



Request for Proposals

Scaling a Systems Approach to Inclusive Graduate Research Environments

Released

April 3, 2025

Proposal due

July 1, 2025, 8:00 p.m. Eastern Time

Send a single PDF to the CGS project team at **researchenvironments@cgs.nche.edu**

RFP - Table of Contents

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I. Background

The Council of Graduate Schools (CGS) invites U.S.-based member institutions to apply to participate in *Scaling a Systems Approach to Inclusive Graduate Research Environments*. This multi-institutional project seeks to increase understanding of the impact of structured and transparent research environments and assess the generalizability of previous research across multiple doctoral STEM programs and institutions. Previous research found a positive relationship between a high level of program structure and psychological well-being and academic performance among doctoral students, particularly those underrepresented in STEM doctoral programs.

Through common instruments and coordinated methods, data will be collected from National Science Foundation (NSF) grant #2429880 subawardees and submitted to CGS. CGS will examine the relationship between program structure and transparency and student outcomes. Data will be collected from current doctoral students in select STEM programs and graduate faculty within these programs using surveys, focus groups, and a program inventory.

II. Role and Required Activities of Project Subawardees

As a condition of funding support, the dean of the graduate school or equivalent will be required to serve as the project director at their respective university and will commit to conducting the following activities on their campus with the support of CGS and other subawardees:

- Communicate the goals of the project to stakeholders on their campus.
- Secure necessary local IRB documents/approval and administrative agreements.
 - Send IRB documentation to CGS
 - Provide ongoing care and protection of human subjects. Institutions are responsible for taking necessary steps to assure the protection of human subjects and obtaining and maintaining an IRB approval to conduct data collection efforts, as well as subsequent uses of resulting datasets in relation to this project
- Organize campus efforts to execute data collection.
- Develop a data collection plan. *See Attachment A, Data Collection Guide, for more information.*
- Field CGS-provided survey instruments (student and faculty), which are focused on perceptions and experiences of structure and belonging, with selected programs.

- Collect and submit deidentified data to CGS for aggregate analysis.
- Clean and analyze your institution's student and faculty survey data.
 - Communicate data and findings to participating programs and departments
 - Track and document principles and practices for sharing survey findings with participating programs and other institution stakeholders
 - Track and document ways survey findings are being used for program improvement
- Rout a program inventory to the Director of Graduate Studies or that individual's designee.
- Rout a second, post-study program inventory to graduate program directors of participating programs.
- Submit completed program-level inventories to CGS.
- Facilitate participation of students and faculty from selected programs in focus groups.
- Participate in virtual biannual meetings with project leaders at subawardee institutions to share information and best practices with CGS and other subawardees.
 - Experiences collecting survey data from students and faculty
 - Key principles and approaches for communicating survey findings with participating programs and using project data for program improvement
 - Experiences collecting data using the program inventory
- Submit annual progress reports to CGS according to CGS's reporting guidelines.

III. Eligibility

To qualify for consideration, institutions submitting proposals must:

- Be U.S.-based, [Regular Members](#) of CGS in good standing.
- Have the dean of the graduate school or equivalent serve as the project director to coordinate this project that crosses STEM doctoral programs.
- Commit to collecting data from students and faculty from a minimum of five STEM doctoral programs that award a PhD. *See Attachment B, Fields and Enrollment Size, for more information.*
 - Two of the three required STEM fields: Chemistry, Computer, Electrical, and Electronics Engineering, and Computer and Information Sciences
 - Minimum of three other priority STEM fields

- Have a minimum number of doctoral students currently enrolled in two of the three required STEM fields and in at least three of the other priority STEM fields.
See Attachment B, Fields and Enrollment Size, for more information.
- Be able to administer surveys to doctoral students and graduate faculty, collect and compile survey responses, and submit deidentified data to CGS for aggregate data analysis.
- Be able to collect, clean, analyze, and communicate/share data from your institution's student and faculty surveys with participating programs and other institution stakeholders.
- Commit to participating in other data collection efforts such as program inventories and focus groups.

IV. Selection Criteria and Process

The following selection criteria will be used in evaluating proposals.

To be competitive, a proposal must:

1. Meet all of the eligibility criteria specified in Section III, Eligibility.
Note: A willingness to collect data from more than five fields (two of the three required and a minimum of three from the list of other priority fields) will be considered most competitive.
2. Contribute to the diversity of the group of subawardees.
Note: Diversity refers to institutional type, e.g., public, private, Minority-Serving Institution (MSI) status, and geographic region.
3. Provide evidence that the institution has a record of success implementing data collection efforts on campus with doctoral students and faculty. Successful proposals will include examples from current or past efforts supported by internal or external funding.
4. Describe a clear, organized, and feasible plan to implement the required data collection effort on campus. Successful proposals will incorporate a description of ways the institution will ensure high response rates to both surveys, completion of program inventories, and student and faculty participation in focus groups (if selected to participate).
5. Describe a clear plan to conduct timely analysis of your institution's data from the student and faculty surveys. Successful proposals will include clear descriptions of how data will be analyzed and will indicate what types of resulting data products will be developed.

6. Describe a thoughtful and feasible strategy for communicating survey findings to participating programs and other institution stakeholders. Successful proposals will identify the intended audiences of resulting analyses and data products, as well as how institutional project teams plan to communicate with the intended audiences.
7. Describe a thoughtful and feasible strategy for using resulting data for program improvement and improvement of students' experiences and success. Successful proposals will clearly describe how resulting data and data products align with and inform program improvement goals and goals for student well-being and success.
8. Offer a clear sustainability plan to ensure findings, insights, and lessons learned from study data and overall participation in the study continue beyond the funding period.
9. Demonstrate the capacity of the institutional project team to successfully implement all project activities, including submission of deidentified data to CGS. Successful proposals will include brief background information about key project personnel and their intended contributions to this project.
10. Provide evidence of strong institutional support beyond the graduate school.
11. Provide a high-quality data management plan that will ensure data integrity and protection of human subjects.
12. Outline the institution's IRB process and timeline. Successful proposals will demonstrate the institution's ability to obtain IRB approval prior to the time of the initial award installment and maintain IRB approval for the duration of the project period.
13. Provide a line-item budget, one-page budget justification, and letter of support.
See Section VI, Payment of Subawards for the award amount. Also see Section VII, Proposal Preparation - Supplementary Materials, for budget and letter of support information.

Selection Process:

In July 2025, a selection committee will review proposals and make funding recommendations based on the above criteria. The committee may recommend funding pending revisions to the proposed activities and/or budget. Final funding decisions will be announced at the end of July 2025. **Please note that awards will be contingent upon an institution's IRB approval.**

V. Payment of Subawards

Through this competitive RFP process, CGS will make ten subawards of \$40,000 each. Funds will be disbursed in three installments to subawardees.

- Payment 1 - \$15,000 after the institution has been selected and CGS has received documentation of the institution's IRB approval (Project Year 1)
- Payment 2 - \$15,000 after the subawardee has submitted deidentified survey data and the first program inventory to CGS (Project Years 2-3)
- Payment 3 - \$10,000 after student and faculty participation in focus groups and/or submission of the follow up program inventory to CGS (Project Year 4)

Please note that IRB approval for your data collection effort is required prior to disbursement of Payment 1. Please see the Timeline below for approximate timing of payments.

VI. Timeline

The following timeline provides a broad overview of the schedule of select activities for CGS and subawardees for the 48-month study period (October 1, 2024 – September 30, 2028).

| Date | CGS Administration | Subawardees Research Activities | Subawardees Grant Administration Activities |
|---|---|--|---|
| Project Year 1 (Oct 2024 – Sept 2025) | <ul style="list-style-type: none">• Receive proposals by or on July 1• Select subawardees• Develop surveys and program inventory• Distribute payment 1 to subawardees upon IRB approval | <ul style="list-style-type: none">• Prepare for data collection by communicating goals of project to stakeholders on campus and organizing campus data collection effort | <ul style="list-style-type: none">• Complete process of entering NSF budget• Obtain IRB approval and send documentation to CGS• Participate in CGS project kick-off meeting (virtual) |
| Project Years 2-3 (Oct 2025 – Sept 2027) | <ul style="list-style-type: none">• Distribute surveys and program inventory to subawardees• Communicate preliminary national findings | <ul style="list-style-type: none">• Collect data via student and faculty surveys• Collect data via program inventory• Submit data to CGS• Communicate | <ul style="list-style-type: none">• Participate in biannual webinar meetings for project leaders and key project staff• Submit annual reports to CGS |

| Date | CGS Administration | Subawardees Research Activities | Subawardees Grant Administration Activities |
|--------------------------------------|---|--|--|
| | with STEM graduate education community <ul style="list-style-type: none"> • Convene and support information sharing among subawardees • Distribute payment 2 to subawardees | institution findings/data with program leaders in participating STEM graduate programs at institution | |
| Year 4 (Oct 2027 – Sept 2028) | <ul style="list-style-type: none"> • Conduct focus groups • Compile and analyze insights from participating institutions on promising practices to inform program improvements • Distribute follow up program inventory • Promote findings in CGS communication outlets, publications, and STEM disciplinary societies • Distribute payment 3 to subawardees | <ul style="list-style-type: none"> • Students and faculty participate in focus groups • Collect data via a follow-up program inventory | <ul style="list-style-type: none"> • Participate in biannual webinar meetings for project leaders and key project staff • Submit annual and final report to CGS • Develop and execute a plan to communicate institutional and national data/findings and final project resources to inform program improvements |

VII. Proposal Preparation

Proposals are due no later than 8:00 p.m. Eastern Time on Tuesday, July 1, 2025 to the CGS project team at researchenvironments@cgs.nche.edu. Proposals must include the following information in a single PDF document.

1. Completed Proposal Cover Form (*see CI*).
2. Narrative (maximum of 15 pages in length, 12-point font, double-spaced, and one-inch margins) that includes sections describing the criteria identified in detail in this RFP, IV. Selection Criteria. Some, but not all of the criteria in Section IV of this RFP, are listed below.
 - a. Description and examples of success implementing data collection efforts on campus with doctoral students and faculty.
 - b. Plan to implement required data collection effort on campus.
 - c. Plan to conduct analysis of your institution's data from student and faculty surveys.
 - d. Strategy for communicating survey findings to participating programs and other institution stakeholders.
 - e. Strategy for using resulting data for program improvement and improving students' experiences and success.
 - f. Sustainability plan.
 - g. Data management plan.
 - h. Project personnel and their roles in successfully implementing all project activities.
- A. **Supplementary materials** (do not count towards 15-page limit):
 1. *Budget*. Please refer to the guidance below when preparing your budget(s).
 - a. Please provide a line-item budget.
 - b. Please include indirects.
 2. *Budget justification*
 - a. Please submit a one-page budget justification for the submitted budget.
 3. *Letter of support* from university president or provost that is sufficiently specific to demonstrate institutional support, even in the event of leadership change. A letter of support is required from a president or provost at each participating university.

Proposals should be submitted as a single PDF to the CGS project team at researchenvironments@cgs.nche.edu.

Please note that materials faxed or sent by regular mail will not be accepted.



Attachment A: Data Collection Guide

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Note: This taxonomy is one of several documents accompanying a Request for Proposals to CGS member institutions to participate in Scaling a Systems Approach to Inclusive Graduate Research Environments, a multi-institution project to increase understanding of the impact of structured and transparent research environments.

The RFP package includes:

- Request for Proposals
- Attachment A: Data Collection Guide
- Attachment B: Fields and Enrollment Size
- Proposal Cover Form

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Invitation to Apply

The Council of Graduate Schools (CGS) invites U.S.-based member institutions to apply to participate in *Scaling a Systems Approach to Inclusive Graduate Research Environments*. This multi-institutional project seeks to increase understanding of the impact of structured and transparent research environments and assess the generalizability of previous research across multiple doctoral STEM programs and institutions. With funding from the National Science Foundation (NSF), CGS will provide a \$40,000 grant to ten U.S.-based doctoral-granting institutions to implement a program inventory, two CGS Research Environments surveys, one for current PhD students and the other for faculty of select STEM doctoral programs, and participate in student and faculty focus groups over the NSF-funded four-year project period. Please refer to the Request for Proposals (RFP) for eligibility, selection criteria, and instructions on how to apply.

Awards **Ten awards of \$40,000 each**

Eligibility **U.S. doctoral-granting CGS member institutions**
Note: Must meet all minimum qualifications outlined in RFP

Key Activities **Implement surveys and program inventory** developed by CGS to collect information on current graduate students' and faculty's perceptions and experiences of program structure; **encourage and support participation in focus groups** of students and faculty from selected programs; **analyze institution data and communicate findings** with participating STEM doctoral programs; **report deidentified data** to CGS

Timeline July 1, 2025 - Proposals due
 End of July 2025 - Decisions announced
 Fall 2025 – Subaward period begins
 Fall 2028 – Subaward period ends

The CGS Research Environments surveys are designed to help graduate schools better understand the role of departmental structures, policies and norms on doctoral student belonging and success. These tools respond to a pressing need to create greater transparency about the steps needed to successfully complete the PhD and transition to a STEM career. They were developed with input from senior academic leaders, survey methodologists, and researchers at the University of California, Berkeley.

Building on Berkeley's *IGE: Innovations in Graduate Education- Identity, Structure and Belonging*, this project will offer participants opportunities to share their experiences with the wider graduate community through national CGS meetings; exchange strategies for implementing the surveys within a committed group of colleagues; and, by the end of the study, access benchmarking data on a variety of key PhD program elements and student outcomes.

On behalf of CGS, I hope your institution will consider submitting a proposal to participate in this unprecedented effort to understand graduate research environments.

Suzanne T. Ortega
President
Council of Graduate Schools

Advisory Board and Selection Committee

Dr. Joshua Barker
Dean, School of Graduate Studies
Vice-Provost, Graduate Research and Education
University of Toronto

Dr. Igor Chirikov
Senior Researcher
SERU Consortium Director, Center for Studies in Higher Education
University of California at Berkeley

Dr. Jeni Hart
Dean of Graduate School and Vice Provost of Graduate Studies
University of Missouri

Dr. Lindsey Malcom-Piqueux
Assistant Vice President, Diversity, Equity, Inclusion & Assessment
Chief Diversity Officer; Chief Institutional Research Officer
Caltech

Dr. Maresi Nerad
Emeritus Professor
Founding Director, Center for Research on Innovation in Graduate Education
University of Washington

Dr. Trinetia Respress
Dean, School of Graduate and Professional Studies
Tennessee State University

Dr. Michael Solomon
Dean and Vice-Provost for Academic Affairs and Graduate Studies
University of Michigan

Scaling a Systems Approach to Inclusive Graduate Research Environments

| | | |
|--|---|--|
| DESCRIPTION | <p><i>Scaling a Systems Approach to Inclusive Graduate Research Environments</i> is a project to understand the impact of structured research environments on student performance and wellbeing in STEM programs at 10 U.S. doctoral-granting institutions. Qualifying institutions may apply to CGS for a grant of \$40,000.</p> | |
| PURPOSE | <p>To validate and scale an institutional approach to improving academic and career outcomes for all doctoral students by expanding our understanding of the impact of structured and transparent research environments on doctoral students.</p> | |
| SURVEYS, INVENTORIES, AND FOCUS GROUPS | <p>Student Survey: Captures perceptions of structure and belonging; Administered to current PhD students in project years 2-3.</p> <p>Faculty Survey: Captures perceptions of structure and belonging; Administered to current graduate faculty in project years 2-3.</p> <p>Program Inventory: Captures practices associated with measures of structure, including transparency of policies and routing of questions and concerns, expectations for performance milestones through the doctoral degree, and expectations for mentoring; Completed by the Director of Graduate Studies in project years 2-3 and year 4.</p> <p>Focus Groups: Focus groups with selected doctoral program faculty and students conducted in project year 4 to better understand gaps in faculty and student perceptions and experiences, based on the survey data.</p> | |
| INTENDED DATA USERS | <p>Primary intended users of these data are graduate deans and graduate school staff, in collaboration with other stakeholders, including:</p> <ul style="list-style-type: none"> ○ graduate program directors ○ Offices of institutional research ○ Offices of the president and/or provost ○ Department and program faculty and students <p>CGS will collect and analyze deidentified survey, program inventory, and focus group data, information, and program resources from all participating institutions.</p> | |
| FUNDERS | <p>Grants to universities will be administered by CGS, supported by funding from the National Science Foundation (#2429880).</p> | |
| KEY DATES | <p>July 1, 2025 End of July 2025 Fall 2025 Fall 2028</p> | <p>Proposals due Decisions announced Grant period begins Grant period ends</p> |

How to Use this Guide

This document is intended to guide institutions preparing proposals for the CGS project *Scaling a Systems Approach to Inclusive Graduate Research Environments*. It is one of several supplementary documents that accompany a Request for Proposals to CGS member institutions to participate in a multi-institution data collection project.

This guide is designed to:

- Provide advice regarding important considerations for institutions preparing proposals to participate in the CGS project *Scaling a Systems Approach to Inclusive Graduate Research Environments*.
- Outline data collection requirements for the project.
- Provide the essential methodological requirements for graduate schools and key institutional stakeholders to implement the CGS Research Environments in ways that inform program improvement.
- Enable institutions to develop implementation plans suited to their own missions, cultures, and needs.
- Accommodate a variety of institutional types and PhD program structures.
- Stimulate thinking about what practices for data collection and use might work best in an institution's particular context.
- Provide the guidelines for reporting data to CGS.

On page A1 of this guide, you will find a one-page summary of this project intended to be shared with colleagues who may be interested, or who will participate in drafting a proposal to CGS.

Project Purposes and Goals

The CGS Research Environments project seeks to **understand the impact of structured research environments** on student performance and wellbeing. This project builds on the work conducted by researchers at the University of California, Berkeley in *IGE: Innovations in Graduate Education- Identity, Structure and Belonging (IGE-ISB)*, NSF# 1954923. IGE-ISB investigated how structures operate within doctoral programs, finding a positive relationship between a high level of program structure and equitable outcomes for minoritized students as measured by student reports of psychological well-being and metrics of academic performance. CGS Research Environments project team will test whether this finding is generalizable across STEM graduate programs at multiple institutions.

I. Planning for Data Collection

Developing a Strategy

A long-term strategy developed in conversation with key groups on campus is essential to any successful data collection effort. The following broad questions are designed to help institutional teams develop a strategy for executing the data collection effort for this project and for using resulting data and findings.

1. How does the collection of structured and transparent research environments in select PhD STEM programs support the mission and strategic plan of our institution/graduate school/PhD programs?
2. What goals in our programs and in other areas of the institution could we accomplish if we had better information about the research environments of STEM doctoral programs and their impact on student experiences and success?
3. Are there risks or challenges that we are likely to encounter in collecting structured and transparent research environments information? How will we overcome them?
4. Do we have the capacity to get the effort off the ground, or will we need additional support? For example, do we have the infrastructure and statistical support to collect and manage the data?
5. What current efforts exist to provide information on research environments at the program-, department-, and institution-level? Can we capitalize on these efforts for this project?
6. Which groups and individuals might serve as allies for this project, even if they are not directly involved?
7. How can we ensure this effort is sustainable?
8. How will we communicate the value of this work to various groups on campus?

II. Data Collection – Instruments, Timing, and Analysis

The *Research Environments* surveys are designed as a census of PhD students and graduate faculty and are cross-sectional surveys. Resulting data aim to offer insights into student and faculty perceptions of departmental structures and norms and are intended as a tool and resource for program improvement in doctoral education.

Student and faculty surveys and the program inventory are in development and will be sent to participating institutions during the late summer/early fall 2025. The CGS project team will be seeking input from selected institutions before finalizing data collection instruments and protocol for use by participating institutions.

Draft Student Survey Domains

| Survey Theme | Examples of Question Themes |
|--------------------------------------|--|
| Respondent information | <ul style="list-style-type: none">• Department• Current primary STEM doctoral program• Year of study in doctoral program |
| Progress to degree | <ul style="list-style-type: none">• Year started doctoral program• Year plan to graduate• Statements about current stage in progress to degree (select all that apply)• Level of agreement with statements about progress to degree |
| Program expectations | <ul style="list-style-type: none">• Extent program expectations being met• Level of agreement about communication of expectations for degree completion |
| Organizational structure | <ul style="list-style-type: none">• Three statements that comprise measure of organizational structure |
| Program resources and support | <ul style="list-style-type: none">• Knowledge of formal requirements for degree completion and student policies• Level of agreement with statements about current program (statements about access to funding opportunities and resources, timely response to issues raised by students, etc.)• Sufficiency of various types of information received• Knowledge of where to find various types of resources, etc. |
| Program climate | <ul style="list-style-type: none">• Level of agreement with statements about current graduate program (rules & regulations, faculty transparency, constructive response to complaints, supportive environment, timely communication, etc.) |
| Belonging | <ul style="list-style-type: none">• Level of agreement with statements about current graduate program (feeling valued by faculty, feeling valued by other students, being treated with respect and dignity)• Level of agreement with additional statements about |

| | |
|--|---|
| | feelings of belonging, respect, sense of community, professional identity, etc.) |
| Preparedness for career in STEM | <ul style="list-style-type: none"> • Perception of preparedness in select attributes, behaviors, and skillsets |
| Publication Record | <ul style="list-style-type: none"> • Level of agreement with three statements (clear requirements, faculty support, satisfaction with publication requirements) |
| Satisfaction with assistantship or other student job(s) | <ul style="list-style-type: none"> • Level of satisfaction |
| Mental health and well-being | <ul style="list-style-type: none"> • Mental health subscale, e.g., select statements from the PHQ-9 or adaptation of a short-form mental health assessment used with graduate students • Awareness of health and safety resources on campus |
| Student experiences | <ul style="list-style-type: none"> • Level of agreement with statements about the student's research group/lab (e.g., treated fairly, foster professional development, work environment that supports personal well-being) • Level of agreement with statements about the student's faculty/research mentor (e.g., clear guidance, regular guidance, regular feedback, regular and formal communication, informal communication, etc.) • Level of agreement with statements about coursework and degree requirements (statements adapted from Jones1986 measures of socialization tactics) |
| Background and personal characteristics | <ul style="list-style-type: none"> • Highest level of educational attainment among parents/guardians, gender identity, marital status, former or current member of military, conditions or disabilities significantly affecting experience as a student, receipt of accommodations, race, ethnicity, caregiving responsibilities (child and adult) |

Draft Faculty Survey Domains

The faculty survey will include components of the student survey and program inventory. This will allow CGS to address, in part, the alignment of student perceptions and experiences of structure with the perceptions and experiences of graduate faculty.

Draft Program Inventory

Survey of the practices associated with measures of structure, including transparency of policies and routing of questions and concerns, expectations for performance milestones through the doctoral degree, and expectations for mentoring. This inventory will include approximately 15 items. The program-level inventory will ask specific questions about the existence of, and communication of, policies and expectations within the PhD program. When appropriate, the individual completing the inventory will be asked to provide a link to publicly available information.

Timing of Data Collection and Analysis

Institutions will administer the **PhD Student Survey** and **Graduate Faculty Survey** to current doctoral students and faculty during the **fall term**. The Director of Graduate Studies or that individual's designee by the project director will document policies and procedures in the **Program Inventory** during the **fall term**. Institutions may set their own specific data collection dates as long as data are collected during the prescribed academic terms. Institutions participating in this study are **required to report to CGS de-identified, individual-level data** derived from your institution's required data-collection efforts. Due dates for deidentified micro datasets and program level inventories are listed below:

Student Survey: Fall 2025

Send to current PhD students

Deidentified student-level, micro data tentatively due to CGS by Spring 2026

Faculty Survey: Fall 2025

Send to current graduate faculty

Deidentified individual-level, micro data tentatively due to CGS by Spring 2026

Program Inventory #1: Fall 2025

Routed to the Graduate Studies or that individual's designee by the project director at the subawardee institution

Program inventory tentatively due to CGS by Spring 2026

Program Inventory #2: Fall 2027

Routed to the Graduate Studies or that individual's designee by the project director at the subawardee institution

Program inventory tentatively due to CGS by Spring 2028

Focus Groups: Fall 2027

CGS will conduct focus groups with students and faculty from selected participating STEM programs at selected participating institutions

Institutional Data Analysis

In addition to submitting deidentified student data for analysis, participating institutions are expected to analyze their own data in ways that can productively inform doctoral program improvement. Of course, institutions should be cautious when an academic unit or other subcategories have too few respondents, which could lead to the identification of students or faculty.

The resulting findings should be disseminated within a reasonable timeframe. For example, data collected in the fall could be analyzed during the winter and reported on campus in the spring or summer of the following year. Timely analysis and dissemination of results reinforce the importance of gathering the information and signal to campus partners, as well as PhD students and faculty, a commitment to high-quality doctoral programs.

CGS will hold biannual meetings with project leaders and key project staff at the 10 subawardee institutions (years 2-4). These meetings are designed to gather information about participants' experiences in collecting and analyzing survey data from students and faculty. These meetings also provide an opportunity for participating institutions to share best practices, challenges, and strategies about data collection, analysis, and communication of findings at their respective institutions.

Sending De-identified Individual-Level Data to CGS

As a part of participating in this study, institutions are required to share de-identified, individual-level data from all data collection efforts with CGS. CGS will analyze these data using advanced statistical methods. Procedures and format for submitting data to CGS will be forthcoming.

Protection of Human Subjects

Survey participation in this effort is voluntary, and all PhD students and faculty invited to respond to the surveys should be given an opportunity to review and agree or decline to participate via an informed consent procedure.

All data collection efforts associated with this study must comply with the guidelines set forth by their Institutional Review Boards (IRB), as well as appropriate federal, state, and other guidelines and regulations. Each institution participating in the study is required to develop a data management plan, as well as to secure and maintain an appropriate IRB approval for the duration of this project. CGS will also apply for IRB approval for its own research activities.



Attachment B: Fields and Enrollment Size

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Note: This taxonomy is one of several documents accompanying a Request for Proposals to CGS member institutions to participate in Scaling a Systems Approach to Inclusive Graduate Research Environments, a multi-institution project to increase understanding of the impact of structured and transparent research environments.

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Fields of Study and Minimum Enrollment Size

| <i>Field</i> | <i>Priority</i> | <i>Threshold</i> |
|---|-----------------|------------------|
| Chemistry | Required | 23 |
| Computer and Information Sciences | Required | 20 |
| Computer, Electrical, and Electronics Engineering | Required | 29 |
| Biological and Biomedical Sciences | Other Priority | 10 |
| Civil Engineering | Other Priority | 22 |
| Earth, Atmospheric, and Marine Sciences | Other Priority | 15 |
| Economics | Other Priority | 17 |
| Mathematical Sciences | Other Priority | 16 |
| Mechanical Engineering | Other Priority | 38 |
| Physics and Astronomy | Other Priority | 9 |
| Political Science | Other Priority | 23 |

Taxonomy of Fields of Study (for reference)

Biological and Biomedical Sciences

Anatomical Sciences
Animal Biology
Bacteriology
Biochemistry
Bioinformatics
Biology, General
Biomathematics
Biometry
Biophysics
Biotechnology
Botany/Plant Biology
Cell/Cellular Biology
Computational Biology
Developmental Biology
Ecology
Entomology
Epidemiology
Evolution
Genetics
Immunology
Microbiological Sciences
Molecular Biology
Molecular Medicine
Neurosciences
Parasitology
Pathology
Pharmacology
Physiology
Population Biology
Systematics
Toxicology
Zoology
Biological and Biomedical Sciences, Other

Chemistry

Analytical Chemistry
Chemical Plastics
Chemistry, General
Environmental Chemistry
Forensic Chemistry
Inorganic Chemistry

Medicinal and Pharmaceutical Chemistry
Organic Chemistry
Physical Chemistry
Polymer Chemistry
Theoretical Chemistry
Chemistry, Other

Computer and Information Sciences

Computer and Information Sciences, General
Computer Programming
Computer Science
Computer Software and Media
 Applications
Computer Systems Analysis
Computer Systems Networking and
 Telecommunications
Computer/Information Technology
 Administration and Management
 Data Entry/Microcomputer Applications.
Data Processing
Information Sciences/Studies
Microcomputer Applications
Computer and Information Sciences, Other

Earth, Atmospheric, and Marine Sciences

Aquatic Biology/Limnology
Atmospheric Sciences
Biological Oceanography
Earth Sciences
Geochemistry
Geological Sciences
Geophysics and Seismology
Geosciences
Hydrology
Marine Biology
Marine Sciences
Meteorology
Oceanography
Paleontology
Earth, Atmospheric, and Marine Sciences, Other

Mathematical Sciences

Actuarial Science

Applied Mathematics

Mathematics

Probability

Statistics

Mathematical Sciences, Other

Physics and Astronomy

Acoustic

Astronomy

Astrophysics

Atomic/Molecular Physics

Condensed Matter and Materials Physics

Elementary Particle Physics

Nuclear Physics

Optics/Optical Sciences

Physics

Planetary Astronomy and Science

Plasma and High-Temperature Physics

Solid State Physics

Theoretical and Mathematical Physics

Physics and Astronomy, Other

Civil Engineering

Architectural Engineering

Civil Engineering

Construction Engineering

Environmental/Environmental Health
Engineering

Geotechnical and Geoenvironmental
Engineering

Structural Engineering

Surveying Engineering

Transportation and Highway Engineering

Water Resources Engineering

***Computer, Electrical, and Electronics
Engineering***

Computer Engineering

Computer Hardware Engineering

Computer Software Engineering

Electrical Engineering

Electronics Engineering

Laser and Optical Engineering

Telecommunications Engineering

Mechanical Engineering

Engineering Mechanics

Mechanical Engineering

Economics

Applied Economics

Econometrics

Economics

International Economics

Political Science

International Relations

Political Science and Government

Public Policy Analysis

Source: Lanier, L., Zhou, E., Regio, A., &
Hardy, T. (2024). *Graduate Enrollment and
Degrees: 2013 to 2023*. Washington, DC:
Council of Graduate Schools.