

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 short 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 the science into public health applications and practice
- Community engaged research*
- Technology Innovation Development*

**see incentive emphasis in bold sections of page 3 for more details*

BUDGET

The budget for these projects is capped at \$40,000 for Direct Costs. Applications with budgets in excess of \$40,000 will not be considered. Indirect costs should not be included in the proposed budget. Proposals that include a substantive community engagement component, in collaboration/consultation with the EDGE Community Engagement Core (CEC), will be eligible for a \$5,000-\$10,000 addition to their budget.

ELIGIBILITY

Only faculty members from the **University of Washington** or **Fred Hutchinson Cancer Research Center** holding one of the following ranks are eligible to serve as Principal Investigator on a Pilot Project proposal:

- Assistant Professor
- Associate Professor
- Professor
- Research Assistant Professor
- Research Associate Professor
- Research Professor

Individuals holding a UW Affiliate Faculty appointment are not eligible. UW 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. A list of current EDGE Facility Core Directors is included at the end of these guidelines and a complete list of EDGE membership is online at:

<http://deohs.washington.edu/edge/member-directory>

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 theme of the EDGE Center is “Mechanisms Underlying Human Variability in Response to Environmental Exposures”. 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 [EDGE Center](#) and the [NIEHS](#). Pilot projects applications should directly address scientific questions of interest to both EDGE and the NIEHS.

Questions concerning the relevance of a proposed research topic should be directed to Dr. Terry Kavanagh, EDGE Director (email: tjkav@uw.edu; phone: 206-685-8479).

EDGE CORES

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

1. The **Functional Genomics, Proteomics and Metabolomics Facility Core (FGPM-FC)**: State-of-the-art molecular biology tools and resources to assist in the conduction of large-scale molecular biomarker work involving human populations, animal disease models, and various tissues (targeted DNA NextGen sequencing, exome sequencing, targeted NextGen RNA sequencing, RNA-Seq, ChIP-Seq, BS-Seq, qRT-PCR, targeted methylation analysis, genotyping, oligonucleotide microarray processing for mRNA and microRNA profiling, targeted protein detection, phosphoprotein analysis, and ProtoArray® Human Protein Microarray analysis. Application of metabolomics technologies to gene-environment (GxE) interaction studies is also available under this core.
2. The **Integrative Environmental Health Sciences Facility Core (IEHS-FC)**: Population-based translational health sciences including clinical assessments, sample storage, technical assistance and access to many facility core laboratories throughout the UW and FHRC facilitated through the Clinical Translational Unit (CTSU) of the IEHSFC. The Bioinformatics & Biostatistics Unit (BBU) of the IEHSFC provides comprehensive statistical and bioinformatics analysis of OMICs data (e.g. microarray, RNA-Seq, ChIP-Seq, metabolomics and proteomics data, etc.), including pathway analysis. The Microphysiological Modeling of Toxicant Responses Unit (MMTRU) provides EDGE investigators access to novel 3D microphysiological system (MPS) models that utilize human and rodent liver and kidney to investigate toxicological responses for candidate xenobiotics.
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 (LA-ICPMS) 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 and research translation activities. This can include helping investigators identify and connect with stakeholders relevant to their research projects, contributing to planning for

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stakeholder engagements, or helping investigators develop materials or host events to share important research findings with community groups, public health professionals, policy-makers or K-12 teachers and students. **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 7.**

Pilot project applications that propose to utilize one or more of these Cores of the EDGE Center receive favorable consideration. A list of Facility Core Directors is included at the end of these guidelines and more information about the Cores is available on the EDGE Website at: <http://deohs.washington.edu/edge/core-services>

RESEARCH THEMES OF INTEREST

The following examples suggest the breadth of research questions potentially of interest to the EDGE Center and the NIEHS. This list is only a sample, and is not inclusive of all the projects that may be considered favorably.

- Epigenetics and epigenomics
- Nutrition & diabetes as modifiers of toxicant response
- Microphysiological systems/3D organotypic models for assessing toxicity of environmentally-relevant substances
- Systems or computational toxicology
- The role of the microbiome as a modifier of toxicant response
- Molecular epidemiology studies evaluating the role of a particular gene or a gene combination, which may interact with a component of the environment to cause human disease
- Applications of biomarkers to individuals at high risk for developing a chronic disease from an environmental exposure to pollutants
- Studies of individuals and families at increased risk for a chronic disease, or development of appropriate animal models to evaluate the interaction of genes and environment in the development of a disease
- Development of research translation and dissemination of materials for non-scientific audiences or publications
- Planning and convening workshops, public forums, or community events on topics relevant to the theme and mission of EDGE
- Citizen Science
- Environmental Justice
- Tribally informed food systems and climate change mitigation and adaptation
- Disaster Research Response (DR2)
- **'Technology Innovation Development' designated proposal: Projects exploring the development of novel technologies that advance the understanding of 'gene-environment interactions'.** Pilot projects under this category must meet the following criteria to be eligible for consideration:
 - **The new technology is not readily available through existing facility cores or research cost-centers at the University of Washington**
 - **Demonstration that the new technology has potentially broad applications to environmental health sciences-relevant research, and would be of interest to other EDGE members**
 - **Documentation that an existing EDGE Facility Core has the interests and capability of incorporating the new technology as a Core Service available to other EDGE investigators in the future**

APPLICATION PROCESS DETAILS

STEP ONE: Complete a pre-application form available on the EDGE website:

<http://deohs.washington.edu/edge/pilot-projects> and submit online at:

<https://app.smartsheet.com/b/form/41459721d95b48a58b0572ae3adc56e8> by **January 9, 2020**

STEP TWO: You will be notified by **January 16, 2020** 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 February 14, 2020 (see step four).

STEP THREE: Prepare 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 **February 14, 2020 at 5pm 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, the required amounts must be included in estimates. Include applicable fringe benefits. The budget should show all persons, paid or unpaid, who will carry out the research. The function of these persons 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. Subcontracts are not allowable. No indirect costs (F&A) will be provided (i.e. the budget should be calculated on the basis of direct costs only). 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 source and amount of support.
5. A written proposal describing your project which includes elements outlined in the "*EDGE Pilot Project Grant Application*" form
6. For projects that include an educational outreach component, a letter of support from EDGE CEC staff and a budget for up to \$10,000 in additional funding for the engagement component.
7. For projects that wish to be considered for the 'Technology Innovation Development' designated project, a letter of support from an existing EDGE Facility Core/Unit, indicating their interest in establishing the new technology as a future service provided by the Core.

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Submit these documents listed above via our online system [here](#) by February 14, 2020 at 5:00 PM PST. General questions about this RFA should be directed to Elizabeth Guzy (206-685-5333, eguzy@uw.edu).

SPECIFIC PROVISIONS:

1. An official budget ceiling has been established at \$40,000 for Direct Costs. Applications with budgets in excess of \$40,000 will not be considered, unless it is in the form of institutional matching funds. Indirect costs should not be included in the proposed budget. 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.
2. While the EDGE Center will review more than one proposal by a given Principal Investigator or Co-Principal Investigator during a single review period, the decision to fund more than one proposal will reside with the Final Review Committee (which consists of the EDGE Internal Advisory Committee). This decision will be 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). In general, multiple submissions by a single or group of investigators during any single review period is discouraged.
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. Please note that substantial savings may be realized by the use of Work Study students.
4. Notification of award will be sent by e-mail March 31, 2020. The budget year will be April 1, 2020 through March 31, 2021.
5. Projects may be funded for a **maximum of twelve months (April 1, 2020 to March 31, 2021)**. Extensions will not be allowed. The Principal Investigator is responsible for the proper administration of funds. Each award will be assigned a dedicated budget number (a sub-budget to the EDGE Parent budget). 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.
6. **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 allocation of funds. Approval is not required until a project has been funded.** For information on vertebrate animal use in research, please visit the UW Office of Animal Welfare web site at: <http://depts.washington.edu/oawhome/> For information on human subjects, please visit the UW Human Subjects Division website at: <http://www.washington.edu/research/hsd/>

REVIEW CRITERIA

REVIEW PROCESS:

Investigators who were invited to submit full applications will be notified of Review Committee results/rankings by e-mail by March 31, 2020. Please do not call the EDGE Center before this time. Applications will be internally triaged for responsiveness and compliance with the above requirements. Proposals undergo full scientific review and applicants with the most competitive proposals will be asked to make a short, oral presentation of their project proposal to the Center Internal Advisory Committee in late March 2020 (date TBD). Final funding recommendations are made by the Center's Internal Advisory Committee and awardees will be notified by March 31, 2020.

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 intent of the EDGE Center is 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 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. Proposals that support these investigators' research will be accorded special consideration. **(20%)**
4. The EDGE Center provides access to three facility cores: *Functional Genomics, Proteomics and Metabolomics 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 prior to submission, if substantial use of a Core is proposed. A list of Facility Core Directors is included at the end of these guidelines. **(20%)** *(For projects that are applying for the designated 'Technology Innovation Development' project, this criteria will be combined with Criteria #2, and will be evaluated as to the feasibility of incorporation of the new technology into an existing Facility Core / sub-unit).*
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. **(20%)**

REPORTING REQUIREMENTS

It is expected that an oral or poster presentation of progress on funded Pilot Projects will be made at the Annual EDGE Meeting (date and location for 2020 to be determined). We will also expect/strongly encourage Pilot Project recipients to attend this retreat in its entirety in order to maximize interactions with potential collaborators. A written progress report is required at the end of the project period so the results can be included in the EDGE Annual Progress Report for that year. The Pilot Projects awarded for this round will be required to submit a final report by May 1, 2021. **If publication(s) result, directly or indirectly, from award allocations, they must carry an acknowledgement of the source of such support from the UW NIEHS sponsored Center for Exposures, Diseases, Genomics, and Environment, Grant #: NIH/NIEHS P30ES007033. Please help us continue to support your research by citing our grant number in all publications we support.**

CONTACT INFORMATION

General questions about this RFA should be directed to Elizabeth Guzy (206-685-5333; eguzy@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, Joel Kaufman, joelk@uw.edu, 206-616-3501
Clinical & Translational Services Unit (CTSU) Director, Catherine Karr, ckarr@uw.edu, 206-616-4355
CTSU Manager, Karen Jansen, kjansen@uw.edu, 206-616-6525
Bioinformatics & Biostatistics Unit (BBU) Director, Katie Kerr, katiek@uw.edu, 206-543-2507
BBU Manager, Theo Bammler tbammler@uw.edu, 206-616-7378
Microphysiological Modeling of Toxic Responses Unit (MMTRU) Manager, Ed Kelly, edkelly@uw.edu

- **Functional Genomics, Proteomics and Metabolomics Facility Core (FGPM-FC)**

Co-Director (Interim), Terrance Kavanagh, tjkav@uw.edu, 206-685-8479
Co-Director of Metabolomics, Yvonne Lin, yvonlin@uw.edu, 206-685-8716
FGPMFC Manager, Theo Bammler, tbammler@uw.edu, 206-616-7378

- **Exposure Assessment, Biomarkers, and Environmental Sensing (EABES-FC)**

Director of Biomarkers, Chris Simpson, simpson1@uw.edu, 206-543-3222
Director of Environmental Sensing, Edmund Seto, eseto@uw.edu
EABESFC Manager, Theo Bammler, tbammler@uw.edu, 206-616-7378

- **Community Engagement Core (CEC)**

Director, Kelly Edwards, edwards@uw.edu, 206-999-7602 (cell)
CEC Co-Manager, Lisa Hayward, lhayward@uw.edu, 206-685-8244
CEC Co-Manager, BJ Cummings, bjcumngs@uw.edu, (206) 458-0284 (cell)