NSF Big Ideas and International Collaboration :

Japan Moonshot Symposium Plenary Session 2

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December 17, 2019

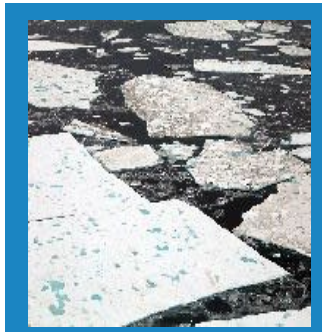
NSF by the Numbers

NSF's 10 Big Ideas

RESEARCH IDEAS

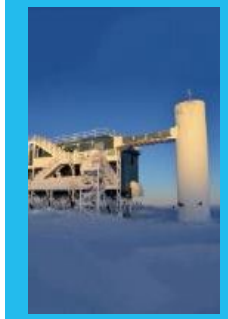
Harnessing the Data Revolution

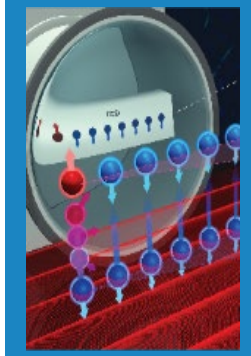
The Future of Work at the Human-Technology Frontier



Navigating the New Arctic

Windows on the Universe: The Era of Multi-messenger Astrophysics





The Quantum Leap: Leading the Next Quantum Revolution

Understanding the Rules of Life: Predicting Phenotype

NSF's 10 Big Ideas

ENABLING IDEAS

Mid-scale Facilities: Bridging the Infrastructure Gap

NSF 2026: Generating New Big Ideas

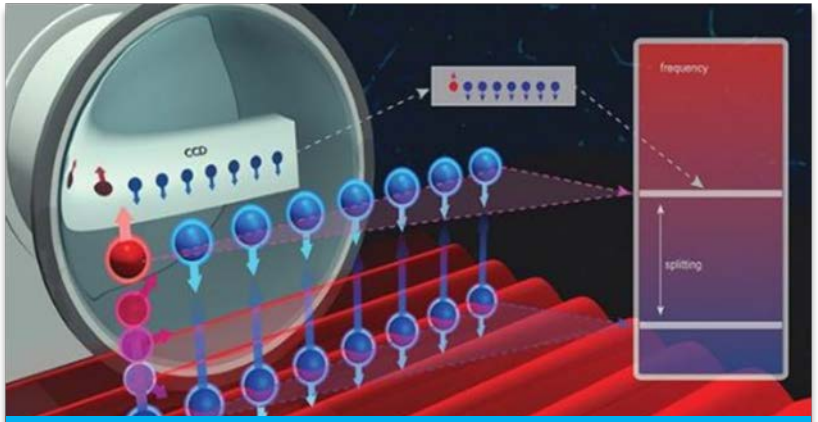
Growing Convergence Research

NSF INCLUDES: Enhancing STEM through Diversity and Inclusion

Pushing the Boundaries of Knowledge

Windows on the Universe: The Era of Multi-messenger Astrophysics

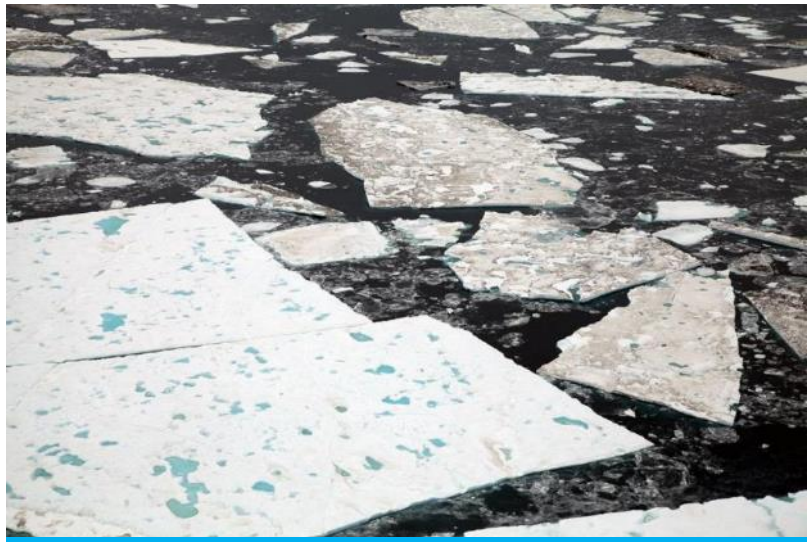
Understanding the Rules of Life: Predicting Phenotype



The Quantum Leap: Leading the Next Quantum Revolution

Seizing New Opportunities

Harnessing the Data Revolution



Navigating the New Arctic

The Future of Work at the Human-Technology Frontier

Identifying and Closing Gaps

NSF INCLUDES

NSF 2026

Mid-scale Research Infrastructure

Growing Convergence Research

NSF's 10 Big Ideas

How did NSF identify the Big Ideas?

- Bottom-up, Science-driven approach to generating ideas
- Narrow ideas based on appropriateness to NSF's mission
- Assess readiness for significant advances
- Prioritize interdisciplinary, convergent research

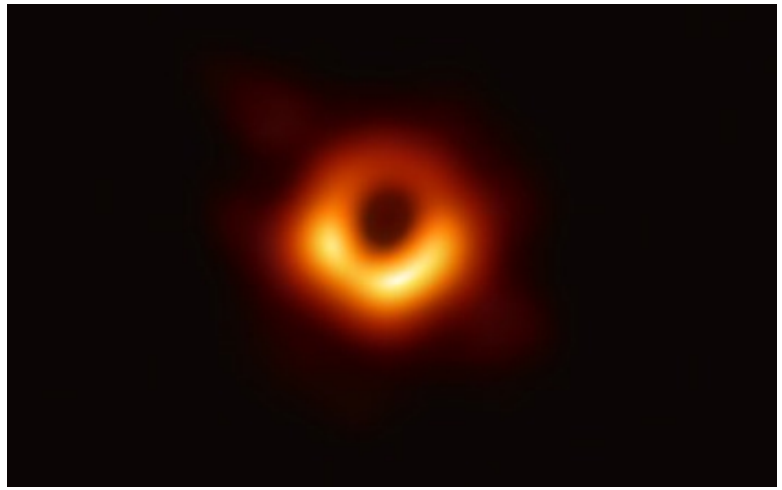
International Pillars for NSF Engagement

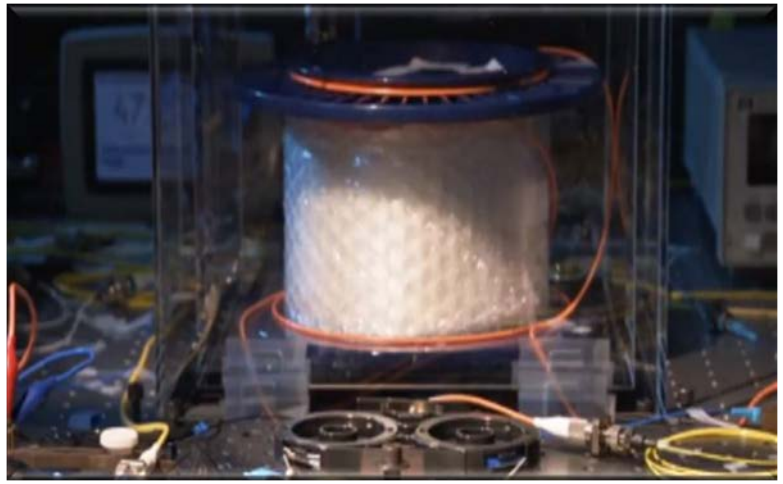
Promoting the development of a globally engaged workforce

Facilitating and supporting mutually beneficial international partnership

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

https://inside.nsf.gov/aboutnsf/organizations/pages/Office-of-the-Director.aspx





Japan Collaboration in Many Big Ideas

- *Windows on the Universe*
  - *Event Horizon Telescope discovery*
- *Harnessing the Data Revolution*
  - *NSF-JST collaboration on Smart and Connected Communities*
- *Quantum Leap*
  - *NSF staff fact-finding mission to Japan in 2018*
  - *Follow up workshop in Feb 2020*

JOINT COMMITTEE

on the

RESEARCH ENVIRONMENT

America Leading the World in Science & Technology

OSTP R&D: Priority Cross-cutting Actions

Skilled Workforce | Research Environment | Leverage Data | Multisector Partnerships | Transformative Research

National Science and Technology Council (NsTC)

Committee on S&T Enterprise

+

Committee on Science

New NSTC Committee: JCORE

Need for Change

Factors Impacting S&T Leadership

- Integrity
- Security
- Safe & Inclusive Research Environments

- Administrative Workload

Joint Committee on the Research Environment (JCORE)