SUPPORTING STATEMENT FOR PAPERWORK REDUCTION SUBMISSION
Reporting Requirements for the National Science Foundation (NSF)
Innovation Corps (I-Corps) Hubs Program

SUPPLEMENTARY INFORMATION

Section A. Justification

This request is for approval of reporting requirements for the NSF Innovation Corps Hubs Program (I-Corps Hubs) Program (NSF 20-529) and is intended to monitor short- and long-term outcomes of the Program.

The NSF I-Corps Program was started in 2011 to develop and nurture a national innovation ecosystem built upon fundamental research that guides the output of scientific and engineering discoveries closer to the development of technologies, products, and services that benefit society. The goal of the I-Corps Program is to use experiential education to help entrepreneurial researchers reduce the time necessary to translate promising ideas from the laboratory bench to widespread implementation. In addition to accelerating technology translation, the Program also seeks to reduce the risk associated with technology development conducted without insight into industry requirements and challenges.

In 2017, the American Innovation and Competitiveness Act (AICA, Public Law 114-329, Sec. 601) formally authorized and directed the expansion of the NSF I-Corps Program. NSF continues to evolve the structure of the National Innovation Network (NIN) and seeks to create a more integrated operational model capable of sustained operation at the scope and scale required to support the Program expansion as directed by AICA. Under the new solicitation, , the I-Corps Hubs—will gradually form the backbone of the NIN and supplant the previous I-Corps Nodes and Sites models. The resulting NIN is envisioned to work collaboratively, create and sustain a national innovation ecosystem. The NIN is also expected to be diverse and inclusive in all aspects, including research areas, personnel, institutions, tools, programs, capabilities, and geographic locations – providing the network with the flexibility to grow or reconfigure as needs arise.

To enable effective oversight of its investment and fulfill its monitoring and management responsibilities, NSF needs current and standardized information about the short- and long-term outcomes of the I-Corps Hubs Program. Significant program oversight is especially important given the novelty and complexity of the funding model involved in establishing, running, and maintaining successful Hubs. Finally, information collected from the surveys in the collection will also help NSF to meet its reporting requirements to Congress, as mandated by the AICA, on the effectiveness and efficacy of the I-Corps Program.

A.1 Circumstances Requiring the Collection of Data

The **I-Corps Hubs Program Reporting** was designed and specifically tailored to collect information on two of the four themes (items 1 and 2) that NSF reports to Congress (to meet the AICA mandates):

1. Training an Entrepreneurial Workforce
2. Translating Technologies
3. Nurturing an Innovation Ecosystem
4. Enabling Economic Impact.

There are measurable indicators that are tied to specific analytical objectives within each theme:

1. **Training an Entrepreneurial Workforce**

   I-Corps is an experiential educational program designed to help entrepreneurial researchers reduce the time necessary to translate a promising idea from the laboratory bench to widespread implementation. The training and mentoring open future opportunities in entrepreneurship as a career path. Former I-Corps participants have noted that they have obtained a new set of tools for research with impact. **The count of I-Corps participants, therefore, is a good measure for the size of entrepreneurial workforce trained, as such we plan to collect data on:**

   a. I-Corps Participants
      i. The number of participants that complete the I-Corps Hubs Program

   b. Women in I-Corps
      i. The number of female participants that complete the I-Corps Hubs Program

   c. Broadening Participation
      i. The number of participants from underrepresented communities that complete the I-Corps Hubs Program

2. **Translating Technologies**

   As each I-Corps team focuses on a specific technology, **the number of teams is a good measure for the number of technologies assessed for translational potential**, **as is number of I-Corps teams who subsequently apply for and receive funding from the NSF Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) programs. We plan to collect information on:**

   a. I-Corps Teams
      i. The number of I-Corps teams that participate in the I-Corps Hubs Program. Specifically, the number of the I-Corps Hubs teams that 1) applied, and 2) received NSF SBIR/STTR Phase I funding subsequent to the completion of the Hubs Program.

3. Nurturing an Innovation Ecosystem
4. Enabling Economic Impact.

In order to collect the information outlined above, NSF requires that each active I-Corps Hub collect data on every trainee. These participants will submit their own *Record of Participation* to NSF after completion of the Hub's program. The *Record of Participation* will consist of two parts; the first part contains logistical information that the Hubs provide to the participants to enter into the *Record of Participation*. The logistical information include:

1) Name of the Hub
2) Name and the numerical identifier of the Team (of which the participant is a member)
3) Month and year in which the participant completed the I-Corps Hubs Program

while the second part asks the participants for their:

1) Name
2) Contact Information (email address)
3) Job title
4) Gender
5) Ethnicity
6) Race
7) Disability Status
8) Veteran Status

Using the contact information provided by the participants, NSF will send out a *Follow-up Survey* one year after the participant's completion of the I-Corps Hubs Program to query whether the participant has applied to the NSF SBIR/STTR Program, and if so, whether they have been awarded a Phase I award.

The information collected will be used primarily for Congressional reporting (as stated above). In addition, the data could also be used in responding to other queries from Congress, questions from the public, NSF's Advisory Committees, Committees of Visitors, and Office of the Inspector General.   These data would also enable effective program administration, monitoring, and evaluation, as well as evaluate progress towards of NSF's [Strategic Plan for Fiscal Years 2018-2022](#).

A.2 Purposes and Use of the Data

The *I-Corps Hubs Program Reporting* has been designed primarily to meet our congressional reporting requirements. The information collected can also enable NSF to manage and track the success of the NSF I-Corps Hubs Program. The data collected—specifically, participants' (self-reported) information on their name, email address, job title, gender, demographics, disability status, and veteran status—are focused on program-specific analytical and strategic objectives.

Collection of these data serves several purposes, including:
- Supporting our reporting requirements as mandated by the AICA for workforce training and broadening participation in entrepreneurship
- Monitoring and assessing the effectiveness of the new funding/operational model
- Tracking the progress of the NIN expansion and growth of the innovative ecosystem

A.3 Use of Information Technology to Reduce Burden

All components in the collection will utilize electronic forms to minimize data errors and respondent burden. In some cases, Program Directors, NSF staff, and/or NSF authorized representatives may contact the respondents for clarifications or follow-up questions to ensure quality assurance and use these conversations to increase the robustness of the data.

A.4 Efforts to Identify Duplication

The *I-Corps Hubs Program Reporting* does not duplicate other efforts undertaken by NSF, other federal agencies, or other data collection agents.

A.5 Small Business

N/A

A.6 Consequences of Not Collecting the Information

If the information were not collected, NSF would be unable to (1) fulfill its reporting requirements as mandated by the AICA, (2) assess the degree to which Hubs are meeting their goals over time, and (3) document progress and outcomes of the I-Corps Hubs.

The absence of this data collection would preclude NSF from adequately monitoring and documenting of the progress of each I-Corps Hub as well as the progress of the NIN as a whole. The absence of data would also inhibit NSF from making informed decisions about funding and the timely correction of weaknesses identified in a Hub's activities. In addition, the consequence of less frequent collection would manifest itself in the inability to effectively monitor the impact of resources that NSF has committed to the I-Corps Program.

A.7 Special Circumstances Justifying Inconsistencies with Guidelines in 5 CFR 1320.6

Data collected for the *I-Corps Hubs Program Reporting* will comply with 5 CFR 1320.6. First, a valid OMB control number will be displayed at the beginning of the electronic form. Second, as the reporting requirement is mandatory, the NSF I-Corps Program will communicate clearly— through proposal solicitations and Terms & Conditions of each I-Corps Hub award—that collection of this information is required to satisfy a condition of the award.

NSF I-Corps Hubs awardees will be asked to submit their roster of participants who have completed the Hubs Program annually to NSF to ensure the consistency of data collected.

A.8 Federal Register Notice and Consultation Outside the Agency

The agency's notice, as required by 5 CFR 1320.8(d), was published in the *Federal Register* on March 2021, at 86 FR 14157. One comment from the public was received and addressed.

Andrew Reamer from George Washington University requested a copy of the information collections and these were sent to him. NSF is proceeding with the request for approval from OMB.

A.9. Payments or Gifts to Respondents

Not applicable

A.10. Assurance of Confidentiality

Respondents will be informed that any information on specific individuals will be maintained in accordance with the Privacy Act of 1974. Every data collection instrument will display both OMB and Privacy Act notices.

Respondents will be told that data collected are available to NSF officials and staff, as well as authorized contractors and/or grantees who manage the data and data collection software. Data will be processed according to federal and state privacy statutes. The data collection system will limit access to personally identifiable information to authorized users. Data submitted will be used in accordance with criteria established by NSF for monitoring research and education grants and in response to Public Law 99-383 and 42 USC 1885c.

A.11 Questions of a Sensitive Nature

In the *I-Corps Hubs Program Reporting*, information from survey correspondents, including name, job title, email address, gender, demographics, disability status, and veteran status are requested. These data are collected to allow us to obtain authentic, valid, and accurate (self-) reporting from each participant as part of the Hub's Program participation records.

Please note, while individual-level data are being collected, the data will only be provided to managing Program Directors, NSF senior management, and support staff conducting analyses using the data as authorized by NSF. Any public reporting of data will be in aggregate form, and all personal identifiers will be removed.

A.12 Estimates of Response Burden

A.12.1. Number of Respondents, Frequency of Response, and Annual Hour Burden

> **Affected Public**: Participants who complete the I-Corps Hubs Program

> **Total Respondents**: We projected no more than 1000 participants being trained per hub per year, and we are planning to have a total of 6-9 hubs awards (during the next 3 years), for an average of 6,000 respondents per year.

Frequency: The *Record of Participation* will be collected once from each participant; the *Follow-up Survey* will be sent to each participant one year after their I-Corps Program completion.

Total responses: 6,000-9,000 entries per Hub during the course of 3 years. An entry is being defined as both the *Record of Participation* and the *Follow-up Survey* that will be sent out to each participant one year after completion of the Program.

Average Time (to complete both questionnaires): 15 minutes (10 minutes for *Record of Participation* and 5 minutes for *Follow-up Survey)*

Estimated Total Burden Hours: 1,500 – 2,250 hours over 3 years (On average: 250 hours per hub per year). [1,500 is derived by multiplying 6,000 entries by 15 minutes, and dividing the product by 60 minutes/hour.]

A.12.2. Estimates of Annualized Cost to Respondents for the Hour Burdens

The following table shows the annualized estimate of costs to the respondents, who will be an mix of undergraduate students, graduate students, postdoctoral scholars, university researchers, university professors, and occasionally, local startup entrepreneurs. Because of this, the ranges of income will be wide, and the best income estimate would be that of the median income of an university instructor/lecturer.

Based on a recent report from the American Association of University Professors, "The Annual Report on the Economic Status of the Profession, 2018-19", Survey Report Table 1, the average salary of a full time lecturer across all types of doctoral-granting institutions was $63,319, and the average salary of a full-time lecturer in the same category was $65,961. The average of those two salaries comes to $64,640. We divided this average by the number of standard annual work hours (2,080) to calculate an average hourly wage of approximately $31 per hour.

Table 2. Annuitized Cost to Respondents

Respondent Type	Total Burden (Hours/Hub)	Number of Hubs	Average Hourly Wage	Estimated Annual Cost
PIs, Managing directors, or administrative personnel	250	6 to 9	$31	$37,200

A.13 Estimate of Total Capital and Startup Costs/Operation and Maintenance Costs to Respondents or Record Keepers

Not applicable.

A.14 Estimates of Costs to the Federal Government

The analyst assigned to the project will need to invest about 12 hours every year on this project (to code the questionnaire, pre-test it on a customer relationship management (CRM) platform, conduct editing/updating to the questionnaire, and to clean and format the data). Based on the

salary of $75,000, we divide by the number of standard annual work hours (2,080) to calculate an average hourly wage of approximately $36 per hour, which amounts to $433 per year.

The cost of the CRM platform will vary depending on which existing application the managing division decides to use, but regardless, the CRM platform of choice will be FISMA-compliant, meet Fed-Ramp and cybersecurity requirements as set forth by the agency. The approximate cost for housing this project on a government-approved, secured, and contractor-maintained CRM platform would be somewhere between $50,000 to $85,000 per year. Combining the two, the total cost for this entire project would be somewhere between $50,000 to $90.000.

A.15. Changes in Burden

Not applicable.

A.16. Plans for Publication, Analysis, and Schedule

Not applicable.

A.17. Approval to Not Display Expiration Date

Not applicable.

A.18 Exceptions to Item 19 of OMB Form 83-I

No exceptions apply.

Section B

Not applicable.