

# **TWITTER DATA FOR SOCIAL SCIENCE RESEARCH**

## **Social Science Research Institute**

### **Request for Proposals**

Proposals are invited for pilot projects aimed at using Twitter data in social science research. The past decade has witnessed the skyrocketing growth of social media data, including social networking services (such as Twitter, Facebook, and LinkedIn), e-commerce sites, and other types of online interactions, all of which are rich sources of data. Of these sources, Twitter arguably offers one of the most rapidly growing and accessible Big Data sources. As such, Twitter data provide significant opportunities for social scientists to study social problems and advance social sciences.

The Social Science Research Institute (SSRI) seeks interdisciplinary Penn State teams to develop innovative research programs using Twitter data that address questions with a social science component and involve social scientists. In addition to a clear social science focus and an interdisciplinary team, SSRI seed funding prioritizes projects that provide the foundation for competitive proposals for external funding.

PIs and teams are encouraged to discuss their plans with SSRI's Computational and Spatial Analysis (CSA) Core faculty and staff prior to submission. Direct inquiries to Guangqing Chi at [csa-info@psu.edu](mailto:csa-info@psu.edu).

#### **Eligibility**

Penn State faculty members (tenure track, research faculty, clinical faculty) who hold an appointment at any Penn State location are eligible to submit a seed grant proposal as a Principal Investigator (PI) and/or to be part of an interdisciplinary research team. Community organizations, state agencies, and investigators from other institutions may be collaborators, but not PIs.

The following types of proposals will NOT be considered:

- Single-investigator proposals,
- Proposals that do not include a social scientist,
- Proposals that do not include a substantive social science component/question.

#### **Resources Available**

Teams are encouraged to use the Twitter resources and infrastructure available through SSRI's CSA Core. The Core has collected geo-tagged tweets for the entire world since 2013 and has so far accumulated ~40 TB of data. The data can be used for a variety of research topics, including trajectory analysis (e.g., activity space, exposure, and accessibility to resources related to quality of life, such as health, education, and income), hot-spot analysis, sentiment analysis (e.g., mood), trend topic analysis (e.g., for or against a political figure or issue, cyberbullying), and social network analysis (e.g., influence of social ties, sentiment analysis, and dissemination patterns of events and information). Twitter data can also be used for enriching surveys and can be linked to contextual data and data collected by mobile or wearable devices.

#### **Timeline for Letters of Intent and Proposals**

October 8, 2018

Call for proposals released

November 5, 2018

Letters of Intent due by 5pm Eastern Time

December 17, 2018  
February 1, 2019  
March 1, 2019

Full proposals due by 5pm Eastern Time  
Seed grant funding decisions announced  
Funding available

### **Submission Instructions**

Funding is available through this seed grant solicitation via the SSRI's Level 1 and Level 2 mechanisms (see pages 3-9).

**Letters of Intent (LOIs)** for both Level 1 and Level 2 applications are required. Please complete all sections below and email the document as one PDF file to: [ssri-seed-grant@psu.edu](mailto:ssri-seed-grant@psu.edu) by November 5, 2018 at 5pm. LOIs must be single-spaced, in Times New Roman font size no smaller than 12-point type, left-aligned with one inch margins. LOIs should not exceed one page.

1. Title of Proposal
2. Names and affiliations for all investigators
3. Level of funding (Level 1 or Level 2) sought
4. 3–5 Descriptive Keywords
5. Specific aims
6. Overview of project activities

**Full proposal instructions** for Level 1 and Level 2 proposals are on pages 3-9.

### **Review Criteria**

- Strong rationale for the project, including its innovation and potential impacts
- The project's contribution to use of Twitter data to address human and social problems
- Well-articulated plan of activities
- Rigorous methodology
- Team composition, including investigators who range in seniority and experience, come from different disciplines and include social science representation
- Potential of the pilot research to lead to external funding

### **Project Reports**

Investigators are expected to provide an annual project status update and a brief (one page) final report upon completing the project. These materials allow us to track and report outcomes as well as monitor the success of our seed grant program.

If changes are needed in the project team, description, design, or budget during the course of your projects, requests should be sent to [ssri-seed-grant@psu.edu](mailto:ssri-seed-grant@psu.edu) with the specific details of these changes.

## LEVEL 1 Proposals

The Level 1 funding mechanism is designed to assist PSU faculty to form interdisciplinary research teams directed at pursuing external funding by supporting team meetings to discuss mutual interests, develop research questions, identify leaders, conduct literature reviews, and collect pilot data. Although external collaborators may be included, our focus is on developing ongoing PSU teams. For this reason team members should be tenure track or research faculty with continuing appointments.

- Level 1 proposals range from \$500-\$5,000
- Funds are allocated for a 6-12 month period

### Level 1 funds are intended to provide support for:

- Creation of interdisciplinary teams
- Development of innovative interdisciplinary research projects
- Staff in the CSA Core to conduct data extraction, cleanup, and analytics
- Graduate and undergraduate assistant time
- Outside consultants

### Level 1 funds are NOT intended to support:

- Expenditures generally made by departments and colleges (e.g., travel to professional conferences, seed money for an individual project; software and computers)
- Delivery of outreach programs or services
- Student (masters, dissertation research) or post-doctoral projects
- New or ongoing projects of individual faculty or any on-going programs or research activities
- Summer salaries
- Graduate student tuition

Please complete all sections below and email the document as one PDF file to: [ssri-seed-grant@psu.edu](mailto:ssri-seed-grant@psu.edu). **Proposals should be** single-spaced, in Times New Roman font size no smaller than 12-point type, left-aligned with one inch margins. Proposals cannot exceed 2 pages (excluding information requested in **Items 6–10**). Your proposal should be sent as one document including letters of support. Proposals that do not conform to guidelines will be returned to the PI.

Remember that many members of review committees will not have specific expertise in your area and that proposals should be written for a broad academic audience. Appendices should not be included.

# Level 1 Proposal Submission Form

*1. Title of Proposal and name of PI*

*2. 3-5 Descriptive Keywords*

*3. Purpose:*

**Describe the specific aims of the proposal.**

*4. Brief Background and Description of Activities:*

**Provide a brief background or rationale for the proposal, highlighting its innovative elements and potential intellectual merits and broader impacts, and a description of the specific activities.**

**5. Identify potential external funding agencies/programs.**

**6. Indicate what specific Twitter data and services (data extraction, integration, and/or analytics) will be used from SSRI's Computational and Spatial Analysis (CSA) Core.**

*7. Budget and Justification:*

**Provide an itemized budget and budget justification that includes salaries, fringes, and other expenses. Exclude fringes for faculty; include fringes for staff and students. Expenditures for food are to be kept to a minimum.**

**Name and phone number of your department's budget coordinator:**

**Budget and fund number:**

**Administrative area number:**

*8. Timeline:*

**Describe the anticipated timeline to accomplish the goals of the proposal.**

*9. Investigator Information:*

**Identify the lead investigator, collaborating investigators, and the departments or units they represent. Contact information must be included for all investigators. Please follow the format outlined below for each investigator.**

**Lead Investigator:**

Name

Title

Department/Organization

College/Campus

Phone

Email

Tenure Track - Yes/No; if Yes, please include tenure home department.

Project role:

**Collaborating Investigator:**

Name

Title

Department/Organization

College

Campus

Email

Tenure Track - Yes/No; if Yes, please include tenure home department.

Project role:

**[Please include complete contact information for additional investigators here.]**

*10. Letters of Support from All Collaborators*

**Collaborating investigators must indicate their support of the project by writing letters of support; these letters should be emailed to the Lead Investigator, and be attached to this proposal.**

*11. Attach NIH or NSF biosketches*

## LEVEL 2 Proposals

The Level 2 mechanism is designed to assist PSU faculty to advance their research by securing extramural funding. Although research teams can include students, post docs, faculty from other institutions and other external collaborators, our goal is to support interdisciplinary teams comprised of Penn State researchers. For this reason team members should be tenure track or research faculty with continuing appointments.

- Level 2 proposals are between \$5,000 and \$20,000
- Funds are allocated for a 12-24 month period

### **Level 2 funds are intended to provide support for:**

- Innovative interdisciplinary research, and integrated research-outreach projects that involve collaborations among Penn State researchers
- Staff in the CSA Core to conduct data extraction, cleanup, and analytics
- Data management and analyses
- Graduate and undergraduate assistant time
- Outside consultants

### **Level 2 funds are NOT intended to support:**

- Expenditures generally made by departments and colleges (e.g., travel to professional conferences, seed money for an individual project; software and computers)
- Delivery of outreach programs or services
- Student (masters, dissertation research) or post-doctoral projects
- New or ongoing projects of individual faculty or any on-going programs or research activities
- Summer salaries
- Graduate student tuition

Please complete all sections below and email the document as one PDF file to: [ssri-seed-grant@psu.edu](mailto:ssri-seed-grant@psu.edu).

Proposals should be single-spaced, in Times New Roman font size no smaller than 12-point type, left-aligned with one inch margins. Please include a NIH or NSF biosketch for each investigator. Proposals cannot exceed 5 pages (excluding information requested in Part II). Your proposal should be sent as one document including letters of support and biosketches. Proposals that do not conform to guidelines will be returned to the PI.

Remember that many members of review committees will not have specific expertise in your area and that proposals should be written for a broad academic audience. Other than biosketches, appendices should not be included.

# Level 2 Proposal Submission Form

## *I. PROPOSAL*

*1. Title of Proposal and name of PI*

*2. 3-5 Descriptive Keywords*

*3. Abstract:*

**Provide a succinct overview of the proposal including its innovation, intellectual merits, and broader impacts. Assume that reviewers do not have technical knowledge in a specific field. Avoid or explain technical jargon, field-specific terminology, or acronyms.**

*4. Specific Aims and Objectives:*

**List the specific aims and objectives of the proposal, including how the accomplishment of the objectives will inform the development of a project for external funding.**

*5. Brief background, rationale, and description of methods:*

**Provide a brief summary of the background and rationale for the proposal, including its innovation and potential for using Twitter data for social science research, and a specific description of the methods and activities for which support is requested.**

*6. Anticipated Outcomes:*

**Describe the anticipated outcomes in operational terms (e.g., later grant submission, research/outreach program). Priority is placed on proposals designed to lead to external funding.**

**Proposals for the development of shared infrastructure or training must include the plans for dissemination and outreach (anticipated dates, methods for dissemination, audience targeted).**

**If the plan involves any type of working group or conference, the target audience must be specified and an estimate of the audience size must be included.**

## *II. ADDITIONAL INFORMATION*

*1. External Funding Plans and Possible Funding Sources:*

**Specify:**

- a) investigators involved
- b) title of proposal
- c) time frame of proposal, and
- d) external funding sources to be targeted

## ***2. Timeline:***

**Describe the anticipated timeline to accomplish the goals of the proposal.**

## ***3. Personnel:***

**Describe the roles of the lead investigator(s), the collaborating investigator(s), and any other personnel included in the proposal. For key personnel, include titles and brief descriptions of their expertise.**

## ***4. Budget and Justification:***

**Provide an itemized budget and budget justification that includes salaries, fringes, and other expenses. Exclude fringes for faculty; include fringes for staff and students. Requests for international travel should include no more than one investigator. Expenditures for food are to be kept to a minimum.**

**Name and phone number of your department's budget coordinator:**

**Budget and fund number:**

**Administrative area number:**

***5. Indicate if SSRI's Computational and Spatial Analysis (CSA) Core services will be used.***

## ***6. Investigator Information:***

**Identify the lead investigator(s), collaborating investigators, and the departments or units they represent. Contact information must be included for all investigators. Please follow the format outlined below for each investigator.**

### **Lead Investigator:**

Name

Title

Department/Organization

College/Campus

Phone

Email

Tenure Track - Yes/No; if Yes, please include tenure home department.

### **Collaborating Investigator:**

Name

Title

Department/Organization

College/Campus

Email

Tenure Track - Yes/No; if Yes, please include tenure home department.

**[Please include complete contact information for additional investigators here.]**

## ***7. Pre-Submission Checklist***

Proposals should include the pre-submission checklist (see below). The pre-submission checklist catalogues the potential your project has for external funding. It is weighed heavily in the review process.

Level 2 proposals are designed to support the development of research that has the potential for external funding. As we have tracked Level 2 proposals over time, we have found that they are more likely to be funded when the faculty team has fully explored funding opportunities and used that information to inform the design of their research plan and Level 2 activities. Please respond to each of the following questions.

- (1) Which agency or foundation officials (e.g., project officer) have you spoken with to determine their interest in this project or project area? What feedback did you receive on your concept and approach?
- (2) Are you responding to a specific request for proposal (RFP/RFA), program announcement, or other special funding initiative? If yes, which one and how is your Level 2 a good match for it?
- (3) Is this Level 2 being undertaken in response to feedback from a prior external proposal? If so, how does this project address reviewer concerns?
- (4) How does your study compare with projects in similar domains that have been funded by your targeted agency? In particular, how does the scope of your methodology appear similar to other funded projects (in terms of the size and representativeness of the sample, measurement strategies, design and planned analytic approach, etc.)?

Foundation search sites: NIH: <https://projectreporter.nih.gov/reporter.cfm>  
NSF: <http://www.nsf.gov/awardsearch/>

- (5) What criteria will be used to evaluate your proposal and what do you know about the likely reviewers?

#### ***8. Letters of Support from All Collaborators***

Collaborating investigators should indicate their support of the project by writing letters of support; these letters should be emailed to the Lead Investigator, and be attached to this proposal.

#### ***9. Attach NIH or NSF biosketches***