NSF’s Convergence Accelerator

Accelerating Convergent Solutions for Societal Impact

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A Pivotal Moment for Science & Engineering

Pace of discovery accelerated by data, emerging technologies

Demand for societal impact

Opportunity to leverage partnerships
MISSION:
To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense; and for other purposes

VISION:
Envisions a nation that capitalizes on new concepts in science and engineering and provides global leadership in advancing research and education
NSF’S MISSION
To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.

Director’s Vision
Advance the frontiers of research into the future
Ensure accessibility and inclusivity
Secure global leadership

We can accomplish this vision with:
SPEED AND SCALE

We are in a DEFINING MOMENT
Intensity of global competition
Urgent need for domestic talent
Broad support for science as path for solving global grand challenges

PARTNERSHIPS

PEOPLE

TRANSLATION
CONVERGENCE RESEARCH

Today’s grand challenges will NOT be solved by one discipline working alone.

Grand Challenges require CONVERGENCE:
the merging of ideas, approaches, and technologies from widely diverse fields of knowledge to stimulate innovation and discovery.
GOALS:
• Disrupt the usual way of NSF business through a new innovation model
• Expand and diversifies multidisciplinary teams and partnerships to include academia, industry, non-profits, government, and other sectors
• Deliver solutions that have a national societal impact

Use-inspired research
Clear goals, milestones, high-impact deliverables
Leverages multidisciplinary teams
Larger, national societal scale
Requires diverse partnerships – industry, non-profits, academia
Acceleration at speed and scale

Teams and Cohorts—“Tracks”
Cooperation and Competition
Intensive education and mentorship—human-centered design thinking, team science, and customer discovery
Mission-driven evaluation
PROGRAM STRUCTURE

IDEATION (DCL/RFI, WORKSHOPS):
Selected by gathering input from the community. Identified topics must meet a societal need at scale, be built upon foundational research, and be suitable for a multidisciplinary, convergence research approach.

PHASE I (PLANNING):
Up to $750K over 9 months is provided to further develop the initial concept (building upon basic research), identify new team members/partners, participate in a hands-on innovation curriculum, and develop an initial/low-fidelity prototype.

PHASE II (IMPLEMENTATION):
Up to $5M over 24 months to develop solution prototypes and to build a sustainability model to continue impact beyond NSF support.

IDEATION  PHASE 1  PHASE 2  SOCIETAL IMPACT

Convergence Research Focus
Phase 1: Innovation Curriculum

Team Science
Unifying a diverse team to develop a vision and focus on common goals.
- Collaboration Agreement
- Tool Box Dialogue

Human-Centered Design
A collaborative process for multidisciplinary teams to produce tangible outputs rooted in the needs of people who will use the solution.
- Use-Inspired Research
- Research Synthesis
- Low-fidelity Prototyping

Coaches
Helps teams navigate the program, apply the curriculum, prepare pitches and phase 2 proposal submission, and create a strategy for creating a sustainable solution beyond NSF funding and support.

Track Integration
Each track funds a set of diverse teams focusing on different aspects of a national-scale societal challenge. Teams will work together to provide the highest societal impact and to solve the complex challenge.

Communications
Convey the project's value by describing the challenge and solution through communication, storytelling and pitching to various stakeholders including potential partners, investors and end users.
- Storytelling
- Pitching
CONVERGENCE ACCELERATOR PROGRAM
Overall Timeline – 2019-2023

Phase 1
2019 Cohort: Open Knowledge Networks (Track A) and Future of Work (Track B)

Phase 2
2020 Cohort: Quantum Technology (Track C) and AI-Driven Innovation (Track D)

Phase 3
Sustainability

Phase 1
2021 Cohort: Networked Blue Economy (Track E) & Trust & Authenticity in Communication Systems (Track F)

Phase 2
2022 Cohort Tracks G & H *

Phase 1
2022 Cohort Tracks G & H *

Phase 3
Publish Workshops Solicitation and Proposal Processing

Phase 2
2023 Cohort Tracks I & J *

* Topics selected based on community readiness and Administration priorities

Convergence Accelerator Portfolio

Track A
Open Knowledge Networks

Track B
AI and the Future of Work

Track C
Quantum Technology

Track D
AI-Innovation Data Sharing & Modeling

Track E
Networked Blued Economy

Track F
Trust & Authenticity in Communication Systems

2019 COHORT
Phase 2

2020 COHORT
Phase 2

2021 COHORT
Phase 1
CONVERGENCE ACCELERATOR FUNDING MECHANISMS

Each year the program releases a solicitation funding opportunity featuring several convergent research topics selected from the program’s ideation process.

**Two paired funding mechanisms provide opportunities for non-academic entities to submit and lead proposals.**

Traditional NSF Solicitation – Academic submitters


AND

Broad Agency Announcement (BAA) – For-profit or Non-profit (or similar)

- Additional Information: Fee/profit is an allowable cost

*Researchers and innovators are encouraged to apply.*
PROGRAM SPECIFIC CRITERIA:

• **Convergence:** Multiple disciplines with a focus on social science aspects; think big—Experts from multiple institutions

• **Cross-cutting Partnerships:** Multiple organizations and sectors; not just academia; must include industry, non-profits, government, and other communities of practice American people in 3 years, (e.g., Prototypes); What impact the solution have a national and/or global scale?

• **Broadening Participation:** Describe activities that will be undertaken to increase the participation of underrepresented groups (e.g., expertise, partnerships, user groups, resource needs); Refer to the Broadening Participation Plan requirements

• **Deliverables:** What can teams deliver to the American people in 3 years, (e.g., Prototypes); What impact the solution have a national and/or global scale?

• **Track Integration:** How can multiple teams work together to solve a national-scale complex challenge?
  - Each track funds a set of diverse teams focusing on different aspects of a national-scale societal challenge
  - Teams are uniquely positioned to ensure the highest societal impact
LEARN ABOUT US.

• Unique Program Model
• Exciting Program Offerings
• Current Portfolio
• Ways to Connect into the Program and with the Team

ACCELERATING CONVERGENT SOLUTIONS FOR SOCIETAL IMPACT | DEC. 2021
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https://beta.nsf.gov/funding/initiatives/convergence-accelerator
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THANK YOU!