



NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 21-012

Dear Colleague Letter: Request for Information on Future Topics for the NSF Convergence Accelerator

October 9, 2020

Dear Colleagues:

OVERVIEW

This Dear Colleague Letter (DCL) replaces [NSF 20-061](#), which was a Request for Information (RFI) on Future Topics for the NSF Convergence Accelerator for FY 2021.

The purpose of this RFI is to seek input from industry, institutions of higher education (IHEs), non-profits, government entities, and other interested parties on potential NSF Convergence Accelerator tracks for FY 2022.

Potential topics for the FY 2022 NSF Convergence Accelerator program must have the potential for significant national-scale societal impact. Topic ideas may also relate to [Industries of the Future \(IoT\)](#) and/or [NSF's Big Ideas](#). Ideas submitted in response to this RFI must be broad in scope to support and identify a set of challenges to complex problems that would be best addressed by multiple teams working together as a cohort.

This RFI does *not* invite research proposals. However, collective input from different ideas submitted may result in the identification of potential topics for possible future research funding opportunities. Through this DCL the Convergence Accelerator program is providing a direct opportunity to offer input on potential topic ideas for FY 2022.

BACKGROUND

The objectives of the NSF Convergence Accelerator are to accelerate *use-inspired convergence research* in areas of national importance and to initiate convergence team-building capacity around exploratory, potentially high-risk proposals addressing selected track topics.

The NSF Convergence Accelerator program brings teams together in a cohort to address

national-scale societal challenges that require a *convergence* research approach. Modeled after some of the most forward-looking companies, IHE's, and non-profit organizations; NSF Convergence Accelerator teams, chosen under a track topic, will leverage the Convergence Accelerator's fundamentals to include the integration of multidisciplinary research and innovation processes such as human-centered design thinking; team science; early-stage prototyping; pitch preparation; and use-inspired research, which engages the end-user early in the design process, to ensure the solutions address issues of significant national impact. Furthermore, the teams are multidisciplinary and include cross-cutting partnerships between academia, industry, government, non-profit, and other sectors to capture a wide variety of knowledge to stimulate innovation and discovery.

A previous solicitation ([NSF 20-565](#)) and a DCL ([NSF 19-050](#)) invited proposals for the NSF Convergence Accelerator program in FY 2020 and FY 2019, respectively. In each of those years, track topics were chosen from Industries of the Future (IoT), and NSF's Big Ideas.

The NSF Convergence Accelerator Pilot, also referred to as the 2019 cohort, (DCL: [NSF 19-050](#)) featured track topics of *Open Knowledge Networks* (Track A) related to [Harnessing the Data Revolution](#) (HDR) Big Idea and AI and Future Jobs (Track B1) and National Talent Ecosystem (Track B2) related to the [Future of Work at the Human-Technology Frontier](#) (FW-HTF) Big Idea. The NSF Convergence Accelerator [2019 phase 1 resulted in 43 awards](#) (21 teams in Track A and 22 teams in Tracks B1 and B2). Nine teams from the 2019 cohort have been awarded [phase 2 awards](#).

The Convergence Accelerator 2020 cohort ([NSF 20-565](#)) is focusing on track topics of *Quantum Technology* (Track C) and *AI-Driven Innovation via Data and Model Sharing* (Track D). Track C complements the [NSF's Quantum Leap Big Idea](#) and aligns with the [National Science and Technology Council \(NSTC\) strategy](#) to improve the U.S. industrial base, create jobs and provide significant progress toward economic and societal needs. Track D complements [NSF's Harnessing the Data Revolution Big Idea](#) and the [NSTC National AI Research and Development \(R&D\) Strategic Plan](#) to target R&D investments in priority areas of AI. The 2020 cohort [phase 1 resulted in 29 awards](#) (11 teams in Track C and 18 teams in Track D).

OBJECTIVE

The objective of this DCL is to solicit ideas for NSF Convergence Accelerator FY 2022 track topics that build upon use-inspired foundational research aligned to IoT, NSF's Big Ideas, or other research in areas of national importance. Topics must emphasize convergence research; requiring deep multidisciplinary collaboration, including cross-sector partnerships. Topics that have been selected for existing Convergence Accelerator program tracks are likely to be a low priority. It is recommended that new ideas, which have a significant societal impact, be submitted.

WHAT NSF IS LOOKING FOR?

Initial ideas submitted must provide the following information:

1. Name [Point of Contact]
2. E-mail:
3. Institutional Affiliation:
4. Concept Title:
5. What is the high impact societal need that is being targeted?
6. Why is a convergent approach necessary to address this need? What disciplines will engage in addressing this need?
7. Who are the major stakeholders that need to be engaged to address the societal need? Please describe how various types of stakeholders (e.g., academic, private industry, government, non-profit) would partner to address the need.
8. What specific deliverables do you anticipate will be achieved within a two-year effort by a cohort of 5-7 teams?

After receiving the RFI input, NSF plans to invite up to 12 submitters to engage with NSF for further discussions of their proposed topics. The NSF Convergence Accelerator team, in consultation with the NSF Convergence Accelerator Working Group, will then develop topics for the FY 2022 solicitation.

TIMELINE

The responses to this RFI must be submitted by **November 9, 2020**.

HOW TO RESPOND TO THIS RFI?

Submit your ideas at: https://www.surveymonkey.com/r/NSF_CA_RFI and complete the online questionnaire no later than **November 9, 2020**. While completing the questionnaire, select the 'email contact' field to enable a courtesy copy of your response to be sent to your Authorized Organizational Representative or institutional leadership, to ensure organizational awareness of your RFI submission.

WHAT WILL NSF DO WITH THIS INFORMATION?

NSF may publicly post on its website concept information submitted for future NSF Convergence Accelerator track topics, please *do not* include confidential or proprietary information in your submission. The information submitted will support NSF's internal planning of future NSF Convergence Accelerator activities.

Sincerely,

Douglas Maughan
Office Head
NSF Convergence Accelerator