Good afternoon. We're Chaitan Baru and Sylvia Spengler from the NSF Directorate for Computer and Information Science and Engineering, or CISE.

We are the Program Directors managing the **BIGDATA Program**.

In this webcast, we will provide a brief overview of and updates to the BIGDATA program, and describe some of the most important things you need to know about submitting a proposal.

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This webinar in intended to orient the research community to the 2018 BIGDATA competition, summarize the program and some recent updates, and answer questions. Of course, the ultimate goal is to help improve the quality of your proposals.

Here is an outline of today's presentation. We'll start with a description of the BIGDATA Program followed by an overview of the NSF 18-539 solicitation.

We will then take questions from you, the audience. Some of the questions we have already received are included at the end of the presentation.

This document will be available on the program website.

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Let's begin by discussing the BIGDATA Program, its priorities and goals.

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Overall, the BIGDATA Program seeks further development of data science via novel approaches to computer science, statistics, computational science, and mathematics and innovative applications in domain sciences.

Accordingly, the BIGDATA program invites two categories of proposals: Foundations and Innovative Applications.

Foundations proposals investigate fundamental theories, techniques, methodologies, and technologies of broad applicability to big data problems.

Innovative Applications proposals employ new big data techniques, methodologies, and technologies to address and solve problems in specific application domains. These projects must be collaborative, involving researchers from domain disciplines and one or more methodological disciplines.

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We note that all proposals are expected to clearly articulate the big data aspect, or aspects, that motivate the research.

In addition, Innovative Applications proposals must provide clear examples of its impact on applications in one or more domains.

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This BIGDATA solicitation welcomes proposals that advance the objective of Harnessing the Data Revolution, or HDR, one of NSF's 10 Big Ideas. This initiative is aimed at fundamental data science research, research data cyberinfrastructure, and the development of a 21st century data-capable workforce. HDR will enable new modes of data-driven discovery – allowing researchers to ask and answer new questions in frontier science and engineering, generate new knowledge and understanding, and accelerate discovery and innovation.

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BIGDATA is a crosscutting program that involves program officers from several NSF Directorate. Participating divisions and program officers are listed here.

The participant list can also be reviewed on solicitation web page, appearing at the bottom of each slide.

The next several slides summarize areas of interest within the Foundation.

The Directorate for Education and Human Resources, or EHR, is interested in the use of large data sets and/or learning analytics software for improving STEM teaching and learning environments.

The Directorate of Engineering, or ENG, is interested in topics specified by the programs belonging to three divisions listed here. Engineering specific applications must incorporate aspects of data science, data analytics, or innovation in data-driven discovering at a level significantly beyond the scope of existing ENG programs.

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The Division of Mathematical Sciences, or DMS, within the Directorate for Mathematical and Physical Sciences, or MPS, is interested in foundational and statistical approaches to big data. Proposals must describe specific big data challenges being addressed and justify why the proposed research cannot be considered in one of the "core" DMS programs.

The Directorate for Social, Behavioral, and Economic Sciences, or SBE, is interested in research that advances computational social science and analytic methods using social network, sensor, text, video, administrative, and other big data.

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A cloud option for BIGDATA proposals was introduced in 2017. This option continues in 2018 in partnership with Amazon Web Services, Google Cloud, and Microsoft Azure.

An more detailed overview of and updates to the cloud option will appear later in this presentation.

Before preparing a proposal in response to this BIGDATA solicitation, applicants are strongly urged to review other related programs and solicitations and contact the respective NSF program officers to identify whether those solicitations are more appropriate. Other related programs are listed here.

Next, we talk about this specific solicitation opportunity (NSF 18-539), including key updates and review criteria.

All proposals to this solicitation have the submission window May 7-14, 2018.

We expect the review process lasting from June until July of this year and anticipate making announcements of awards in Fall 2018.

BIGDATA awards receive three or four years of support. The minimum total award size will be $600,000 and the maximum total award size will be $2,000,000.

For those proposals utilizing the cloud option, cloud credits/resources allocations will be in addition to the NSF funding.

Pending available funding, there are 25 to 33 anticipated BIGDATA awards.

We now return to the BIGDATA cloud option.

As a reminder, BIGDATA proposals are, in general, not required to submit cloud resources/credits. Proposals should include such a request only if the project requires such resources.

Requests for cloud resources will be reviewed in conjunction with the rest of proposed work.

We now outline requirements for requesting cloud resources/credits.

1."Cloud Resource" should be the first keyword appearing in your project summary page's list of keywords.

2.You must submit a supplemental document, called the Cloud Costing and Annual Usage Plan. This document must be a maximum of two pages, and it should include the total cost of cloud resources and an annual usage plan.

3.Separate from the Cloud Costing and Annual Usage Plan, you must complete and submit a workbook. This workbook is available at the link shown here, and within the program solicitation. A completed spreadsheet should be emailed to bigdatacloud@nsf.gov by Monday, May 21st, 2018, at 5:00 PM submitter's local time. We note that this deadline is 5 business days after the program solicitation deadline.

4.If cloud resources are required for longer term storage, this request should be detailed in the Data Management Plan.

Text in bold on this slide indicates a new addition to or a change from the 2017 BIGDATA solicitation.

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A screenshot of the cloud request workbook is shown here.

A completed workbook must include a Fastlane Proposal ID, which is assigned after the proposal is submitted.

The minimum cloud request is $100,000.

The maximum request must follow a 70-30 split of funding. For example, a project that requests, $700,000 on the NSF Budget page may request a maximum of $300,000 of cloud credits/resources.

We strongly encourage proposers to visit cloud provider resource web pages and contact cloud providers via email.

The BIGDATA cloud partners and their points of contact are listed here and in the BIGDATA solicitation.

At this time, we wish to highlight certain supplementary documents. Proposals should include all standard supplementary documents.

Proposals must include a Project Coordination Plan, limited to two pages.

As was outlined earlier, proposals requesting cloud resources/credits must submit a Cloud Costing and Annual Usage Plan, limited to two pages.

Proposals must include a Data Management Plan, which includes a Software Sharing Plan. This document must be submitted by the lead institution only, and is limited to two pages.

As for all proposals received by NSF, BIGDATA reviewers and panelists will be asked to consider the intellectual merit and broader impact for each proposal for their reviews, panel discussions, and panel summaries. In addition to these standard criteria, reviewers and panelists will also be asked to consider additional review criteria that are unique to the BIGDATA program.

In addition to the standard NSF review criteria, the proposals will be evaluated on BIGDATA-specific review criteria.

The BIGDATA-specific review criteria includes:

- relevance to big data as opposed to traditional data research;
- category-specific review criteria – here, we refer to the Foundations and Innovative Applications categories;

- Broader impacts as they related to BIGDATA activities;
- Clear plans for evaluation and validation in the context of big data characteristics; and
- Proper justification for cloud resources, if applicable.

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We have now completed the formal portion of the presentation. Before opening the telephone lines to questions from the audience, we would like to address a few of the questions we have already received.

1. How do I submit a proposal to this program?
We recommend that proposers carefully read the Proposal & Award Policies & Procedures Guide, or PAPPG, which is available at the web page listed here. In addition, you may need to contact your institution's Sponsored Projects Office.

2. Do I need to use Grants.gov or FastLane to apply?
You may use either.

3. Do I need to include keywords in my Project Summary?
Yes. A list of three to six keywords should appear at the bottom of the Broader Impacts text box, beginning with the phrase "Keywords". As was outlined earlier, proposals with cloud requests must have "Cloud Resource" listed as their first keyword.

4. Who may submit BIGDATA proposals?

The BIGDATA accepts proposals from all categories of proposers listed in the NSF 18-1 Proposal & Award Policies & Procedures Guide, or PAPPG, Chapter I, Part E.

5. BIGDATA incorporates a partnership with cloud providers. Is it essential to request cloud resources/credits in every project?

No. Proposals should include cloud requests only if the project requires the use of such resources.

The slides and the script for this webcast, as well as an audio recording, will be available at http://www.nsf.gov/events/. On that page, you'll need to look for this webcast among the list of events. I invite your questions now, via email or via telephone to Chaitanya Baru and Sylvia Spengler. You can also find contact details for program officers from other NSF Directorates who are involved in the BIGDATA Program on the solicitation web page.