

WEBINAR: 2018 Smart and Connected Communities (S&CC) Program Solicitation (18-520)



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Smart and Connected Communities (S&CC): Welcome

David Corman – NSF Program Director for Computer and Information Science and Engineering, Division of Computer & Network Systems.

Richard Malak – NSF Program Director for Engineering, Division of Civil, Mechanical & Manufacturing Innovation.

Sunil Narumalani – NSF Program Director for Social, Behavioral & Economic Sciences, Division of Behavioral & Cognitive Sciences.



S&CC: Important Information and Revision Notes

- Preliminary Proposals are no longer permitted. Instead, a Letter of Intent (LOI) is required prior to any proposal submission. LOIs are not subject to merit review, but are used for internal planning purposes.
- The Research Coordination Networks and Planning Grant categories are no longer proposal categories and are not part of this solicitation.
- The S&CC Integrative Research Grants Track 1 and Track 2 categories have been replaced by a single S&CC Integrative Research Grants category.
- Improved Structure
 - Integrative Research, Community Engagement, Management Plan, and Evaluation Plan are required components within the 15-page Project Description.
- An Integration and Management Plan is no longer required as a Supplementary Document
- A Proposal Preparation Checklist has been added to aid in preparation of compliant proposals.



S&CC: A Vision for the 21st Century

- NSF S&CC program aims to leverage research activities at colleges and universities across the US, in close collaboration with local cities and communities as well as industry, to enable cities and communities to bring about new levels of economic prosperity, jobs, and security, consistent with the National R&D Priority Areas.
- The NSF S&CC program is carrying out this goal through support of integrative sociotechnical research that brings together computer and information scientists; engineers; social, behavioral and economic scientists; and learning scientists.
- In addition to research investments, NSF has supported a series of workshops to build capacity in the research community and inform the S&CC research agenda. This agenda is an example of Convergence Research at NSF —integrating knowledge, techniques, and expertise from multiple fields and sectors to form new and expanded frameworks for addressing the needs of communities.

S&CC: 2017 Awards

- In FY 2017, the S&CC program awarded \$19.5 million to support 38 projects involving researchers at 34 lead institutions across the Nation.
- These awards support planning and coordinating activities to grow interdisciplinary and cross-sector teams that in turn can foster new lines of research with meaningful community engagement for years to come.
- Through these projects, academic researchers substantively engage with local community stakeholders to advance understanding, development and implementation of S&CC solutions from both social and technological perspectives.
- A complete list of the S&CC awards announced today is available at [nsf.gov/scc](https://www.nsf.gov/scc)

S&CC Overview

- What is the goal of the S&CC solicitation?
 - To accelerate the creation of the scientific and engineering foundations that will enable smart and connected communities to bring about new levels of economic opportunity and growth, safety and security, health and wellness, and overall quality of life.
- What are the expectations of the S&CC solicitation?
 - To pursue integrative research that addresses the technological and social dimensions of smart and connected communities and undertake meaningful community engagement that integrates community stakeholders within the project

S&CC Overview

- How does the S&CC program define communities?
 - Communities are defined as having geographically-delineated boundaries—such as towns, cities, counties, neighborhoods, community districts, rural areas, and tribal regions—consisting of various populations, with the structure and ability to engage in meaningful ways with proposed research activities.
- What are Smart and Connected Communities?
 - Generally, smart and connected communities are those that integrate information and communication technologies with the natural and built environments, including infrastructure, to improve the social, economic, and environmental well-being of those who live, work, or travel within it.



S&CC Component: Integrative Research

- The integrative research component must address both technological and social dimensions of smart and connected communities, and describe how the dimensions are integrated together.
- Technological dimensions
 - Data integration and management, and computing and network resource management
 - New algorithms and modeling frameworks
 - Systems engineering approaches for integrating cyber, physical, and social concerns
 - Ubiquitous and persistent connectivity
 - Improved cybersecurity and privacy
 - Innovations in integrating materials, sensors, structures, and systems
 - Design of interfaces, controls, and feedback systems
- Social dimensions
 - Improved understanding of institutional and social responses to technological change within communities
 - Processes of learning or collaboration within and across communities
 - Long-term responses of communities to disasters or other existing or predicted adversities
 - Improved methods for measuring and predicting community challenges and opportunities
 - Innovations in the evaluation of community interventions
 - Innovations in community behaviors or social change experiments facilitated by intelligent technologies.



S&CC Component: Community Engagement

- Proposals should clearly identify and define the community and participating community stakeholders, and also describe activities that reflect meaningful community engagement.
- Community engagement should consider community stakeholders as integral to the research.
- Investigators and community partners are encouraged to work closely to develop and evaluate creative approaches to accomplish the goals of the proposed research.
- Community partners may also have leadership roles within the proposing team.
- Sustainability of research outcomes should be considered as a dimension of community engagement



S&CC Component: Management Plan

- Each proposal must contain a Management Plan that describes how the project will be managed across disciplines, institutions, and community entities.
- This plan should identify specific collaboration mechanisms that will enable cross-discipline and cross-sector integration of teams, and provide a timeline including principal tasks and associated interactions.
- The plan must also address the specific roles and responsibilities of the collaborating PI, Co-PIs, other Senior Personnel, paid consultants, and stakeholder participants, and describe how tasks will be integrated over the course of the project.



S&CC Component: Evaluation Plan

- The Evaluation Plan should be specific to the proposal's goals and milestones, and describe how progress will be evaluated.
- Evaluation may employ any of a variety of systematic methods or other approaches required to successfully evaluate the project.
 - Qualitative and/or quantitative methods
 - Public participation in data collection
 - Periodic and/or longitudinal analyses



S&CC Proposal Category: Integrative Research Grants

(Requires a Letter of Intent)

- This S&CC solicitation will support S&CC Integrative Research Grants (S&CC-IRGs).
- Awards will support the conduct of fundamental, integrative research with meaningful community engagement.
- S&CC-IRG proposals may request total budgets ranging from \$750,000 to \$3,000,000 for periods of up to four years.

S&CC Award Information

- Anticipated Funding: \$19,250,000
- Estimated Number of Awards: 7-15
- The number of awards is dependent upon the proposals received and the degree to which proposals meet the solicitation goals, NSF merit review criteria, and solicitation-specific review criteria.
- Estimated program budget, number of awards and average award size/duration are subject to the availability of funds and quality of proposals received.

S&CC Eligibility Information

- As specified in the solicitation, An individual may appear as PI, Co-PI, Senior Personnel, or Consultant on no more than two proposals submitted in response to this solicitation.
- There are no restrictions or limits to who may serve as PI or to the number of proposals per organization.
- For collaborative proposals involving multiple institutions, the proposal must be submitted by one lead institution with funding for all other participating institutions made through subawards.
- For U.S. universities and two- and four-year colleges with overseas campuses, this solicitation restricts eligibility to research activities using the facilities, equipment, and other resources of the campus(es) located in the U.S. only.

Note: See NSF's *Proposal & Award Policies & Procedures Guide* (PAPPG; NSF 18-1) for additional information and to make sure you meet all eligibility requirements.



S&CC Proposal Preparation Instructions: Letter of Intent

- Submission of a Letter of Intent (LOI) is required in order to be eligible to submit a S&CC Integrative Research Grant Proposal.
- Letters of Intent submitted in response to this solicitation should be submitted in accordance with the NSF *PAPPG* (NSF 18-1), and follow the instructions in this solicitation.
- Letters of Intent must include the following information:
 - In the Project PI and Other Senior Project Personnel sections, list the full names and institutional affiliations for the PI and all Co-PIs and Senior Personnel on the project, including all subawardees. T
 - The point of contact for NSF inquiries must be the PI, with the PI's e-mail address.
 - In the Participating Organizations section, list all the institutions involved in the project including community partners.
 - In the Synopsis section, provide a synopsis that describes the work in sufficient detail to permit an appropriate selection of potential reviewers (limit: one page).
 - Be sure to address integrative social and technological research challenges that are meaningful to communities as described above.



S&CC Proposal Preparation Instructions: Full Proposals

- Proposers must follow the most current version of *NSF PAPPG* for guidance on the required sections of a full research proposal submitted to NSF which will be effective for proposals submitted, or due, on or after January 30, 2018.
- The Letter of Intent deadline is January 30th and Full Proposals are due February 28th, therefore LOIs submitted on January 30th and ALL Full Proposals will fall under the revised PAPPG.
- Proposers of Full Proposals have the option to submit in response to the S&CC Program Solicitation via Grants.gov or the NSF FastLane system.



S&CC: Proposal Preparation Instructions- Full Proposals

- The title of the proposal must begin with “**SCC:**”
- Project Description, limited to 15 pages in length
 - Must include separate sections labeled **Integrative Research, Community Engagement, Management Plan, and Evaluation Plan.**
 - Must provide details on an integrative research approach and describe how the community engagement components infuse and support the proposed research.
 - Must outline specific social and technological research questions, hypotheses, and research gaps.
 - Must fully describe the community; and explain the rationale and breadth of community engagement, and how this engagement will be sustained through the duration of the award.
 - Must describe management of the project, and the proposed approach to data collection and evaluation.
 - Must describe the vision of success for the proposal—specifically defining the project goals and the definition of a successful outcome, and how success will be evaluated.
- Supplementary Documents include a Project Personnel and Partner Institutions document and Letters of Collaboration.
- Potential proposers should pay special attention to the S&CC Proposal Preparation Checklist as a reminder of the items that should be checked before submitting a proposal to this solicitation.



S&CC Due Dates

Letter of Intent Due Date

January 30, 2018*

Full Proposal Deadline

February 28, 2018*

*Proposals due by 5 pm submitter's local time

S&CC: Program Contacts

Point of Contact	Email	Telephone
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Thank You

S&CC At a Glance

- **Goal:** To accelerate the creation of the scientific and engineering foundations that will enable smart and connected communities to bring about new levels of economic opportunity and growth, safety and security, health and wellness, and overall quality of life.
- **Components:** Integrative Research, Community Engagement, Management Plan, Evaluation Plan
- Limit on PI Submissions: yes, see solicitation for details
- Total funding: \$19.25M across 7-15 awards, subject to the availability of funds
- Participating directorates: CISE, ENG, SBE, EHR, GEO
- Read the solicitation carefully (NSF 18-520) and visit www.nsf.gov/scc for more info about NSF's investments
- Contact SCCquestions@nsf.gov with additional questions

Key Takeaways

1. This solicitation supports use-inspired **integrative research**.
2. A critical requirement and distinguishing feature of this solicitation is **community engagement**
3. Minimal **restrictions** on who can submit.
4. Collaborative proposals must be submitted by **one lead institution using subawards** for funding all other participating institutions.
5. Read the **solicitation** carefully.
6. Think about the **scope and impact** of the research.
7. NSF proposals are **highly competitive**.

S&CC FAQ

How is a “community” defined and how many communities are required for partnership?

For the purpose of this solicitation, communities are defined as having geographically-delineated boundaries—such as towns, cities, counties, neighborhoods, community districts, rural areas, and tribal regions—consisting of various populations, with the structure and ability to engage in meaningful ways with proposed research activities.

Proposals should clearly identify and define the community and participating community stakeholders, and also describe activities that reflect meaningful community engagement.

Participation of at least one community is required. It is expected that this participation will be undertaken through collaboration with one or more community partners.



S&CC FAQ

Can an institution (e.g., university, library, hospital) be considered a community for the purpose of this solicitation?

The community that the institution serves must extend beyond the walls of the institution. At a minimum, the project will need to demonstrate substantive interaction with a community that is served by the institution. The research team needs to persuasively demonstrate who their community is and how they are engaging.

S&CC FAQ

What is a community partner, and who might be a community partner for my research?

Community partners are those collaborators who are directly linked to the community.

As described in the solicitation, examples of community partner organizations include but are not limited to such as towns, cities, counties, neighborhoods, community districts, rural areas, and tribal regions.

Community partners can range from neighborhood organizations, non-profits operating in the community, Government entities at local, regional, and other levels. Main thing is that community partner can both be source of data, and provide a means for integration of research into the community.



S&CC FAQ

When must a letter of collaboration be included in the proposal?

Please see [PAPPG](#) Chapter II.C.2.d(iv) [NSF 18-1](#) for information regarding letters of collaboration from unfunded collaborators. A letter of collaboration, for example, may be used to demonstrate community engagement from unfunded partners. In addition, that engagement should be detailed in the proposal as outlined in the solicitation.



S&CC FAQ

How is the S&CC solicitation distinguished from other solicitations?

A central distinguishing feature of the S&CC solicitation is the requirement to incorporate community engagement and integrative research, whereas these elements are not required (although may be present) in several other programs [e.g., [Cyber-Physical Systems](#) (CPS), [Critical Resilient Interdependent Infrastructure Systems](#) (CRISP), [Secure and Trustworthy Cyberspace](#) (SaTC), [Innovations at the Nexus of Food, Energy, and Water Systems](#) (INFEWS), [Cyber-Human Systems](#) (CHS), and other NSF core programs].



S&CC FAQ

Is a Letter of Intent required?

Yes

Can a Full Proposal be submitted if a Letter of Intent is not submitted?

No. A full proposal can only be submitted if a Letter of Intent is received by the deadline specified in the solicitation (January 30, 2018). Many elements of your proposal can change (including team composition, integrative research focus, etc). But if you don't submit an LOI – your proposal will not be reviewed.



Questions

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