
- FACILITATE mobility and brain circulation

NSF funds the U.S. side of international collaborations

Core Values for International Engagement

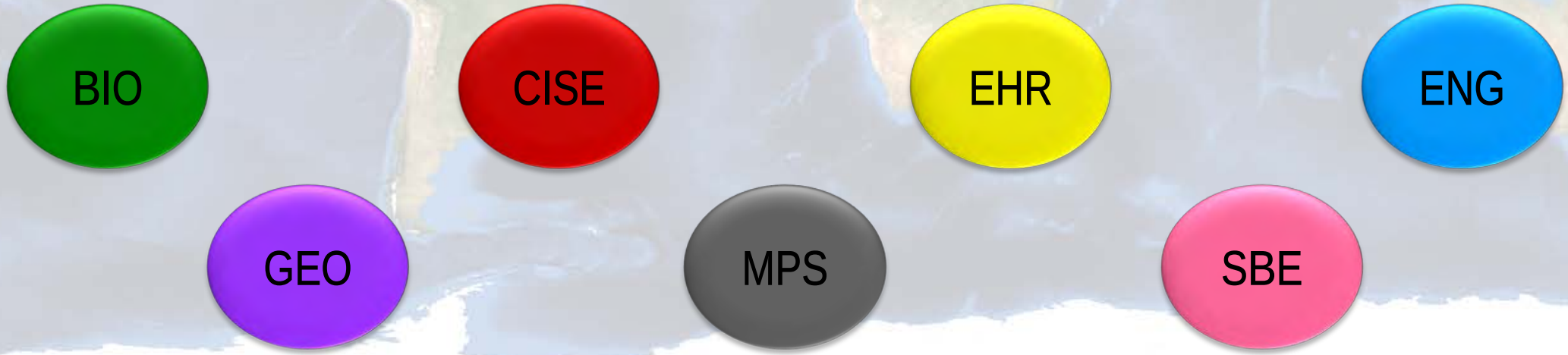
NSF supports international collaboration when it enhances proposed research and education

- Intellectual partnerships and clear mutual benefit
- U.S. students and early-career researchers internationally engaged
- Networks that link expertise and resources

NSF Funding for International Activities

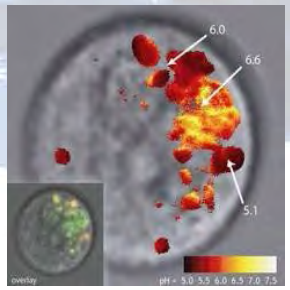
Most international research and education activities are funded by NSF disciplinary programs as:

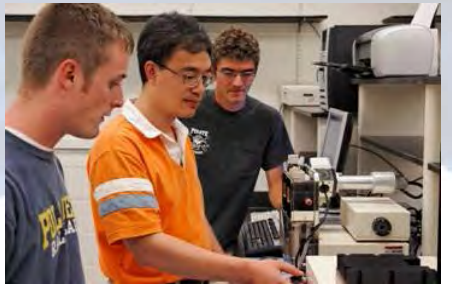
- Part of regular awards
- Supplements to regular awards

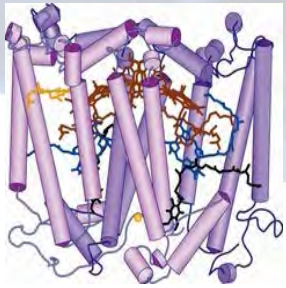


Examples of Funding Opportunities for International

- International Research Coordination Networks, REU sites & supplements
- Dear Colleague Letters
  - Research Opportunities in Europe for NSF CAREER Awardees *(NSF 19-062)* and Postdoctoral Research Fellows *(NSF 19-063)*
  - International Training and Education in Advanced Technologies *(NSF 19-057)*
  - International Supplements in Chemistry (NSF 19-037)
- Co-review and co-funding with foreign funding agencies
  - NEURONEX: Next Generation Networks for Neuroscience (*NSF 19-563)*
  - Ecology and Evolution of Infectious Diseases *(NSF 18-581)*
  - Collaborative Research in Computational Neuroscience *(NSF 18-591)*
  - Dimensions of Biodiversity *(NSF 19-535)*

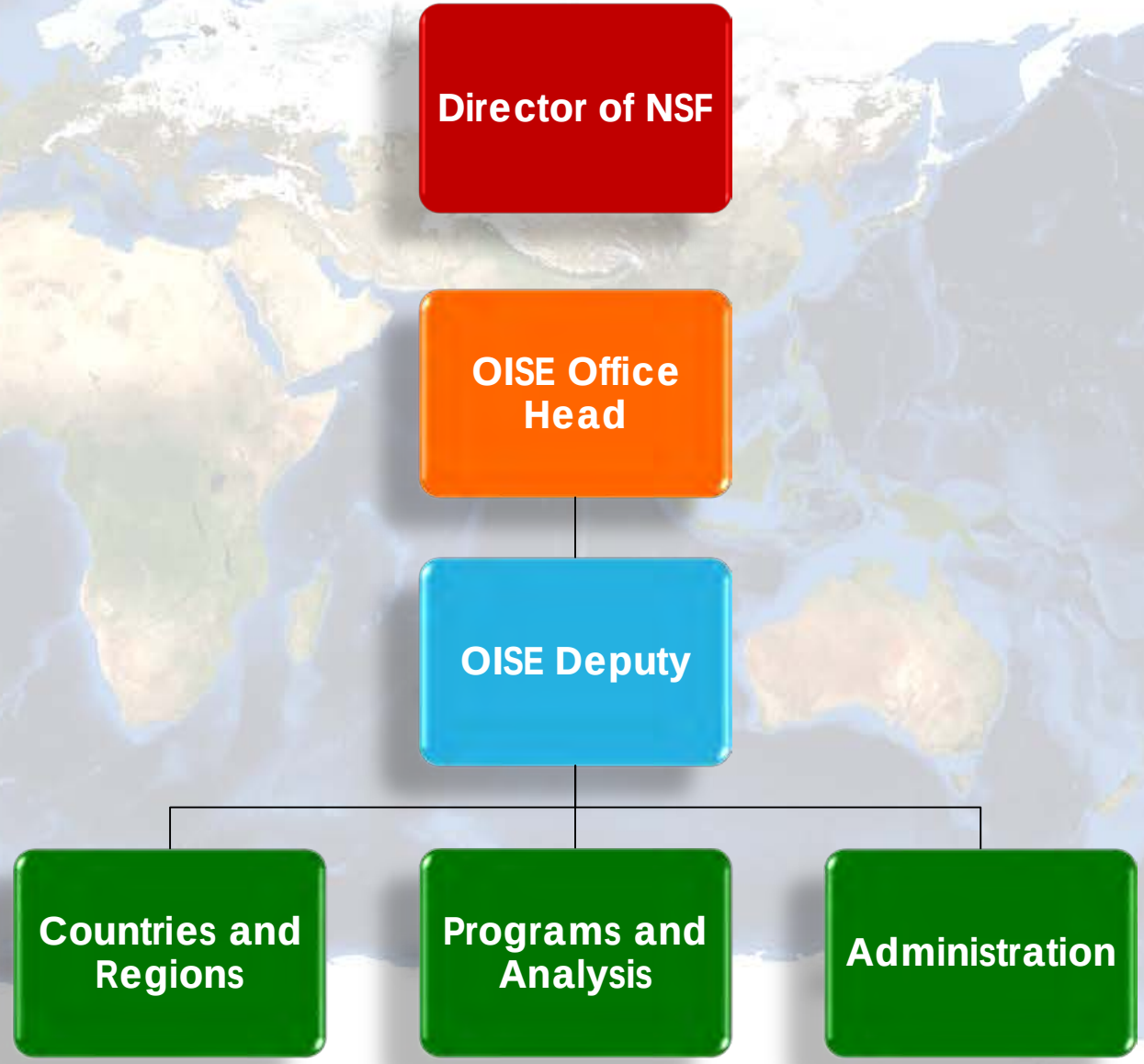






Office of International Science & Engineering

- Promotes development of an integrated, NSF-wide international strategy
- Manages international programs that are innovative, catalytic, and responsive to a broad range of NSF interests
- NSF Review criteria:
  - Intellectual Merit
  - Broader Impacts



Office of International Science and Engineering

Internal to NSF

- Diplomatic “desk officers” for NSF
- Support NSF Research Directorates/Offices
- Leverage Resources and Expertise
- Test New Models for international engagement

External

- Engage the U.S. Research Community
- Strengthen Partnerships with Foreign Counterparts
- Cooperate with other U.S. Government Agencies, e.g., Department of State

OISE Managed Funding Programs

- Accelerating Research through International Network-to-Network Collaboration (AccelNet)
- International Research Experience for Students (IRES)
- Partnerships for International Research and Education (PIRE)




Accelerating Research through International Network-to-Network Collaborations (AccelNet)

- NSF 19-501
- Aims to foster *networks of networks*, creating links between multiple networks that cross international boundaries
    - Leverage expertise, data, facilities, and/or other resources to stimulate critical research advances.
- Supports catalytic and full-scale implementation projects
- Topic areas focus on NSF Big Ideas and community-identified scientific research challenges

International Research Experiences for Students (IRES)

- Opportunities for STEM undergraduate and graduate students
- Development of a diverse, globally-engaged and competitive U.S. STEM workforce
- Active research in all disciplines and multidisciplinary or convergent areas of research funded by NSF

IRES PIs tests a prototype ac-electrospinning device (left); IRES scientist works with a new nanofiber yarn-making machine (right)

IRES students at work

International Research Experiences for Students (IRES)

OISE program to develop a globally engaged STEM workforce

- Track - I: IRES Sites
  - Faculty-led cohort of undergrads and/or grad student
- Track-II: Advanced Studies Institutes
  - Seminar-style training for graduate students
- Track - III: New Concepts in International Graduate Experience
  - Varied models of international research and research-related professional development for graduate students

Check for revised solicitation expected June 2019

Partnerships for International Research and Education (PIRE)

- OISE-managed flagship research program
- Frontier research that leverages complementary expertise of all partners
- Extensive overseas research opportunities for U.S. students/early career researchers
- 5 year awards; recent average award $4.5M
- 40 active awards across all NSF disciplines
- Solicitation under revision. Release in FY2021

Final Guidance for NSF Proposal Submissions that include International Collaborations

- NSF funds the U.S. side of the collaboration
- Demonstrate how the international collaboration enhances the research
- Involve U.S. students and junior researchers, with attention to diversity
- Include bio-sketch of key collaborator(s) (in Supplementary Documents)
- Include letter(s) of commitment from collaborator(s)
- Consult country-specific OISE program officer early in process

https://www.nsf.gov/od/oise/country-list.jsp

Thank You!

For further information:

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National Science Foundation

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