Request for Applications for Pilot Project Funding 2024-2025

OBJECTIVE

The EDGE Center Pilot Projects Program supports short, one-year projects to provide preliminary data that will be useful for competitive, full-scale grant applications in the area of environmental health sciences (EHS) research. Successful applications demonstrate a strong likelihood of leading to significant NIEHS funding in the near term.

The review process emphasizes:

- Relevance to the mission of the EDGE Center and NIEHS
- Responsiveness to themes identified in the request for proposal
- Utilization of EDGE Facility Cores
- Potential for translation of science into public health applications and practice
- Community-engaged research

BUDGET

The budget for these projects is capped at $40,000 for Direct Costs. Applications with budgets of more than $40,000 in direct costs will not be considered. Please include applicable indirect costs in your proposed budget. Proposals that include a substantive community engagement component, in collaboration/consultation with the EDGE Community Engagement Core (CEC), will be eligible for up to $10,000 additional funding for their budget.

Typically, budgets for funded EDGE pilots are created as sub budgets at the UW. If your institution does not permit you to direct a budget at the UW for your work (i.e., you are based at another institution), it is possible for funding to be issued by subaward to successful applicants. In this case, investigators are responsible for requesting an indirect cost waiver from their institution or securing another source of funding for indirect costs. In past years, Seattle Children's Hospital (SCH) and the Fred Hutchinson Cancer Research Center (FHCRC) have provided such waivers for EDGE pilot projects. Please note that this only applies to pilot projects with non-UW PIs. If you are a UW PI and will be sub-awarding a portion of your pilot project to another institution, that subaward institution's indirect costs are allowed, but need to be included in your budgeted direct costs.

If your pilot project has a component of research with human subjects and/or in vertebrate animals, the sponsor will not release funding until the proposed human study and/or vertebrate animal study has been reviewed and approved by the Institutional Review Board and/or the Institutional Animal Care and Use Committee (IACUC) at your institution and the NIH. Studies that involve clinical trials (as defined by the National Institutes of Health [NIH]) are not eligible for funding. Please see NIH guidance for details on determining whether your study may be a clinical trial: https://grants.nih.gov/ct-decision/index.htm

ELIGIBILITY

Only faculty members from the **University of Washington, Seattle Children's Hospital,** or the **Fred Hutch Cancer Research Center** holding one of the following ranks are eligible to serve as Principal Investigator on a Pilot Project proposal:

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Assistant Professor	Research Assistant Professor	Assistant Teaching Professor
Associate Professor	Research Associate Professor	Associate Teaching Professor
Professor	Research Professor	Teaching Professor

Individuals holding a UW Affiliate Faculty appointment are not eligible. UW, SCH or FHCRC faculty members who hold one of the above titles, but who are not currently members of the EDGE, must collaborate with an EHS Core Investigator already affiliated with the EDGE Center who agrees to serve as a sponsor of the proposal. Early career scientists who do not hold a faculty appointment are encouraged to serve as a Co-PI.

We welcome and encourage researchers with diverse backgrounds to apply. If you are interested in applying to be an EDGE member, please contact Nancy Judd at njudd@uw.edu. A list of current EDGE Facility Core Directors is included at the end of these guidelines and a complete list of EDGE membership is available online at: https://deohs.washington.edu/edge/member-directory. If a principal investigator (PI) submits multiple proposals, only one will be accepted.

FURTHER INFORMATION ON EDGE & NIEHS

More information about the EDGE & NIEHS mission and goals can be found on the below websites:
http://deohs.washington.edu/edge/
https://www.niehs.nih.gov/about/strategicplan/index.cfm

PROGRAM BACKGROUND

The UW Center for Exposures, Diseases, Genomics, and Environment (EDGE) is an Environmental Health Sciences (EHS) Core Center of the National Institute of Environmental Health Sciences (NIEHS). The purpose of EDGE is to provide an administrative infrastructure and technical support to foster the multidisciplinary collaborations necessary to extend basic studies on environmental health problems to direct application in human populations. The purpose of the Pilot Projects program in the EDGE Center is to provide funding for pilot data necessary to successfully apply for NIH funding relevant to the mission of the EDGE Center and the NIEHS. Pilot projects applications should directly address scientific questions of interest to both EDGE and NIEHS.

Questions concerning the relevance of a proposed research topic should be directed to Dr. Sheela Sathyanarayana, EDGE Pilot Program Director (email: sathyana@uw.edu).

EDGE CORES

EDGE provides its investigators and pilot project awardees with access to three Facility Cores and the Community Engagement Core:

1. The **Genomics, Bioinformatics & Biostatistics, and Microphysiological Systems Facility Core (GBBM-FC):** The Core is comprised of three complementary components: 1) The Genomics Component provides EDGE Center investigators with access to state-of-the-art genomics, epigenomics, transcriptomics, proteomics, and metabolomics technologies and consultation to ensure that the full potential of these resources is realized. It also furnishes

targeted gene expression and genotyping assays as well as multiplex immunoassays using the Meso Scale Discovery and the Luminex platforms. 2) The Bioinformatics & Biostatistics Component provides comprehensive statistical and bioinformatics analysis for all types of OMICs data (e.g. genomics, epigenomics, transcriptomics, proteomics, metabolomics) and beyond in a cost effective way. It also provides experimental design as well as general statistical consulting. 3) The Microphysiological Systems Component (MPSC) offers access to sophisticated 3D in vitro model systems that mimic the complex cellular architecture of organs. These MPS models utilize human, canine, rodent and other mammalian cells to investigate toxicological responses for candidate xenobiotics.

2. The **Integrative Environmental Health Sciences Facility Core (IEHS-FC)***:* Population-based translational health sciences support including clinical assessments, sample storage, technical assistance, and access to many facility core laboratories throughout the UW and FHCRC is facilitated through the IEHSFC. The IEHSFC assists in study design and navigating human subjects applications. The IEHSFC also supports disaster response research (DR2), including climate related impacts on health.

3. The **Exposure Assessment, Biomarkers and Environmental Sensing Facility Core (EABES-FC)***:* Development and application of exposure assessment tools and biomarkers including, state-of-the-art instrumentation in tissue imaging using laser ablation-inductively coupled plasma mass spectrometry and GPS- enabled personal exposure monitors, for measuring exposure and exposure signatures in biological samples.

4. The **Community Engagement Core (CEC)**: A well-established CEC provides EDGE Investigators with assistance in public engagement, science communications, and research translation activities. This core helps investigators identify and connect with stakeholders relevant to their research projects, contributing to planning for stakeholder engagement, or helping investigators develop materials or host events to share important research findings with community groups, public health professionals, policymakers, K-12 teachers, and students, or other publics. Pilot project applications that include a community engagement component will be eligible for additional funding (up to $10,000) if the CEC is consulted regarding the planned activities and CEC services utilized where appropriate. Please consult with our CEC staff before submitting your application; contact information is located on page 8.

Pilot project applications proposing use of one or more of these Cores of the EDGE Center receive favorable consideration. Facility Core Directors are included at the end of these guidelines and http://deohs.washington.edu/edge/core-services.

RESEARCH THEMES OF INTEREST

The EDGE Center has supported pilot projects across a variety of environmental health topics in the past.

NIEHS has identified five emerging areas of scientific focus which are also of key interest to the EDGE Center:

- Precision Environmental Health & the Exposome
- Computational Biology & Data Science
- Climate Change & Health
- Environmental Justice & Health Disparities
- Mechanistic & Translational Toxicology

The 2017-2023 NIEHS strategic plan includes goals across three themes; projects that support these research themes and associated goals are also of interest for the EDGE Center pilot program. Note that NIEHS is in the process of updating their strategic plan.

In addition, the following are example areas of special interest that each core is well positioned to support.

GBBM:

- Facilitating the generation single cell RNA-Seq data
- Statistical and bioinformatics analysis of single cell RNA-Seq data
- Facilitating the generation of spatial transcriptomics data
- Statistical and bioinformatics analysis of spatial transcriptomics data

IEHSFC:

- Pediatric and Reproductive Environmental Health Concerns
- Community engaged and informed research
- Research addressing disparities in environmental health conditions
- Indoor and outdoor air pollution including wildfire smoke
- Intervention based research designs

EABES:

- Mobile monitoring and spatio-temporal mapping of transportation related air pollution, including vehicle and airplane emissions
- Characterization of diesel exhaust composition, exposure and health effects – including use of our controlled exposure laboratory
- Mass spectrometry-based imaging of metal deposition in biological samples
- Use and evaluation of low-cost air pollution sensors networks for evaluating exposures and health outcomes
- Evaluation of air cleaners to reduce environmental exposures to woodsmoke and traffic related air pollution

CEC:

- Working with community groups and public agencies to make EDGE science more relevant to those they serve
- Providing training and resources to assist EDGE researchers in developing equitable

community/academic partnerships
- Co-developing classroom activities with teachers based on EDGE science that excites them
- Creating multi-media stories for a general audience to convey key concepts of environmental health
- Supporting community-engaged disaster and climate-relevant research

APPLICATION PROCESS DETAILS

STEP ONE: Complete a pre-application form available on the EDGE website: http://deohs.washington.edu/edge/pilot-projects and submit it by email to Nancy Judd njudd@uw.edu, by **October 11, 2023**.

STEP TWO: You will be notified by **October 23, 2023** if your project is eligible to submit a full proposal and the full proposal application and submission link will be emailed to you, which will be due December 8, 2023 (see step 4).

STEP THREE: Prepare a full proposal application and receive signatures of endorsement as applications must be routed through the Investigator's Department Chair (and College Dean if in the School of Medicine).

STEP FOUR: Submit full proposal application (if invited) by December 8, 2023, at 5 PM PST. Full proposal applications are not submitted through the Office of Sponsored Programs; therefore, an e-GC-1 form is NOT required.

Your complete application should include the following components:

1. A completed "*EDGE Pilot Project Grant Application*" form (will be emailed to you upon invitation)
2. A proposed budget (on PHS398 Budget Form) and a budget justification (on PHS398 Budget Justification Form). Use budget categories to define types of expenditures. Where normal increases in salaries are anticipated, PI should consider including the increases in their budget estimates. Include applicable fringe benefits and UW indirect costs. The budget should show all people, paid or unpaid, who will carry out the research. The function of these people should be explained in the justification. Also itemize and/or justify major cost items. **Administrative salaries cannot be covered.** Equipment will be supported only if tied directly to the research project and equipment costs may not exceed $5,000 except in exceptional circumstances. NIH budget and justification templates can be found here: https://grants.nih.gov/grants/funding/phs398/phs398.html
3. A current NIH Biosketch for the Principal Investigator and any co-PIs (not to exceed five pages each) and a list of any additional key personnel. NIH Biosketch instructions and templates can be found here: https://grants.nih.gov/grants/forms/biosketch.htm
4. A complete list of current and pending funding, including project title, source, amount, and period of funding. If the proposed project is being partially supported by other sources, please specify the source and amount of support.
5. A written proposal describing your project which includes elements outlined in the "*EDGE Pilot Project Grant Application*" form emailed to invited applicants.
6. For projects that include a community engagement component, a letter of support from EDGE CEC staff, and a detailed budget of up to $10,000 in additional funding for the engagement component.

Invited applicants (per Step 1) should submit these documents listed above via email to Nancy Judd (njudd@uw.edu) by December 8, 2023, at 5:00 PM PST. General questions about this RFA should be directed to Nancy Judd (njudd@uw.edu).

SPECIFIC PROVISIONS:

1. An official budget ceiling has been established at $40,000 for Direct Costs. Applications with budgets of more than $40,000 in direct costs will not be considered unless it is in the form of institutional matching funds. Projects that wish to include a community engagement component for consideration of additional funding of up to $10,000 must include a separate budget for this component of the pilot project detailing how the funds would be used (labor, supplies, etc.)
2. The EDGE Center will only review one proposal by a given Principal Investigator or Co-Principal Investigator during a single review period. This decision is based in part on the amount of overlap in the proposals, the need to provide a fair distribution of funds to all investigators, and the level of funding already available to the applicant(s).
3. Where possible, the personnel for research should be drawn from the ranks of students working on advanced degrees. These students may be hired at 50% FTE (the regular status of a Graduate Research Assistant). Hourly help support is also acceptable.
4. Notification of the award will be sent by e-mail on February 8, 2024. The anticipated budget year will be March 1, 2024, through February 28, 2025.
5. Projects will be funded for a maximum of twelve months (March 1, 2024 through February 28, 2025).
6. Extensions will not be allowed. The Principal Investigator is responsible for the proper administration of funds. Each award will be assigned a dedicated UW budget number (a sub-budget to the EDGE Parent budget) and if needed, a sub-contract from the EDGE budget to an institution that requires a non-UW budget to be used to fund the research. Funds may not be transferred between projects. EDGE will monitor expenses on the project and provide budget projections and other support as requested but will not assume fiscal responsibility for over-expended budgets.
7. If human or animal subjects are included, no award will be issued until approval from the Institutional Review Board (IRB), or Institutional Animal Care and Use Committee (IACUC) has been received and the NIEHS has authorized the allocation of funds. Approval is not required until a project has been funded.
8. Studies that involve clinical trials (as defined by the National Institutes of Health [NIH]) are not eligible for funding. Please see NIH guidance for details on determining whether your study may be a clinical trial: https://grants.nih.gov/ct-decision/index.htm.
   For information on vertebrate animal use in research, please visit the UW Office of Animal Welfare website at: https://oaw.uw.edu/. For information on human subjects, please visit the UW Human Subjects Division website at: http://www.washington.edu/research/hsd/.

REVIEW CRITERIA

Investigators who are invited to submit full applications will be notified of Review Committee results by e-mail by February 8, 2024. Please do not contact the EDGE Center before this time. Applications will be internally triaged for responsiveness and compliance with the above requirements. Proposals undergo full scientific review using the criteria given below.

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EVALUATION CRITERIA (Percentage figures refer to the relative weight each criterion will be given when making funding decisions):

1. The relevance of the proposed research to the theme, mission, and goals of EDGE and NIEHS must be clearly described. The EDGE Center intends to provide initial funding of new projects that could lead to an NIH R21/R01 application that would logically be assigned to the NIEHS. It is expected that applicants will eventually seek outside grant support for the continuation of their research programs. **(30%)**
2. The scientific merit of the proposed research and its feasibility are critical factors that will be used in evaluating an application. Projects that may result in a scientific publication after project completion will be considered for funding, as well as more preliminary work likely to lead to successful procurement of a full study grant from an outside source in the future. **(30%)**
3. The EDGE Center is committed to providing career development and mentoring for young investigators (including junior faculty and also non-faulty). Proposals that support these investigators' research will be accorded special consideration. Note that non-faculty can serve as co-PIs. **(20%)**
4. The EDGE Center provides access to facility cores: *Genomics, Bioinformatics & Biostatistics, & Microphysiological Systems Facility Core; Integrative Environmental Health Sciences Facility Core; and Exposure Assessment, Biomarkers, and Environmental Sensing Facility Core.* Use of these Facility Cores, as well as efforts to learn the various techniques they employ, is encouraged. Pilot Project applicants are encouraged to discuss their projects with Facility Core Directors before submission if substantial use of a Core is proposed. A list of Facility Core Directors is included at the end of these guidelines. **(20%)**
5. (*For CEC Related Applications Only – this criterion will replace #4 for evaluation purposes)* Projects that can demonstrate active collaboration with CEC staff, creative and innovative use of CEC resources and meaningful involvement of EDGE investigators will be given priority. Of note, if applicants apply to use both EDGE center and CEC resources, they will not be given greater weights in review. **(20%)**

CONTACT INFORMATION

General questions about this RFA should be directed to Nancy Judd (njudd@uw.edu). Applicants are encouraged to consult with senior center investigators (see below contact information) in the preparation of pilot project proposals. Feel free to contact us to learn more about Core expertise and services and how engaging with one or more Cores might strengthen your proposal.

Facility Core Directors and Contacts

Integrative Environmental Health Sciences Facility Core (IEHS-FC)

Director, Catherine Karr, ckarr@uw.edu, 206-616-4355
Co-Director, Nicole Errett, nerrett@uw.edu, 206-897-1555
Karen Jansen, Manager, kjansen@uw.edu, 206-685-6392

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Genomics, Bioinformatics & Biostatistics, & Microphysiological Systems Facility Core (GBBM-FC)
Director, Julie Cui, juliacui@uw.edu, 206-616-4331
Co-Director, Yvonne Lin, Metabolomics, yvonlin@uw.edu, 206-616-8728
Co-Director, Katie Kerr, Biostatistics, katiek@uw.edu, 206-543-2507 Co-Director, Ed Kelly, Microphysiological Systems, edkelly@uw.edu (206) 685-4641
Manager, Theo Bammler tbammler@uw.edu, 206-616-7378

Exposure Assessment, Biomarkers, and Environmental Sensing (EABES-FC)
Director, Chris Simpson, simpson1@uw.edu, 206-543-3222
Co-Director, Edmund Seto, eseto@uw.edu, 206-543-1475
Co-Director, Elena Austin, elaustin@uw.edu, 206-221-6301

Community Engagement Core (CEC)
Director, Nicole Errett, nerrett@uw.edu, 206-897-1555
CEC Co-Manager, Lisa Hayward, lhayward@uw.edu, 206-685-8244, 206-795-8843
CEC Co-Manager, BJ Cummings, bjcumngs@uw.edu, 206-458-0284 (cell)