ADVANCING THE FRONTIERS OF RESEARCH: THE FUTURE OF THE RESEARCH ENTERPRISE

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Mission

Promote the progress of science

Secure the national defense

Advance the national health, prosperity and welfare
Mission

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.
Vision

Advancing the frontiers of research into the future

Ensuring accessibility and inclusivity

Securing global leadership

Innovation

Partnership
Defining Moment

Global Competition

Missing Millions

Bipartisan Support
The Future of Research
Sun’s Surface
Emerging Opportunities
Curiosity Driven Research
NSF
ERC for Advanced Technologies for Preservation of Biological Systems

ERC for Advancing Sustainability through Powered Infrastructure for Roadway Electrification

ERC for Quantum Networks

ERC for the Internet of Things for Precision Agriculture
A.I. in Every State
Research Centers
Emerging Opportunities
Curiosity Driven Research
A.I. in Every State
Resilience
National Quantum Platform
Emerging Opportunities
A.I. in Every State
Curiosity Driven Research
Research Centers
National Quantum Platform
Resilience
Biotech & Bioeconomy
Curiosity Driven Research
Emerging Opportunities
Research Centers
A.I. in Every State
National Quantum Platform
Resilience
Biotech & Bioeconomy
Advancing the Frontiers of Science

- Empowering Society
- Learning Everywhere
- Biotech & Bioeconomy
- Resilience
- Emerging Opportunities
- Research Centers
- A.I. in Every State
- National Quantum Platform
- Curiosity Driven Research

NSF
How? Intra-agency
How? Inter-agency
How? Direct Partnerships
Emerging Talent @ Scale

We need to inspire new generations across all communities to explore the wonders waiting to be discovered.
Missing Millions

x 100,000 additional people needed in 2030 for the S&E workforce to be representative of the U.S. population

- Women
- Hispanic or Latino
- Black or African American

x 100,000 people in 2020 in the S&E workforce
Inspiring Talent Everywhere

GRFP

HBCU

TCUP

ATE

HSI

27
NSFNET ENABLES EXPLORATORY RESEARCH AT UNIVERSITIES

1985
NSF NET

1986 AND BEYOND

1980

1990

1995
INTERNET COMMERCIALIZATION

2000
RESEARCH TO PROVE THE THEORY OF GRAVITATIONAL WAVES BEGINS

1970s

GRAVITATIONAL WAVES DETECTED

2015

LIGO ENABLES FURTHER EXPLORATION

2020

TODAY

ENHANCED QUANTUM SENSING CAPABILITIES

2010

2000

1999

1990

1980

1970

LIGO DETECTORS COMPLETED

2015 GRAVITATIONAL WAVES DETECTED

2020 LIGO ENABLES FURTHER EXPLORATION
ROADMAP FOR ADDITIVE MANUFACTURING CONFERENCE

- 1970s
  - NSF BEGINS SUPPORTING COMPUTER AIDED DESIGN

- 2009
  - NSF MAKES THE FIRST ADDITIVE MANUFACTURING AWARD


- 1989
  - NSF MAKES THE FIRST ADDITIVE MANUFACTURING AWARD

- 1986
  - NSF BEGINS SUPPORTING COMPUTER AIDED DESIGN
Knowledge Leads to Action

I-CORPS

Americas Seed Fund SBIR.STTR

Convergence Accelerator

CyberCorps

Civic Innovation Challenge
Building Innovation Ecosystems
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Remarks by Dr. Sethuraman Panchanathan
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