

Pilot Projects Program

Research Funding Announcement

2023 – 2024

The NIEHS/NIH funded Center for Environmental Genetics (CEG) announces the following 2023 funding opportunitythrough its Pilot Projects Program (PPP). We offer competitive awards to support innovative, multi-disciplinary, high-risk/high-reward research efforts.

The CEG is housed in the UC College of Medicine and is funded by the National Institute for Environmental Health Sciences (NIEHS) center award P30 ES006096. Our mission is to conduct innovative, multidisciplinary research on **gene-environment interactions (GxE)** and translate discoveries to disease prevention via community empowerment, at home and around the globe. As one of the ways to achieve this mission, the CEG offers promising investigators access to use of its facilities and services cores; e.g., genomics, epigenomics, proteomics, *etc*. (See list below).

**Key Dates**

* Applications due **by 5:00 PM** ~~Friday~~ **~~June 30, 2023~~ Monday July 31**
* Awards to be made **~~by July 31, 2023~~** in August
* Budget end date 3/31/24. All award funds MUST be invoiced / spent before March 31, 2024. There is no possibility of carryover on CEG pilot awards.

# Award Categories

**We expect to make 4 pilot awards, each in the amount of up to $40,000**. Applicants may include

* existing environmental health scientists who wish to develop research in a new direction, e.g., using a new technology/concept or establishing new collaborations.
* investigators at any level who have no prior experience in environmental sciences / environmental medicine research, but wish to venture into the field. This category of applicants must identify an EHS scientist as a co-investigator.

## Review of a pilot award application will be more favorable if the proposal demonstrates:

1. Relevance to gene-environment interactions (GxE): *e.g.,* given the same environmental exposure or dose, what accounts for different responses between individuals having variants of the same gene? For population studies, well-characterized family history may be considered as the genetic component.

The CEG expects funded Pilot studies to lead to **NIEHS** grant applications; hence a proposal’s likelihood to advance the study of gene-environment interactions is essential.

1. High-risk/high-reward (exploratory studies).
2. New directions (including something never before tried by this PI).
3. Integration of new technologies and concepts into the research.
4. Synergism that complements the existing research base of the CEG.
5. Strong potential for translation / community outreach and engagement.
6. Use of CEG facility cores, shared equipment and services: see the ITS web page at

<https://med.uc.edu/depart/eh/centers/ceg/its>

# Eligibility

Principal investigators (PIs) must have a faculty appointment or be a senior research staff member with doctoral-level training. Postdoctoral Fellows and Graduate Assistants are not allowed to be PIs on these awards.

Proposals that do not evaluate gene x environment interaction(s) will be considered non-responsive and will not be reviewed.

**“Gene”** in this context is broadly defined: *i.e.,* individual genes/gene components, gene products, genomics, functional genomics, proteomics, metabolomics, epigenomics.

**“Environment”** in this context is defined based on the language used by the NIEHS for environmentally relevant toxicants in its RFAs, as cited below, *e.g.,*

*Examples of* ***environmentally relevant toxicants include*** *industrial chemicals or manufacturing byproducts, metals, pesticides, herbicides, air pollutants and other inhaled toxicants, particulates or fibers, and fungal/bacterial or biologically derived toxins.* ***Agents considered non-responsive include****, but are not limited to, alcohol, drugs of abuse, pharmaceuticals, chemotherapeutic agents, radiation which is not a result of an ambient environmental exposure, and infectious or parasitic agents, except when agents are disease co-factors to an environmental toxicant exposure to produce the biological effect.* *Applications which focus entirely or primarily on these exposure factors will be considered nonresponsive to this announcement and will not proceed to review. However, it is appropriate to include these factors as part of research to define effects of the exposome, and these factors may be a part of applications focused on the totality of a person’s environmental exposure.”* [our emphasis added]

Note that, while environmental tobacco smoke (secondhand smoke) would be a fundable topic, (direct) smoking is not. More at <https://www.niehs.nih.gov/health/topics/agents/index.cfm>

# Required Steps – Prior to Submission

When submitting a proposal that includes human subjects or human specimens, applicants should be aware that an approved IRB protocol will be **required** before any award can be made. You **must** consider to **consult in advance** with the CEG **Integrative Health Sciences Facility Core** (IHSFC) before the proposal submission deadline. To schedule, please email IHSFC leader Kelly Brunst, Ph.D., [brunstkj@ucmail.uc.edu](mailto:brunstkj@ucmail.uc.edu) and IHSFC co-leader Jack Rubinstein, M.D., [rubinsjk@ucmail.uc.edu](mailto:rubinsjk@ucmail.uc.edu).

# IV. Deadlines and Funding Information

* Applications must be received by **5:00 pm** ~~Friday~~ **~~June 30, 2023~~. Monday July 31**
* The pilot project period is limited to the current grant year ending March 31, 2024 with no extensions \ carryover allowed
* Applicants may request up to **$40,000**.
* Actual award amounts may vary depending on funds available. Indirect or F&A costs are not allowed. Awardees are strongly advised to spend all project funds by **February 28, 2024** but absolutely no later than **March 31, 2024**. Any unused funds, at that time, will be returned to the CEG. There is no possibility of any carryover.

# V. Application Requirements

1. NIH face page| [PHS 398 fp1](https://grants.nih.gov/grants/funding/phs398/phs398.html) is required for CCHMC and non-UC applicants
2. CEG cover page with abstract is required of all applicants (adapt and follow the template below; provide all information requested).
3. **Proposal narrative** < **5 typed pages** using single spaced, Arial font 11, > 0.5 inch margins, providing
   1. Specific Aims and Hypothesis
   2. Background and Significance (with relevance to your research question and hypothesis)
   3. Approach (research methods to be used)
   4. Relationship of the project to the GxE interaction theme of the Center.
   5. CEG Core Facilities to be used for the proposed research (*cf*. facilities list [here](https://med.uc.edu/depart/eh/centers/ceg/its); *i.e.,* <https://med.uc.edu/depart/eh/centers/ceg/its>
   6. Bibliography (not included in the 5-page limit)
4. Biographical sketches of the PI and all key personnel (current NIH format)
5. All projects that require the consent of Human Subjects or use existing data / Human Specimens **must** provide:

• a copy of your **IRB approval** or IRB document showing exempt from IRB review. If exempt, provide a description of the study, what human data/samples will be used, and from where they will be obtained.

• Planned Inclusion Enrollment Report for non-exempt research (see slides 18 & 19 [here](https://med.uc.edu/docs/default-source/environmental-health-docs/centers/ceg/assist_hs_corectrs_marthabarnes.pdf?sfvrsn=d16a06e_0)).

Award dollars for successful proposals involving Human Subjects/Human Specimens cannot and will not be released until the CEG receives documentation of IRB approval and a completed questionnaire that will allow us to create a **Human Subjects Study Record in ASSIST.**  See, especially, slide 8 by following [here](https://med.uc.edu/docs/default-source/environmental-health-docs/centers/ceg/assist_hs_corectrs_marthabarnes.pdf?sfvrsn=d16a06e_0). A copy of the ASSIST questionnaire can be obtained [here](https://med.uc.edu/docs/default-source/environmental-health-docs/centers/ceg/humansubjectsclinicaltrialsinfo-v1-0-1blank.pdf?sfvrsn=717e2c46_0) (PDF).

1. **Data Management and Sharing Plan**

Investigators are encouraged to submit a 1 to 2-page Data Management and Sharing Plan (DMSP) per the latest NIH guidelines as part of the pilot project application. Pilot projects are considered preliminary and therefore not *required* to have a DMSP. However, as a preparatory step for awardees to pursue larger NIH/NIEHS funding (e.g., R01 funding), we do require that each pilot awardee prepare a DMSP plan after he or she scores favorably but before receiving award funds. Dr. Changchun Xie is the CEG’s DMSP expert and will provide support to those writing a plan and will review all plans and provide feedback. The DMSP should focus on the management of data so that it is ready for sharing; awardees will not be required to actually share preliminary data emanating from the pilot study.

1. **Itemized budget** and a **written budget justification** are required. (These are not included in the page limits).

Use of [PHS 398 face page 4](https://grants.nih.gov/grants/funding/phs398/phs398.html) (fp4) is **required**.

Budgets may NOT include faculty salaries. Budgets may NOT include publication or page charges. Budgets may NOT include travel costs to present findings.

Budgets that include the use of CEG facility cores will be viewed favorably.

Awardees are eligible for a subsidy for CEG core usage but the subsidy is not automatic. See ITS web page at <https://med.uc.edu/depart/eh/centers/ceg/its>. The proposed budget should be prepared without assuming a post-award matching subsidy.

Budgets will be reviewed for accuracy and appropriateness by a CEG financial officer.

1. List of prior CEG support and products (if any), including:
   * Previously awarded CEG funds and subsequent R01 or other grant as matching funds
   * Publications, abstracts, or presentations (relevant to that PPP) supported by CEG
   * Grant applications arising from PPP data generated with the CEG support

Submit applications to the CEG in c/o Teresa Donovan at [donovata@ucmail.uc.edu](mailto:donovata@ucmail.uc.edu)

Questions regarding the application and review process may be directed to the PPP Director Dr. Jagjit Yadav ([Jagjit.Yadav@uc.edu](mailto:Jagjit.Yadav@uc.edu)) and co-leader Dr. Roman Jandarov ([jandarrn@ucmail.uc.edu](mailto:jandarrn@ucmail.uc.edu)) for scientific issues and to the CEG/PPP coordinator ([donovata@ucmail.uc.edu](mailto:donovata@ucmail.uc.edu)) for administrative issues.

# VI. Post Award Duties

Awardees are strongly advised to spend all project funds by **February 28, 2024** butno later than **March 31, 2024**. Any unused funds, at that time, will be returned to the CEG. There is no possibility of any carryover**.** Awardees are required to provide a draft written progress report on study outcomes and impact by **January 12, 2024**.

All abstracts, posters, publications, and reports emanating in whole or in part from the funded work must acknowledge the support of the Center for Environmental Genetics, *e.g., Research described in this article was supported by the University of Cincinnati Center for Environmental Genetics through the NIEHS award* ***P30ES006096.***

The **NIH Public Access Policy** applies whether work leading to a publication is supported in whole [or](http://publicaccess.nih.gov/faq.htm#759)  [in part](http://publicaccess.nih.gov/faq.htm#759) by CEG funds, and [whether person receiving CEG funds is primary author or co-author](http://nihlibrary.nih.gov/AboutUs/faq/Pages/manuscript2PubMedCentral.aspx). Accordingly, CEG-supported authors **must**

* 1. acknowledge the CEG grant (NIEHS award P30ES006096)
  2. ensure that any final peer-reviewed journal manuscript arising in whole or in part from CEG funds is [submitted to PubMed Central](https://publicaccess.nih.gov/submit_process.htm) immediately upon acceptance for publication (whether the journal publisher does it automatically, or the author makes arrangements with the publisher, or the author does so via [NIH Manuscript Submission System).](http://www.nihms.nih.gov/db/sub.cgi)

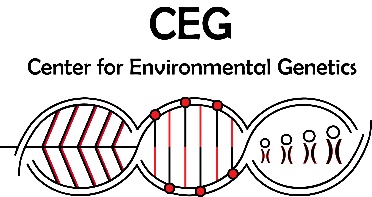
Once a paper has been submitted to PubMedCentral and is **In Process** or fully **Compliant** with the NIH Public Access policy <https://publicaccess.nih.gov/> authors must associate the P30 ES006096 award to their publications via their **MyNCBI \ MyBibliography**: <https://www.ncbi.nlm.nih.gov/account>

Related tutorial at <https://www.youtube.com/watch?v=JYODIOD_YYE>

CEG Pilot Project Symposium: Awardees are required to orally present pilot results obtained during their award period at an annual research symposium, to which all CEG members, new PPP awardees, and interested community members are invited.

Awardees may be asked to participate as reviewers in future cycles of the *P30 EHS Centers Pilot Review Consortium*. The Consortium includes the University of Cincinnati, Wayne State University, the University of Michigan, the University of Louisville, and Texas A & M University.

*The Center for Environmental Genetics is funded by the National Institute for Environmental Genetics, NIEHS award P30 ES006096*



Pilot Projects Program

# 2023 – 2024 Cover Page

# Provide all details requested, on form or *via* an attachment

|  |  |
| --- | --- |
| **Project Title:** | |
| **Environmental component to be tested**:  Examples include *industrial chemical(s) or manufacturing byproduct(s), metals, pesticides, herbicides, air pollutants and other inhaled toxicants, particulates or fibers, and fungal/bacterial- or biologically- derived toxins.* [*https://www.* *niehs.nih.gov/health/topics/agents/index.cfm*](https://www.niehs.nih.gov/health/topics/agents/index.cfm) | |
| **Genetic/Genomic component to be tested:** | |
| **CEG Cores to be used** (see list, next page): | |
| **Principal Investigator name, title, contact information**: | |
| **Co-investigator(s):** | |
| **Description of project—including** relevance to CEG mission. **Abstracts of funded projects will be publicly available**. | |
| **Evidence of institutional review and protocol approval are required for release of funds to any successful applicant.** Applicants are strongly advised to apply for IRB and/or IACUC approval at the time of proposal submission if the project has not yet been approved. The approval process may take several months, so the applicant’s earliest attention is needed to obtain **IRB**/**IACUC** approval before receiving CEG pilot project funding. **Delays in providing documentation of your IRB and/or IACUC approval can significantly delay processing of awards.** | |
| Human Subjects Yes No  *If Yes, the following information is REQUIRED* Name of protocol: PI:  **IRB** approval number: Last approval Date: **Expiration Date**: | Animal Subjects Yes No  *If Yes, the following information is REQUIRED*  Name of protocol: PI:  **IACUC** approval number: Last approval Date: **Expiration Date**: |

|  |
| --- |
| **Total budget requested**: |
| **Applicant Signature and Date:** |
| **Department / Unit Chair Approval Signature and Date required**: |

Indicate the **category** for your proposal:

* New Investigator Award
* Innovator Award
* New to EHS Award
* Time-Sensitive Response

Indicate **research type** (SRS required data field, select only 1)

* Basic research
* Applied research
* Experimental research
* Not research

**Human Subjects Study**: Consulted with IHSFC leaders (Kelly Brunst, PhD; Jack Rubinstein, MD) as **required** on \_\_\_ / \_\_\_ / \_\_\_\_ (date)

# CEG Facilities and Services (F&S) Cores

**Integrative Technologies Support (ITS) Core:** Ying Xia, PhD, Director; Ranjan Deka PhD, co-leader

* Animal Behavioral Core (CCHMC) (Charles V. Vorhees, PhD)
* Center for Advanced Structural Biology (UC) Cryo-EM (Desiree Benefield, PhD)
* Fernald Community Cohort resources (UC) (Susan Pinney, PhD, FACE, Principal Investigator)
* Genomics and Epigenomics Sequencing Core (UC) (Xiang Zhang, PhD)
* Inhalation Core (UC) (Jennifer Flurry)
* Metallomics Core (UC)
* NMR-based Metabolomics Core (CCHMC) (Lindsey Romick-Rosendale, PhD)
* Pluripotent Stem Cell Facility (CCHMC) (Chris Mayhew PhD)
* Proteomics Core (UC) (Ken Greis, PhD)
* Single Cell Genomics Core (CCHMC)(Rathnakumar Kumaragurubaran, PhD)
* Transgenic Animal and Genome Editing Core (CCHMC) (Yueh-Chiang Hu, PhD)

**Shared Equipment** (see [ITS web page](https://med.uc.edu/depart/eh/centers/ceg/its))

* Beckman Optima Max TL ultracentrifuge
* Confocal Microscopy (UC)
* ELISPOT Analyzer
* ESCAPE Inhalation chamber
* EVOS Imaging system
* Flow-cytometry (UC)
* RNAScope Hybridization (incubator) system
* Seahorse XF Analyzer
* Single Cell Sequencing
* Sorvall RC6 Plus Superspeed centrifuge
* Versatile Imaging Systems (UC)

**Bioinformatics Support Core:** Mario Medvedovic, PhD, Director (Jarek Meller, PhD, co-leader)

**Integrative Health Sciences:** Kelly Brunst, PhD, leader; Jack Rubinstein, MD, co-leader

**Community Engagement Core:** Nick Newman, DO, MS, FAAP (Michelle Burbage, PhD, co-leader)

<https://med.uc.edu/depart/eh/centers/ceg/pilot-project-program>