

Center for Environmental Health and Susceptibility (CEHS) Pilot Projects Program 2021-2022

GUIDELINES FOR PROPOSALS

LETTER OF INTENT: December 18, 2020

PROPOSAL DEADLINE: February 12, 2021

The UNC Center on Environmental Health and Susceptibility (CEHS) announces the availability of funding for pilot projects based on specifications shown below. The CEHS Pilot Projects Program accepts applications for two types of projects: 1) single investigator, with awards of up to five grants of up to \$25,000 each, 2) interdisciplinary team science, with awards of up to two grants of up to \$50,000 each. To add special emphasis on community engagement efforts, all funded pilots will be reviewed for community engagement potential. PIs will be contacted about possible community components by the Community Engagement Core (CEC). Investigators that propose a Community Engagement component to a single investigator or team science award can receive a supplement of up to \$10,000. In addition, the CEC and investigators proposing a community engaged or community based participatory research (CBPR) project are eligible to receive pilot project awards.

The theme of our Center is translating interdisciplinary research on environmental health threats to improve public health in North Carolina. CEHS facilitates research collaborations by funding university infrastructure to support scientific equipment, facilities, and other resources that can be shared among environmental health researchers. By pursuing shared research questions, CEHS can identify emerging issues that advance understanding about how pollutants and other environmental exposures affect public health and health inequities.

Our goals are:

- To disseminate knowledge and technology across interdisciplinary groups of researchers in environmental health.
- To foster outstanding translational research and outreach in three focus areas: Environmental Cancer, Cardiopulmonary Disease and Developmental Disease.
- To respond to emerging environmental threats facing North Carolinians and the nation.



ELIGIBILITY: Any member of the UNC Chapel Hill faculty, and/or a community partner of a UNC Chapel Hill faculty member, is eligible to apply. Non-members of CEHS must [apply for membership](#) prior to initiation of a funded project. PIs must have a faculty appointment (research, clinical or tenure track) or be partnered with the Community Engagement Core faculty lead (Dr. Kathleen Gray). Postdoctoral fellows are eligible to apply for Single Investigator awards if they have a collaborating CEHS center member as a Co-PI.

LETTER OF INTENT:

All applicants should complete the online [Letter of Intent](http://bit.do/CEHS-Letter-of-Intent) form by December 18, 2020. (<http://bit.do/CEHS-Letter-of-Intent>).

INTERDISCIPLINARY TEAM SCIENCE OR SINGLE INVESTIGATOR

Applicants must indicate whether they are applying as a single investigator, up to \$25,000 award, or as an interdisciplinary team, up to \$50,000. **Interdisciplinary Team science** applications must support exploration of innovative ideas from interdisciplinary research teams interested in the complex interactions between the environment and the pathogenesis of human disease. The interdisciplinary research team must include collaborations between basic, population and clinical scientists in investigations addressing the CEHS' mission (noted above).

CEHS RESEARCH FOCUS AREAS / NIEHS Priorities

ALL responsive applications will focus on one of the CEHS research focus areas: cardiopulmonary disease, developmental disease, or environmental cancer. Investigators are encouraged to identify critical windows of susceptibility, study combined exposures, develop new ways to measure personal environmental exposures over time, or focus on engaged scholarship or community outreach and education. Competitive applications will be relevant to the CEHS' mission, clearly addressing a topic that leads to a better understanding of the interactions between unintentional environmental exposures and the pathogenesis of human disease and will detail specific plans for future application for National Institutes of Environmental Health Sciences funding. Investigators should discuss which of the goals in the NIEHS strategic plan the pilot project would address. Information about the NIEHS strategic priorities can be found at <https://www.niehs.nih.gov/about/strategicplan/index.cfm>

USE OF HUMAN SUBJECTS AND ANIMALS

Selected projects using human or animal subjects are required to submit a copy of the IRB or IACUC approval letter covering the pilot. Even if your project is covered under an existing/active IRB, we need a letter of approval stating such. Human subject studies are also required to complete the NIH Human Subjects and Clinical Trials form.

GENERATING ADDITIONAL GRANT PROPOSALS

CEHS pilot grants are seed money. It is expected that ALL pilot projects will generate preliminary data that will lead to new grant proposals, especially proposals to the National Institute of Environmental Health Sciences. All successful applications will clearly articulate specific plans for extramural funding applications. Funding for CEHS pilot grants is made possible by support from the National Institute of Environmental Health Sciences (NIEHS): P30ES010126.

USE AND SUPPORT FROM CEHS CORE FACILITIES:

Applicants are **required** to obtain a letter of support and to use one or more of the CEHS Facility Cores or Sub-Cores (<http://sph.unc.edu/cehs/facility-cores/>). The CEHS Facility Cores include:

1. **Integrative Health Sciences Core (IHSFC)**- Director Jeannette Bensen, jeannette_bensen@med.unc.edu
2. **Molecular Analysis and Statistical Support Core(MASS)**- Co-Directors Kun Lu, kunlu@unc.edu (Molecular Analysis) and Haibo Zhou, zhou@bios.unc.edu (Biostatistics)
3. **Community Engagement Core** - Director Kathleen Gray, kmgray@email.unc.edu

All proposals will be reviewed and critiqued by our MASS Core's biostatistics and bioinformatics faculty. Thus, it is recommended that PIs consult with Dr. Haibo Zhou as they are developing the statistical methods and analysis components of their project.

FUNDING, ALLOWABLE ITEMS, AND BUDGET:

The budget and budget justification must be detailed and should follow the format of the current NIH Budget and Budget Justification pages. Funding will be permitted for personnel, supplies, and some types of equipment. For personnel, the appropriate cost for fringe benefits should be included – [UNC current fringe rates](#). Health insurance for permanent staff and Graduate Research Assistants (GRA) should also be included (current health insurance rates apply; please check with the business office of the corresponding department to confirm the appropriate rates in effect at the time of this submission). If a GRA is hired, the PI should decide if the tuition award cost will be included in the budget (and is consistent with the PI's departmental guidelines). The Center does not fund clinical trial research, so proposals involving clinical trials should not be submitted. For funded proposals, budget changes must be requested in writing. Any deviations from these budget guidelines require approval prior to submission. All projects must be completed by March 31, 2022. PI requests for carryover funds are discouraged.

APPLICATION FORMAT:

The PI should submit:

- Application Cover Page
- Abstract (180 words)
- Proposal - following an abbreviated R01/R21 NIH format (five pages)*
 - Aims
 - Impact and Significance (specifically in the area of public health in North Carolina)
 - Innovation
 - Scientific Approach
 - Next steps in future NIEHS funding
- References
- Budget
- Budget justification
- For pilot projects proposing multiple Principal Investigators, a 1 page MPI plan should be included that addresses who the administrative contact will be, and how disputes between investigators will be handled.
- Support letter from CEHS Facility Core
- PI and Co-investigator biosketches

Applications missing one or more of the above required components will be considered incomplete and will not be reviewed.

*Proposal text is limited to five pages, single spaced, using Arial 11-point font, and half-inch margins.

APPLICATION SUBMISSION:

Applicants should submit a single PDF file. The file should be sent as an email attachment to the CEHS Associate Director, Michael Sanderson, sanderson@unc.edu. Applications are due by February 12, 2021.

The CEHS Internal Advisory Committee will make final decisions and select proposals for funding in March 2021. Selected projects will be funded effective April 1, 2021.

APPLICATION REVIEW CRITERIA:

Each application will be part of a two-tier review system. The two-step review process will include:

1) Evaluation by external reviewers utilizing standard NIH review sheet and review criteria typically used for unsolicited R21 applications. Step 1 review criteria includes -

Scientific approach:

- Does the project meet standards for high quality research?
- Is the study design appropriate and are the methods scientifically rigorous?
- Have potential problems and alternative approaches been described?
- Can the project be accomplished within a 1 year time frame?

Innovation:

- Does this pilot seek to shift current research approaches or address a novel theoretical concept?
- Are methods or study design features unique or novel?

Impact/Significance:

- Is the environmental problem identified important and address a critical barrier to progress in environmental health sciences?
- Will the proposed scientific project advance scientific knowledge, or technical capabilities?
- Is the rationale and scientific premise for the proposed pilot clearly described?

For Community Engagement or CBPR Pilot Projects: In addition, for pilot projects submitted by the CEC or investigators who are proposing community-engaged research or community-based participatory research, the following review criteria will apply:

- Is there active involvement of at least one community-based organization?
- Is the rationale for selection of the target population and documentation of the environmental health needs and risk factors provided?

- Is there evidence of access to, and interaction with, community members and community leaders in the development of the pilot is established?
- Is there a demonstration of effective communication channels between researchers and community members – including plans for useful and practical dissemination of project activities and findings?
- Is the evaluation plan for the proposed work adequate?

Overall score:

- Considering all these factors as well as the likelihood that this project will progress to NIEHS funding (approach, innovation, impact), rate the project overall.

2) Evaluation by the CEHS Internal Advisory Committee for relevance to the Center’s mission and priorities. Step 2 criteria includes –

Principal Investigator:

- The degree to which the PI (UNC faculty) is a junior researcher or inexperienced in environmental exposure research

Future Funding:

- The degree to which the proposal will likely be developed into a full NIEHS application within the next 2-3 years.

CEHS Mission:

- The degree to which the proposal utilizes one or more CEHS facility cores
- The degree to which the proposal demonstrates an ability to improve public health **in North Carolina**

CEHS PARTNERS – OTHER RESOURCES AND OPPORTUNITIES

The Center for Environmental Health and Susceptibility has several partnerships across the UNC campus interested in sharing resources and possibly matching CEHS research funds. While not required, applicants may benefit from these resources:

- The following Center partnership is encouraged for CEHS applicants focused of **Developmental Disease investigation**
 - Applicants with projects focused on developmental disease are encouraged to consider collaboration with the [UNC Intellectual and Developmental Disabilities Research Center \(IDDRC\)](#). IDDRC is interested in team science and projects relevant to understanding the pathogenesis and treatment of neurodevelopmental disorders. This RFA encourages applications from UNC IDDRC and CEHS investigators, with projects that focus on this common area of investigation and develop further links across these two centers. IDDRC’s major research themes include 1) autism and related syndromes, 2) Early development of brain and behavior, and 3) early detection and intervention, including psychopharmacology, early education/behavioral programs, and preclinical, high-throughput drug discovery and gene therapy initiatives.
- The following three programs are interested **in grant matching** opportunities:
 - [UNC TraCS](#) - Proposals related to translation of research to clinical practice
 - [NC Policy Collaboratory](#) – Proposals addressing North Carolina Environmental issues
 - [UNC Lineberger Cancer Center](#) – Proposals addressing cancer research

Please review the eligibility requirements for those listed below to see if your application is eligible.

CEHS CONTACTS:

For more information on programmatic fit and funding priorities for the CEHS, please contact Michael Sanderson, CEHS Associate Director at sanderson@unc.edu



Center for Environmental Health and Susceptibility (CEHS)

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APPLICATION COVER PAGE

Project type <i>(circle one)</i>	Single Investigator or Team Science
Primary Focus Area <i>(circle one)</i>	Cardiopulmonary disease, Developmental disease, or Environmental cancer

Project Title	
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Principal Investigator <i>(Last name, First name)</i>	
Title/Academic Rank	
Department/School	
E-mail address	
Telephone number	

Co-Investigator <i>(Last name, First name)</i>	
Title/Academic Rank	
Department/School	
E-mail address	

Are Human Subjects Involved?	Yes or No <i>(circle one)</i>
Are Vertebrate Animals Used?	Yes or No <i>(circle one)</i>

Names and Departments of Co-Investigators - <i>(Last name, First name, Department)</i>

Please describe interdisciplinary collaborations included in this application <i>(required for team science applications)</i>

Please identify three potential reviewers: <i>(Last name, first name, agency, email address, phone number)</i>