



NATIONAL SCIENCE FOUNDATION  
2415 EISENHOWER AVENUE  
ALEXANDRIA, VIRGINIA 22314

**NSF 19-065**

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

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May 6, 2019

Dear Colleague:

### OVERVIEW

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This Request for Information (RFI) is issued in conjunction with [NSF's 10 Big Ideas](#).

[NSF 19-050, Dear Colleague Letter](#), invited proposals for the NSF Convergence Accelerator Pilot. Track A1 of this pilot, *Open Knowledge Network*, relates to the [Harnessing the Data Revolution](#) (HDR) Big Idea. Track B1, *AI and Future Jobs*, and track B2, *National Talent Ecosystem*, relate to the [Future of Work at the Human-Technology Frontier](#) (FW-HTF) Big Idea. 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 future NSF Convergence Accelerator tracks within these two Big Ideas, within other Big Ideas, or on other topics that may not relate directly to a Big Idea but that may have national impact. Ideas suggested in response to this RFI should be similar in breadth to tracks A1, B1, and B2, which are broad enough to each support a set of related research teams working together as a cohort. This RFI does not invite research proposals, however this process may suggest topics for future funding opportunities. Proposers may separately submit conference proposals to refine these ideas.

### BACKGROUND

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The goals 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 within particular topics (tracks).

As a funder of research and education across most fields of science and engineering and with relationships with IHEs and funding agencies around the world, NSF is uniquely positioned to support this approach to accelerating discovery and innovation. The NSF

Convergence Accelerator brings teams together to focus on grand challenges of national importance that require a convergence research approach. The teams are multidisciplinary and leverage partnerships; the tracks relate to a grand challenge problem and have a high probability of resulting in research deliverables that will benefit society within a fixed term. The NSF Convergence Accelerator is modeled on acceleration and innovation activities from the most forward-looking companies and institutions of higher education.

The NSF Convergence Accelerator supports fundamental research while encouraging rapid advances through partnerships that include, or will include, multiple stakeholders (e.g., industry, IHEs, non-profits, government entities, and others). The NSF Convergence Accelerator brings teams together in a cohort in which all are focused on a common research goal of national importance but may be pursuing many different approaches to that goal.

The NSF Convergence Accelerator Pilot ([NSF 19-050](#)) consists of three tracks. Track A1, *Open Knowledge Network*, supports the development of a non proprietary shared knowledge infrastructure, allowing stored data to be located with the relationship to real-work objects understood at a semantic level. This track has a particular focus on exploiting publicly available U.S. Government and similar public datasets. Track A1 aligns with the HDR Big Idea.

Track B1, *AI and Future Jobs*, supports the development of mechanisms that will connect workers with jobs of the future, such as predictive artificial intelligence tools, economic and labor market analyses of needed skills for future workplaces, and educational technologies needed for adult learning. Track B2, *National Talent Ecosystem*, will help employers sustain continuous learning for dynamic, digitally-intensive work. This track will support the development of concepts, structures, and technologies such as learning environments, platforms, interfaces, or simulations, tools for analysis, assessment, or prediction, and vehicles for recruitment and engagement. Tracks B1 and B2 align with the FW-HTF Big Idea.

## **OBJECTIVE**

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The main purpose of this RFI is to seek ideas for future NSF Convergence Accelerator tracks. NSF seeks suggestions for future tracks that build on the foundational research developed by the HDR and FW-HTF Big Ideas, by other Big Ideas, or on other topics that may not relate directly to a Big Idea but that may have significant scientific and societal impact. Ideas suggested in response to this RFI should be similar in breadth to tracks A1, B1, and B2, which are broad enough to each support a set of related research teams working together as a cohort, possibly taking different approaches. Like tracks A1, B1, and B2, future tracks should be suitable for a multidisciplinary, convergence research approach, should address a grand challenge problem, should have the potential to leverage partnerships between industry and academic researchers, and should have a high probability of resulting in deliverables that will benefit society within a fixed term.

In addition, NSF encourages separate submission of conference proposals from IHEs and non-profits that would help refine NSF Convergence Accelerator topic ideas and expand collaboration among stakeholders and partners to transition research outputs to use. Proposals for such conferences (which may take the form of symposia or workshops) may be submitted as unsolicited proposals as described in the *NSF Proposal & Award Policies and Procedures Guide* (PAPPG) in [Chapter II.E.7](#). Conference proposal titles should begin with "NSF Convergence Accelerator:" to help ensure identification and internal routing of proposals. Conference proposals may be submitted at any time, but only those that are received by June 24, 2019 and have a budget under \$100,000 will be considered for support with FY2019 funds.

## WHAT WE ARE LOOKING FOR

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Submissions for future NSF Convergence Accelerator tracks should provide responses to as many of the items below as possible:

1. Concept title and point of contact;
2. Description of the track topic;
3. Evidence of research community readiness (list of reports, other publications);
4. Scientific and societal needs in the topic area;
5. Stakeholders in the ecosystem (including industry, IHEs, non-profits, government entities) and the potential for partnerships;
6. Deliverables that could be expected within a 2-year research effort by a cohort of teams (e.g., products, prototypes or proof-of-concepts);
7. Expected impacts (including scientific and societal impacts) of the project looking forward 10 years.

## WHO SHOULD RESPOND

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Researchers and other stakeholders in industry, IHEs, non-profits, and government entities are invited to submit a concept for future NSF Convergence Accelerator tracks. Researchers at IHEs and non-profits may submit conference proposals.

## HOW SHOULD YOU RESPOND

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To submit your concept for future NSF Convergence Accelerator tracks, please use this link: <https://www.surveymonkey.com/r/GVNQ75C> and complete the online questionnaire no later than June 24, 2019. Please use the email contact field provided to enable a courtesy copy of your response to your Authorized Organizational Representative or institutional leadership to ensure organizational awareness of your submission. Conference proposals should be submitted in accordance with PAPPG [Chapter II.E.7](#).

## WHAT WE WILL DO WITH THIS INFORMATION

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All concept information submitted for future NSF Convergence Accelerator tracks is subject to the Privacy Act. The information submitted will help NSF's internal planning of future NSF Convergence Accelerator activities. Summary information may be presented publicly in aggregate form.

Sincerely,

Douglas Maughan, Ph.D.  
Office Head  
NSF Convergence Accelerator