Request for Proposals:
"**C**ollaboration in **HE**alth Sciences and Engin**ER**ing **S**tartup" (CHEERS) Grant 2023

Introduction and Overview

The Clinical and Translational Science Institute (CTSI) and Swanson School of Engineering (SSoE) at the University of Pittsburgh are soliciting applications for the ""**Collaboration in Health Sciences and Engineering Startup" (CHEERS) Grant**. The goal of this program is to enhance collaboration between faculty members in SSoE and those in the six Schools of the Health Sciences (SHS) – i.e., the Schools of Medicine, Public Health, Pharmacy, Dental Medicine, Health and Rehabilitation Sciences, and Nursing. The financial support will be utilized to establish or expand trans-disciplinary collaborations that will ultimately lead to submission of collaborative external grant applications in the areas of human health and medicine.

> *Note: SSoE and the School of Public Health (SPH) – one of the six schools of the Health Sciences - are also sponsoring the [SPH/SSOE Trans-Disciplinary Collaboration Pilot Awards](#) to support research topics specifically in Climate Change and Health, Global Health, and Environmental Justice. Teams of faculty from SSoE and SPH that were invited from that RFA to submit a full proposal will not be eligible for this CHEERS RFA.*

CHEERS proposals should be a true convergence of engineering and health science aiming to solve grand challenges that can be sustained to have the maximum impact. Successful CHEERS grants will result in a measurable step toward, or actual submission of, an external research proposal to external granting agencies.

Examples of topics that are responsive include, but are not limited to, SSoE-SHS partnerships to:

- Build and test a new monitoring device for a health condition
- Adapt a material or surface used in other settings to a medical application
- Develop an innovative drug delivery system
- Design and test a novel biomedical sensor
- Use biomechanical modeling to guide interventions
- Model disease spread or vaccination rates
- Use AI or Machine Learning algorithms in health (prognosis, diagnosis, clinical decision-making)
- Engineer solutions for health disparities
- Use of novel testing platforms or testbeds to address health sciences questions

Key Dates

- Round 1 LOI Submission Deadline: April 14, 2023 by 11:59:59 p.m. EDT
- Round 1 Notification: April 28, 2023
- Round 2 Full Proposal Submission Deadline: May 19, 2023 by 11:59:59 p.m. EDT (by invitation)
- Award Notification: June 5, 2023

- Earliest Anticipated Start Date: July 1, 2023 (award must start within three months of notification)

Budget Information

- Applicants can request up to **$40,000** in direct costs, with a maximum funding period of one year. We anticipate making 4-5 awards; actual funding levels for each award will be determined based on number of awards made and any unforeseen budgetary constraints.
- Funding cannot start until all necessary regulatory approvals have been received (IRB, hSCRO, IBC, CORID, IACUC).
- Projects must start within 3 months of Notification of Award. Projects that do not start within 3 months will be forfeited. The earliest 12-month funding cycle will run from July 1, 2023**;** no extensions of this award period beyond 12 months will be made.
- CHEERS pilots do not have any mechanism for no-cost extensions; any funds that are not used during the award period will be forfeited.
- These projects are eligible for $5,000 Community Engagement or Training Bonus Awards. See the [Bonus Funding](#) page for information.

Who Can Apply?

Faculty members at any level from SSoE and the Health Sciences are eligible to participate. Each proposal must include at least one faculty member from SSoE and one faculty member from Health Sciences.

- Co-Principal Investigator (Co-PI): one Co-PI must be a faculty member in SSoE (primary appointment)
- Co-Principal Investigator: the other Co-PI must be a faculty member in any school of the Health Sciences (primary appointment)
- Any individual cannot serve as Co-PI on more than two proposals
- Other Co-Investigators (Co-Is) may be included but are not required

Submissions should clearly describe the role of each investigator, with sufficient detail for reviewers to identify that both will have an active role in the research. Postdoctoral trainees and trainees in clinical training programs are not eligible to serve as PI but are encouraged to be members of the study team. Faculty members on early-career training awards or clinical research scholars (i.e. recipients of K-series or similar career development grants) are eligible.

New PIs and early career investigators are strongly encouraged. Partnerships with non-academic community partners are acceptable as long as the two PI requirements from Pitt are met.

Projects must be new efforts that have not been previously funded. While an existing collaboration between two Co-PIs is eligible as long as it is a new research focus area, distinct from previously funded or published work, underline completely new collaborations are eligible for **$2,500** in bonus funding (note that this is different than the CTSI Community Engagement or Training Bonus Awards mentioned above). New collaborations are defined as having no previous shared publications or external grant funding. If you have a question about the qualifications of a new collaboration, please email ctsipilots@pitt.edu and David Vorp (vorp@pitt.edu).

Submission and Review Requirements

CTSI uses the InfoReady system to collect and review all pilot project submissions.

The CHEERS program will utilize a two-tier submission and review system. Round 1 requires submission of a letter of intent (LOI). Round two requires submission of a full application by invitation only.

If you have any questions while using the system or encounter any errors while submitting, please contact CTSI Pilot Funding Core at ctsipilots@pitt.edu.

Round 1: Letter of Intent

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

1. Study Title: Include the title of the proposal at the top of the page, along with the two co-PIs' names and contact emails.
2. Abstract/Scope of Work (500-word limit): Provide a high-level overview of the project and the proposed work.
3. Study Team: Provide the names and affiliations of all members of the study team and a brief description of their roles (25-50 words per person).
4. Suggested Reviewers: To facilitate the second round of review, please suggest two Health Science **and** two SSoE faculty members to potentially serve as non-conflicted scientific reviewers. For each suggested reviewer, list their name, title, department, and contact email.

Letters of Intent should be in the form of a single PDF document. The font should be Arial 11 or larger; margins must be 0.5 inches. All materials must be uploaded to InfoReady by April 14, 2023 by 11:59:59 p.m. EDT. Additional or supplemental materials cannot be accepted after the deadline and will not be reviewed.

Round 1 review

The review of letters of intent will be conducted by the faculty and staff of CTSI, SSoE, and Health Sciences. Proposals will primarily be evaluated based on responsiveness to the funding opportunity announcement, 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 Application (by invitation only)

Applications should be in the form of a single PDF document; please use Arial size 11 font or larger, with margins of 0.5 inches. All materials must be submitted before May 19, 2023 by 11:59:59 p.m. EDT. Additional or supplemental materials cannot be accepted after the deadline and will not be reviewed.

Applications must include the following sections. Please start each new section on a new page.

- Cover Sheet (one page): Include the following details:
  - Project Title
  - Names, titles, affiliations and preferred contact email for the:
    - Co-Principal Investigators (faculty members)
    - Any other proposed co-investigators
  - Scientific Abstract (maximum 250 words): Summarize your proposal
- Research Plan (maximum five pages including tables/figures) addressing the following:
  - Specific Aims (up to 1 page, included in 5 page maximum)
  - Significance
  - Innovation
  - Approach

- o Future Impact: A well-defined path from the pilot to future larger research efforts (maximum 250 words)
- **References** (no page limit): Literature cited does not count toward the five-page limit for the Research Plan.
- **Budget with Justification** (no page limit): [Use PHS 398 Forms Pages](#) 4 and 5
  - o An additional page should be included for the budget justification. The budget justification should include sufficient detail for reviewers to assess whether appropriate resources have been requested.
  - o All pieces of equipment, including any type of computer or related device, must be explicitly justified as critical to the performance of the proposed research. Any salary requested should include non-federal fringe benefit rates.
  - o Grant funds may not be budgeted for:
    - ▪ Salary support for the PI or faculty collaborators*
    - ▪ 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 non-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.

- **Proposal Timeline** (one 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.
- **Human and/or Animal Subjects** (no page limit): 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.
  - o Human Research Protection Office (HRPO) approval is not required prior to submission. However, HRPO approval is required for all projects involving human subjects before project funding may begin. The Institutional Animal Care and Use Committee (IACUC) must approve any projects involving animal subjects prior to final funding approval.
  - o In this section, 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.

- NIH or NSF Biosketches : Include biosketches using either NSF or NIH approved format (use of SciENcv encouraged) for the Principal Investigators and for any other investigator whose expertise will be critical for successful completion of the project. The personal statement in any biographical sketch should be appropriate for the project proposed in the application.
- Letters of Support (optional): Letters of support are not required, but are encouraged if appropriate (e.g., advisory committee members and health system partners/organization collaborators).

Round 2 Review Criteria

Review of the pilot proposals will use the following criteria to evaluate the scientific merit and transdisciplinary nature of the project. Reviewers will score final applications on an NIH scale (1-9) in the domains of Significance, Investigators, Innovation, Approach, and Transdisciplinary Nature. 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.

Review Criteria

- Overall Impact: What is the likelihood for the project to exert a sustained, powerful influence on the research field?
- Significance: Does the project address an important problem or a critical barrier to progress in the field?
- Investigators: Are the PD/PIs, collaborators, and other researchers well suited, sufficient, and able to conduct the project?
- Innovation: Does the project shift current research or clinical practice paradigms by using novel theoretical concepts, approaches or methodologies, instrumentation, or interventions?
- Approach: Are the strategies, methods, and analyses well-reasoned and appropriate to accomplish the specific aims of the project?
- Transdisciplinary Nature: Is the project trans-disciplinary? Transdisciplinary research is defined as research that involves scientists from multiple disciplines working interactively on a common problem to develop novel cross-disciplinary methods, insights and research approaches that would not have occurred with a traditional uni-disciplinary investigation.[3]

CTSI and SSoE Assistance (Optional)

Research facilitators at CTSI are available to assist investigator at any stage of a project (https://ctsi.pitt.edu/research-services/research-facilitator-services/). Facilitators can advise on finding collaborators, regulatory issues, human research protection, other required approvals, and research design or conduct.

SSoE faculty may also contact Julie Myers-Irvin, PhD, Grants Developer jmm30@pitt.edu with any questions or for assistance.

Limited statistical consulting on projects is available from CTSI (https://ctsi.pitt.edu/research-services/core-services/biostatistics-epidemiology-research-design/).