



## Seed Funds Program

### Funding Opportunity for Faculty and Research Staff

Every field has data. We use data to discover new knowledge, to interpret the world, to make decisions, and even to predict the future. The recent convergence of big data, cloud computing, and novel machine learning algorithms and statistical methods is causing an explosive interest in data science and its applicability to all fields. This convergence has already enabled the automation of some tasks that better human performance. The novel capabilities we derive from data science will drive our cars, treat disease, and keep us safe. At the same time, such capabilities risk leading to biased, inappropriate, or unintended action. The design of data science solutions requires both excellence in the fundamentals of the field and expertise to develop applications which meet human challenges without creating even greater risk.

The Data Science Institute at Columbia University is a world-leading institution in research and education in the theory and practice of the emerging field of data science.

The Data Science Institute's mission is:

1. Advance the state of the art in data science
2. Transform all fields, professions, and sectors through the application of data science
3. Ensure the responsible use of data for the benefit of society

It is in this context that the Data Science Institute at Columbia University promotes “Data for Good”: using data to address societal challenges and bringing humanistic perspectives *as*—not after—new science and technology is invented.

### Program Goal

The goal of the DSI Seed Funds Program is to support new collaborations that will lead to longer term and deeper relationships among faculty in different disciplines across campus. Aimed at advancing research that combines data science expertise with domain expertise, the DSI Seed Funds Program's funded research should embody the spirit of the Institute's mission statement. We are interested in the application of data science to all domains and in bringing ideas from other domains to bear on data science. Aligned with these efforts, we are particularly interested in proposals that address one or more of DSI's focus areas: Business and Finance; Climate; Foundations of Data Science; Health; and Social Justice.

As such, the Institute is thus pleased to announce a call for proposals from Columbia University faculty and research staff for DSI Seed Funds. We seek proposals that represent new collaborations, which ideally lead to future proposal submissions to government, industry or foundations. We encourage proposals that address the technical challenges in the fair and ethical use of data.

### Statement on Racial Equity

The Data Science Institute is committed to racial equity and justice. Proposals should explicitly state that the project will uphold these values, e.g., stating that the methods used to collect and analyze project data and the project outcomes reported are fair, just, and ethical.

## Funding

This year, DSI will provide two levels of funding levels. We will be accepting proposals with budgets up to \$25,000, as well as proposals with budgets up to \$100,000, annually, for a maximum of two years. The \$25,000 grants are intended for projects where significant salary support of Ph.D. students, post-docs, or research scientists is not needed. As a condition of funding, awardees will be required to submit quarterly financial reviews and biannual progress reports. Eligibility for continued funding for a second year will also require a progress report. All reports must include progress on external funding proposal submission(s) and other related activities (presentations, publications, etc.).

Budgets are encouraged to request support for DSI research scientists (as in last year's call) and for the University's Bridge to STEM program (new for this year's call):

The Data Science Institute's Research Scientists and Scholars represent a wide range of expertise, from the foundations of data science to a domain where data science is heavily used. Collaborating with a DSI research scientist or scholar may accelerate your research project.

Bridge to the PhD Program in STEM. This structured post-baccalaureate opportunity aims to diversify the STEM professoriate and workforce. By including one of their scholars as part of your DSI Seed Fund research proposal, you are contributing towards increasing pathways for underrepresented students to advance in STEM disciplines. The Office of the Vice Provost for Faculty Advancement covers 70% of the scholar's salary and fringe, with 30% (~\$17K) expected from the sponsoring PI. Your DSI Seed Fund budget is eligible to cover the PI's expected cost for sponsoring a scholar. For more detail on this program, please click link above.

## The Herbert & Florence Irving Institute for Cancer Dynamics

The Data Science Institute and the Herbert and Florence Irving Institute for Cancer Dynamics are collaborating to support up to two seed grants, up to \$100,000 annually, for a maximum of two years, that align with their shared mission of improving the understanding of cancer biology, origins, treatment and prevention through data-driven methods and processes. The Institute is particularly interested in candidates that may further advance core research in Statistical and Probabilistic Modeling. If you wish to have your Seed Fund application reviewed for this opportunity as well, please indicate as such on the application cover page (check box). For more information about the Herbert and Florence Irving Institute for Cancer Dynamics, please refer to: <https://cancerdynamics.columbia.edu>

## Proposal Process

**The deadline for proposal submission is Friday, November 1, 2019, 3:00 pm.**

We will not accept incomplete or late submissions. We anticipate notifying award recipients by December 20, 2019.

- Application Cover Page, Project Proposal, Racial Equity Statement, and Budget
- CV's for Faculty/Collaborators (2 page NSF-style format)

Please submit the following materials via email, in .doc or .pdf format, to [dsi-seed@columbia.edu](mailto:dsi-seed@columbia.edu), by the **Friday, November 1, 2019, 3:00 pm deadline:**



# COLUMBIA UNIVERSITY

## DATA SCIENCE INSTITUTE

### Seed Funds Program

#### CONTACT INFORMATION (PI's and Collaborators)

First Name	Last Name	Title	Dept.	Email	Phone

(If additional contacts are needed, please check here, \_\_\_\_\_, and provide supplemental listing before CV's.)

#### SCOPE OF PROPOSAL

Title of Seed Funding Proposal	External Funding Seeking	External Proposal Deadline(s)
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	Proposals must identify specific large-scale funding opportunities for which the applicants will compete.	
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Seed Funding Amount Requested:	Anticipated External Funding Award Amount:
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Maximum request: \$100,000.00 per year, 2-year maximum. Eligibility for 2 <sup>nd</sup> year conditional upon demonstrated progress.	DSI Seed Grant aims to provide support for developing successful large scale funding opportunities.
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Please also review for the [Herbert and Florence Irving Institute for Cancer Dynamics](#) opportunity:

#### PROPOSAL REQUIREMENTS

Please provide the following information:

- A. Completed Application Cover page
- B. Project Proposal\* (5-page maximum, single space, 12-font, Times New Roman)
- C. Budget with narrative
- D. CV's for PI's and Collaborators ([2 page NSF style format](#))

*	<p><b>These criteria will be used in ranking and selecting submissions for seed funding:</b></p> <ol style="list-style-type: none"> <li>1. Why the proposed project is novel. Contrast to prior work is recommended.</li> <li>2. Why seed funding is essential to the success of this project</li> <li>3. How the project is necessarily inter-/multi-disciplinary</li> <li>4. The novelty of the collaboration, in terms of people, disciplines, and/or schools</li> <li>5. The intended follow-up to this project for obtaining future funds, especially plans to submit to large-scale funding opportunities</li> </ol> <p>All projects must be relevant to advancing and/or applying data science as a field.</p>
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