

Quantitative Methodologies Pilot Program (QuMP)

1. Introduction/Overview

The Quantitative Methodologies Pilot Program (QuMP) is a funding opportunity that supports interdisciplinary, translational research involving quantitative methodologies such as statistics, biostatistics, epidemiology, computer science, and mathematical modeling. The QuMP Program specifically aims to encourage and support novel applications of quantitative methodologies, either through the novel use of existing methodologies or through the development of entirely new quantitative methodologies. Projects funded by the program are expected to involve trans-disciplinary collaborations between translational investigators and quantitative scientists.

Examples of projects that might fit this opportunity include:

- Predicting the economic impact of disease epidemics through simulation
- Developing and applying a new statistical approach to analyze high dimensional metabolomics data
- Computationally modeling the mechanics of blood flow or tissue damage
- Predicting cancer risk through use of innovative machine learning algorithms
- Developing and applying a causal inference approach to estimate health disparities
- Identifying drug-target interactions through molecular simulation

Projects that are not suitable include analysis of experimental datasets using common techniques and development of tools or algorithms without direct clinical, health or biological application.

2. Key Dates

Round 1 LOI Submission Deadline: **Friday, July 28, 2023 by 11:59:59pm EST**

Round 1 Notification: **Tuesday, August 15**

Round 2 Full Proposal Submission Deadline: **Monday, September 11, 2023 by 11:59:59 pm EST**

Funding Notification: **Monday, October 9, 2023**

Anticipated Start Date: **December 1, 2023**

(Award must start within three months of notification)

3. Funding Information

Applicants can request up to \$30,000 in direct costs, with a maximum funding period of one year. The funding cycle will run from December 1, 2023 through November 30, 2024; no extensions of this award period will be made. Funding cannot start until all necessary regulatory approvals have been received (IRB, hSCRO, IBC, CORID, IACUC).

Pilot funds are made possible through an institutional award made by the National Center for Advancing Translational Sciences (NCATS); as a result, projects that are selected by CTSI must be submitted to NCATS for administrative approval. The review cannot be completed until all required regulatory approvals are submitted, and the review process itself lasts at least four weeks. To ensure a prompt start of funding, CTSI staff will work with accepted teams to prepare and submit the necessary materials.

4. Eligibility

The 2023 funding cycle for QuMP is focused on supporting the work of graduate student researchers (master's or doctoral) at Pitt working with a formal mentor. As such, each project should have at least two investigators:

- Principal Investigator (PI): the PI must be a faculty member at Pitt.
- Co-Principal Investigator: the Co-PI must be a graduate student currently enrolled in either a master's or doctoral degree program at Pitt.
- Other Co-Investigators (Co-Is) may be included but are not required.

The PI should serve as a mentor to the Co-PI, as either the academic mentor or academic adviser to the Co-PI. Submissions should clearly describe the role of each investigator, with sufficient detail for reviewers to identify that all listed team members will have an active role in the research.

5. Submission and Review Information

How to Submit

Round 1: Letter of Intent

Please submit a letter of intent that summarizes the proposed research. Each submission must include the following sections:

- A. Study Title: Include the title of the proposal at the top of the page, along with the PI name and contact email.
- B. Abstract and Scope of Work (500-word limit): Please provide a high-level overview of the study and the proposed work.
- C. Study Team: Please provide the names and affiliations of all members of the study team and a brief description of their roles (25-50 words per person).
- D. Suggested Reviewers: To facilitate the final round of review, please suggest two to three faculty members, not from your department, who may be qualified to serve as scientific reviewers. Include email addresses for each suggested reviewer.

Applications should be in the form of a single PDF document; please use Arial size 11 font with margins of 0.5 inches. All materials must be submitted before 11:59 p.m. on **Friday, July 28**. Additional or supplemental materials cannot be accepted after the deadline and will not be reviewed.

Round 1: Review Criteria

The review of letters of intent will be conducted by the leadership and faculty at CTSI. Proposals will primarily be evaluated based on the responsiveness to this RFA, as well as the overall scientific impact of the proposed work. The results of this evaluation will determine which investigators will be invited to submit a full proposal for the second round.

Round 2: Full Packet Submission

Applications should be in the form of a single PDF document; please use Arial size 11 font, with margins of 0.5 inches. All materials must be submitted before 11:59 p.m. on **Monday, September 11.**

Additional or supplemental materials cannot be accepted after the deadline and will not be reviewed.

Include the following sections, beginning each section on a new page:

A. Project Overview (one page): The first page should include the following:

1. **Cover Sheet** (Include following details)
 - Project Title
 - Study Team (Please include the name and preferred contact email for the:
 - Principal Investigator (faculty member)
 - Co-Principal Investigator (mentored graduate student))
 - Scientific Abstract (maximum 250 words): summarize your proposal

B. Research Plan (five-page limit, including tables and figures): This section should include the following elements from a traditional NIH proposal to best allow reviewers to address the review criteria:

1. Specific Aims
2. Significance
3. Innovation
4. Approach
5. [Path to Impact](#): (250-word limit): Please describe the impact of your work and the steps you will take to realize it. We define impact as the positive influence this research will have on a) the health and well-being of individuals, communities, and populations; and b) the organization, delivery, and financing of healthcare and health policy. [Please click here](#) for specific examples.

C. References (no page limit): Literature cited does not count toward the Research Plan's three-page limit.

D. Budget with Budget Justification (no page limit): Use PHS 398 Form [Page 4](#) and [Page 5](#). The budget justification should include sufficient detail for reviewers to assess whether appropriate resources have been requested.

Grant funds may **NOT** be budgeted for:

- Salary support for the PI or faculty collaborators*
- Effort for post-doctoral trainees or fellows
- Routine office supplies or communication costs, including printing
- Meals or travel, including to conferences, except as required to collect data
- Professional education or training
- Computers or audiovisual equipment (exceptions require clear justification)
- Manuscript preparation and submission
- Indirect costs

*Effort is required of the Principal Investigators and must be reflected on the budget page, cost-shared by the respective departments. Reviewers understand that this may be a very small proportion of effort given the size of this award but will be cautious if investigators do not appear to have sufficient time to complete a project. Please note, an applicant who is currently the recipient of a mentored career development award (e.g., K12, K23, etc.) or a foundation-supported career development award may subsume the effort devoted to the project under the career development award if the project proposed is consistent with the career development award.

Any salary support requested in a submitted budget should reflect University of Pittsburgh's fringe benefit rates for federally-funded projects <https://www.osp.pitt.edu/about/data-proposal-preparation-general>. If an award is made, a budget meeting will be held between principal investigators, their respective research administrators, and financial administrators from the CTSI. If necessary, minor adjustments to the requested budget will be made at that meeting.

E. Proposal Timeline (up to half a page): Describe milestones and timeline for completion of the project. These milestones are critical for the pilot program because all awards must be expended during the one-year award. The CTSI Pilot program does not have mechanisms to allow no-cost extensions. In the event an award is made, investigators should immediately confer with CTSI staff if any delay in initiation or completion of the project is anticipated.

F. Human and/or Animal Subjects (no page limit): NIH supported pilot awards must address Protection of Human Subjects, Adequacy of Protection Against Risks, Data and Safety Monitoring Plans, Inclusion of Women and Minorities, and Inclusion of Children.

Human Research Protection Office (HRPO) approval is encouraged but not required prior to submission. However, HRPO approval is required for all projects involving human subjects before NCATS will approve project funding. Likewise, the Institutional Animal Care and Use Committee (IACUC) must approve any projects involving animal subjects prior to final funding approval.

Applicants must describe any human and/or animal subject issues, as well as the sources of materials that will be obtained from human subjects. If human subjects are involved, provide a description of their involvement and characteristics, specific risks to subjects who participate, and protection against those risks. Reviewers may consider whether significant delays in approval are an anticipated barrier for project completion when selecting projects. Evidence of

prior or ongoing HRPO / IACUC review is encouraged. Similarly, this section should discuss if other special regulatory approval is required prior to funding: Human Stem Cell Research Oversight (hSCRO), Institutional Biosafety Committee (IBC), Committee for Oversight of Research Involving the Dead (CORID), Radiation Safety Office (RSO), etc.

G. NIH Biosketches (no page limit): Include biosketches for the Principal Investigator and key members of the research team. Use new biosketch formats as of September 2017.

Round 2: Review Criteria

It is a requirement that review of CTSI pilot proposals address the NIH review criteria. Reviewers will score final applications on an NIH scale (1-9) in the domains of Significance, Investigators, Innovation, Approach, and Environment. Special emphasis will be given to a rating of the overall impact of the proposed project. Note that the review (based on the criteria below) will be adjusted to the pilot nature of the award.

NIH Review Criteria:

1. Overall Impact: The likelihood for the project to exert a sustained, powerful influence on the research field
2. Significance: Does the project address an important problem or a critical barrier to progress in the field?
3. Investigators: Are the PD/Pis, collaborators, and other researchers well suited, sufficient, and able to conduct the project?
4. Innovation: Does the project shift current research or clinical practice paradigms use novel theoretical concepts, approaches or methodologies, instrumentation, or interventions?
5. Approach: Are the strategies, methods, and analyses well-reasoned and appropriate to accomplish the specific aims of the project?
6. Environment: Are the personnel, equipment, and other physical resources available to the investigators to perform the proposed research within the time frame allotted?