Call for Applications

**2020-2021**

Columbia-IBM Center for Blockchain and Data Transparency: Special call for COVID-19 Research

Funding Opportunity for Faculty and Research Staff

The digital transformation of the economy is creating a new natural resource: Digital data. Businesses transform the data about their customers, suppliers, or partners, into profitable products and services. It is natural to ask: What is the value of this data? How can individuals or organizations whose data is being collected participate in this data marketplace and exercise control over the access and use of their data? Extrapolating further, the value of a collection of individual datasets is often far greater than the values of each of the individual datasets; for example, fraud detection is likely to be more effective when banks combine their data, the success of precision medicine is predicated on merging records across multiple hospitals across the world, etc. What incentives can we provide for organizations to share their data for social good? What policies and mechanisms can be implemented to avoid biases in such collection processes? How can one provide guarantees of security and privacy?

Advances in technologies such as blockchain, homomorphic encryption, secure multi-party computation, zero knowledge proofs, and even secure hardware now make it possible for mutually distrusting organizations to share their data with each other in a secure, privacy-preserving, and tamper-proof manner. Some of these technologies do not rely on a (centralized) trusted third- party. These capabilities are already leading to novel applications in supply-chain management and food security, but the potential to impact all sectors, such as health, finance, energy, legal, media and entertainment, is enormous.

The Columbia-IBM Center for Blockchain and Data Transparency aims to support research, educational, and entrepreneurial activities broadly in the area of data sharing, fair use of data, blockchains or related technologies.

**Program Goal & Topics**

The Columbia-IBM Center for Blockchain and Data Transparency brings together cross-disciplinary teams to advance innovation in blockchain & data transparency and closely associated topics for the good of society and industries that will drive new science and technology, develop thought leadership, and influence policy.

This is a special call focused on COVID-19 related research. The goal of this call is to support projects with a focused research program aimed at delivering tangible results in 6 months. The areas of interests include:

* **Secure sharing of health data:** Mass, distributed sharing is happening during the pandemic of essential health data. How can we create an efficient infrastructure to enable secure, tamper-proof and privacy-preserving sharing of data?
* **Privacy Preserving Contact Tracing:** Privacy policies related to data that is being collected for monitoring and tracking the mobility of people. A study of various approaches and design of privacy preserving architectures to enable quick and scalable contact tracing,
* **Security and Privacy of Virtual Meeting Spaces:** A lot of work is going online with video conferencing solutions being used for classes, meetings, and conferences. A study of privacy policies of the various solutions and a recommendation on what should be the privacy guarantees provided by video conferencing solutions.
* **Other:** Any other topic that fits the mission of the center and is focused on a COVID-19 related issue.

**Funding and Obligations**

A one time funding is available for up to five projects, up to $50,000 is and an extension of $50,000 is possible after 6 months depending upon progress. As a condition of funding, awardees will be required to submit quarterly financial reviews and biannual progress reports with significant results at the end of 6 months. All reports must include progress on external funding proposal submission(s). Furthermore, the awardees would be expected to participate in furthering the mission of the Center by acknowledging the support in all papers on the topics, and participating in workshops and demo days, as appropriate.

**Proposal Process**

The deadline for submission is May 8th, 2020 by 4:00 pm. We will not accept incomplete or late submissions. We anticipate notifying award recipients by June 1st, 2020.

Please submit the following materials via email, in .doc or .pdf format, to:

CU-IBM-SeedFund@columbia.edu, by the May 8th, 2020 by 4:00 pm deadline:

● Application Cover Page

● Project Proposal (5-page maximum, single space, 12-font, Times New Roman)

* Budget in Excel ([template provided](https://datascience.columbia.edu/files/seasdepts/idse/CU-IBM-Seed-Fund-Budget-Template.xlsx)) with a budget justification. Funds will be awarded as an Industry Grant (PG Project) with 35% IC to be included in your budget.

● CV’s for Faculty/Collaborators ([2 page NSF style format](http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg_2.jsp#IIC2f))

* The proposals will be reviewed by a technical committee consisting of researchers drawn from relevant Departments and Schools across Columbia University and from IBM. The final selection will be done by the Center Steering Committee.

Collaboration with IBM researchers is encouraged when possible. Please contact Nirmit Desai (nirmit.desai@us.ibm.com) for help reaching out potential IBM collaborators.

All the software and copyrightable material created in the performance of the projects funded by these seed grant must be made publicly available, either by publication or by open source license or open copyright license. Unless otherwise agreed upon, Columbia will grant a license for patents (if any) filed for inventions developed under support of this seed funding to IBM which will be worldwide, perpetual, irrevocable, non-exclusive, and non-transferable.

**Review Criteria**

All projects must be relevant to data transparency and blockchain, and the proposers should select the areas closest to their proposal in the section on Program Goals. The following criteria will be used in ranking and selecting submissions for seed funding:

1. Impact on advancing the state of the art of the proposed project

2. Ability to deliver tangible results in 6 months

3. Potential for direct impact on activities related to the COVID-19 response

4. Novelty of the proposed project

5. Need of the seed funding for the success of this project

6. The intended follow-up to apply for subsequent external funding

7. The review committee will rank projects within each area, and recommend a portfolio

 of projects across the areas for possible funding

8. Impact on establishing legal systems or policies needed for broad applications of blockchain and data transparency technologies

**Seed Funds Program Application Cover Page**

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| **CONTACT INFORMATION (PI’s and Collaborators)** |
| First Name | Last Name | Title | Dept | Email | Phone |
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| **(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) |
|   | Proposals should identify specific large-scale funding opportunities for which the applicants will compete. |   |
| Identify one or more Areas that covers the proposal |   |
| Seed Funding Amount Requested: | Anticipated External Funding Award Amount: |
|   Maximum request: $50,000.00 per year, 2-year maximum. Eligibility for 2nd year conditional upon demonstrated progress. |   This seed grant aims to provide support for developing successful large scale funding opportunities |
| 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 in Excel ([template provided](https://datascience.columbia.edu/files/seasdepts/idse/CU-IBM-Seed-Fund-Budget-Template.xlsx)) with a budget justification.● D. CV’s for PI’s and Collaborators ([2 page NSF style format](http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg_2.jsp#IIC2f)) |
| **\*** | **These criteria will be used in ranking and selecting submissions for seed funding:**1. Why the proposed project is novel. Contrast to prior work is recommended.2. Why seed funding is essential to the success of this project3. The novelty of the collaboration, in terms of people, disciplines, and/or schools4. The intended follow-up to this project for obtaining future funds, especially plans to submit to large-scale funding opportunities |
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