Competition Details

Concept Letters for EHSC 2021-2022 Pilot Projects

Dates

| Internal Submission Deadline: | Monday, November 2, 2020 at 5:00 PM |

Details

| Administrator(s): | Natalie Nardone (Owner) |
| Category: | Pre-Proposal |
| Award Cycle: | 2021-2022 |

Description

The NIEHS funded UC Davis EHSC invites Applications for pilot projects to be conducted during the 2021/2022 grant year. The Pilot Project Program supports short (1-2yr) projects to provide preliminary data for extramural grant submissions in the area of environmental health sciences (EHS) research. Successful applications will demonstrate a strong likelihood of leading to significant NIEHS funding in the short term. Applications of interest to our funding partners (Institute for Transportation Studies, California National Primate Research Center, Comprehensive Cancer Center, Center for Molecular and Genomic Imaging, SVM Clinician Scientists working on EHS, the MIND Institute, and the Western Center for Agricultural Health and Safety) are especially desirable.

Eligibility: All UC Davis investigators who are eligible to apply as a Principal Investigator for NIH grants. Prior applicants not funded are encouraged to submit revised applications.

Review Criteria: The review process emphasizes relevance to the focus of the Center and NIEHS, responsiveness to priority areas identified in the request for proposals, community engagement, and the potential for translation to public health policy/initiatives in addition to standard NIH review criteria.

This is a call for concept letter submissions, which include a proposal abstract, proposal details and submission of an NIH biosketch. See the RFP for more details.
UC Davis Environmental Health Sciences Center (EHSC)
Annual Request for Pilot Project Applications

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**Application Procedure**

1) **Concept Letters** are required and **are due by 5 PM November 2**. Applicants who obtain core assistance with their proposals increase their likelihood of success. You can request core assistance when you submit your Concept Letter via InfoReady.

2) Concept Letters are reviewed for relevance to EHSC mission. Concept letters will be approved, and applicants will be contacted to submit a full proposal.

3) Full proposals from invited applicants should be submitted via InfoReady. **The deadline for full proposals is 5 PM December 4**. Each PI may submit only one proposal.

4) Requirements for full proposals include specific aims, a research plan, budgets, NIH Biosketches, and a Human Subjects section (if applicable). Details on requirements are on page 3.

5) Full Proposals undergo full scientific review and the most competitive proposals will make a short presentation of their research ideas in an oral format **Jan 28**. Please keep that date available between **11:30 and 2:30**.

**Priority Areas for this RFP:**

- **Intervention Research, Community Engagement and Public Policy** – research to inform policies and to benefit environmental justice communities and reduce their exposure risk; work closely with vulnerable communities in California, including those impacted by heavy economic and pollution burdens in the Central Valley to define exposures and/or understand health impacts; investigate effectiveness of interventions related to wildfire smoke and heat stress; define how traffic and land use policies impact human health; measure exposures in communities and relate this to health impacts.

- **Wildfires and Health**- Exploration of sentinel animal species exposed to wildfires to understand human exposures and outcomes; follow-up of wildfire survivor cohorts; investigations of how people obtain information and whether they modify their behaviors in response to public advisories; investigation of health impacts of wildfire PM and ash.

- **Complex Exposures** – studies of cumulative exposures from complex mixtures, which may include chemicals, other pollutants or environmental factors such as heat, rainfall, vehicle exhaust, agricultural runoff, ash from burn sites; consider routes of exposure, susceptible time periods or life stages, nutrition as a modifier, pollutant exposure impacts on COVID-19 and exposomic approaches.
2020-2021 Pilot Project awards are for three types of awards:

Type 1- one-year project awards for $20,000 to $30,000 direct costs, including some community outreach and engagement (required).

Type 2 two-year awards for up to $30,000/year direct ($60,000 total) with community outreach and engagement throughout the research process including project design, data collection, interpretation of results and dissemination. At least $5,000 per year must be allocated to community partners. Must include significant community engagement.

Type 3 one year awards for up to $50,000 direct will compellingly lay the foundation for significantly expanding an established research program through major new extramural funding. These awards are targeted to mid-career or established investigators, either currently in or new to EHS, and must include a community engagement component.

The EHSC funds research relevant to human health, translational science (basic or applied) and development of resources, methods, or technology that will benefit exposure assessment or disaster response as well as projects likely to inform science-based policy or advocacy efforts. The EHSC focuses on California’s Central Valley and projects relevant to chemical exposures or climate change consequences that impact human health. Research and policy priorities identified by community stakeholders (CSTAC) are attached.

RESOURCES TO HELP APPLICANTS PREPARE COMPETITIVE APPLICATIONS:

The EHSC provides applicants with the opportunity to consult with senior center investigators in the preparation of pilot project proposals. Consultation is provided through a Design Clinic and or individual consultation with core directors or members. Many applicants find this service valuable, however participation is not required for submission to the pilot projects program. To learn more about the core’s expertise and services and how engaging with the core might strengthen your proposal, you can indicate in the online Concept Letter which cores may be needed to help you. Descriptions of EHSC cores and support are listed below:

Career Development Support: Early stage Investigators (ESI - within 10 yrs of terminal degree) or Investigators New to EHS can request assignment of an EHS faculty to assist in preparation of a competitive proposal. The Center offers Aims review and training programs for associated ESI investigators.

Community Engagement Core: Community engagement plans are required and are scored for every application, regardless of application type. The Community Stakeholders Advisory Committee (CSTAC) has a list of priority environmental health concerns and would like to engage UCD scientists who have relevant research interests/expertise (see below for the list of priorities and stakeholder contacts). Please visit the CEC page on the EHSC website for more information. For questions about the CEC’s services, please contact CEC Program Manager, Aubrey Thompson (abthompson@ucdavis.edu).

Exposure Core: If you are planning to measure any exposures in the environment, are planning on exposing any animals, or need more information regarding selection of chemicals or measurement of chemicals, the exposure core may be able to help you.

Integrated Health Sciences and Facilities Core (IHSFC): If you need help with statistics or are new to animal or human subject research, or you want to access novel animal models or archived biospecimens, our IHSFC core may be able to help you.

Additional Information: If selected for funding, grantees must acknowledge the Center grant in work resulting from Center support, provide progress reports and updates. If human or animal subjects are included, no award will be issued until IRB or IACUC approval has been received and the NIEHS has authorized allocation of funds. Please review the application instructions carefully to ensure your human or animal research is described according to NIH requirements and be prepared to submit paperwork for approval should you be selected for funding. Awards are dependent on timely awarding of NIEHS EHS funding.
Applications will be internally triaged for responsiveness and compliance with the above requirements. Final funding recommendations are made by the Center’s Funding Council.

The scientific review includes evaluation of overall promise, significance, innovation, community engagement, investigator, approach and likelihood to lead to a funded NIEHS grant application.

NIEHS strategic plan: https://www.niehs.nih.gov/about/strategicplan/index.cfm

Links to NIEHS recent grant RFA/PA: https://www.niehs.nih.gov/funding/grants/announcements/index.cfm

After reading the applicant instructions and stakeholder research priorities on the following pages, SUBMIT CONCEPT LETTERS ONLINE AT https://ucdavis.infoready4.com/#competitionDetail/1824822

Questions? Contact Natalie Nardone nnardone@ucdavis.edu or Laura Van Winkle lblvanwinkle@ucdavis.edu (530-754-7547)
Full Proposal Instructions

Full proposals may be submitted by investigators who submitted a Concept Letter that was approved by the Program Directors. **The deadline is December 4, 2020 at 5 PM.**

I. Components and submission of the application packet:
   
a. Application packets are submitting using InfoReady (https://ucdavis.infoready4.com/#)
   
b. Select the EHSC Pilot Projects Program competition in the InfoReady system and enter the information requested. In addition to the information you enter in the available fields in InfoReady, you will be required to upload the following documents:
   
i. Specific Aims
   
ii. Research Plan
   
iii. Biosketches
   
iv. Budget (required) & Subaward budget (if applicable)
   
v. Human Subjects Section (if applicable)

II. Formatting Requirements:
   
a. Use Arial 11 point font.
   
b. Biosketches for the PI and any co-investigators should be submitted using the current NIH biosketch form and instructions. Submit all biosketches as a single PDF
   
c. Specific Aims are on a separate page from the Research Plan. The Research Plan is 3 pages. An additional half page is allowed for resubmissions. References, human subjects and vertebrate animals sections are not counted in the 3-page limit. The Specific Aims and Research Plan should be combined and uploaded as a single PDF.
   
d. Budgets must be prepared using the budget template provided. Submit the subaward budget if your proposal involves a community partner.

III. Human Subjects – For any project involving human subjects, please refer to the NIH instructions attached as an appendix to this RFA and follow the format outlined in Section 3 – Protection and Monitoring Plans. If you have any questions, please contact EHSC Program Manager, Natalie Nardone (nlnardone@ucdavis.edu)
IV. Vertebrate Animals - If live vertebrate animals are to be used, applicants must address the following criteria:

1. Description of Procedures (Vertebrate Animals Section) Provide a concise description of the proposed procedures to be used that involve live vertebrate animals. Identify the species, strains, ages, sex, and total number of animals by species to be used. If dogs or cats are proposed, provide the source of the animals.

2. Justifications (Vertebrate Animals Section) Provide justification that the species are appropriate for the proposed research. Explain why the research goals cannot be accomplished using an alternative model (e.g., computational, human, invertebrate, in vitro).

3. Minimization of Pain and Distress (Vertebrate Animals Section) Describe the interventions to minimize discomfort, distress, pain, and injury. These include analgesia, anesthesia, sedation, palliative care, and humane endpoints.

4. Method of Euthanasia: Provide a justification for methods of euthanasia that are not consistent with the American Veterinary Medical Association (AVMA) Guidelines for the Euthanasia of Animals.
Research-to-Policy Priorities for 2020 EHSC Pilots from the EHSC Community Stakeholder Advisory Committee (CSTAC)

The Environmental Health Sciences Center works with a dedicated group of non-profit organizations and state agency staff we call our Community Stakeholder Advisory Committee (CSTAC). The CSTAC works with the EHSC to guide our research priorities, connect researchers with communities experiencing some of the country’s worst environmental pollution, and participate as research collaborators.

The following is a list of policy-relevant priority areas that our CSTAC organizations and their networks are focused on now, along with examples of opportunities for research that contributes to these priorities. Many of these have potential as EHSC pilot projects, and we encourage pilot applicants to consider these topics for developing a pilot proposal. Please connect with the EHSC’s Community Engagement Core to learn more about how you can collaborate with Community-based organizations around these topic areas. Contact Aubrey Thompson at abthompson@ucdavis.edu.

If you are interested in discussing ideas for a pilot proposal with members of our Community Stakeholder Advisory Committee or would like to learn more about community research priorities, you are invited to attend a meeting scheduled for Oct 19, 11am-2pm hosted by our Community Engagement Core. Please contact Aubrey Thompson at abthompson@ucdavis.edu for more information.

### Pesticide Regulation

**Policy priorities:**

Right-to-know regulations for pesticides: establishing required notification of pesticide spraying near communities and sensitive locations within communities. Rulemaking for 1,3-dichloropropene (1,3-D, or Telone): The Department of Pesticide Regulations is working on a new process to regulate this heavily used pesticide following a court judgement to do so. **Californians for Pesticide Reform** and other organizations are focused on influencing these regulations to protect the health of workers and nearby communities.

**Monitoring alternatives to Chlorpyrifos:** Because of the recent ban on Chlorpyrifos, Department of Pesticide Regulations will release a list of alternative pesticides. Californians for Pesticide Reform are monitoring these proposed alternatives for pesticides of concern.

**Potential Research Contributions:**

Assessing and Communicating about alternatives to Chlorpyrifos
As the state of California releases a list of alternatives to chlorpyrifos for agricultural use, more information on the known health impacts and existing research on those alternative pesticides would be a useful tool for advocacy organizations.
**Evaluating Right-to-know policies in place:** As notification of pesticide spraying is tested out in a few communities, organizations want to know about the effectiveness and potential health impact of these notifications.

**Right-to-Know Confirmation:** Developing a testimony or written justification of the need for Notification of pesticide application for the purpose of scientific research.

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### Air Quality Monitoring and regulation

**Policy Priorities:**

**Air Quality Notifications:** CSTAC Organizations are advocating for culturally-appropriate and timely notices about air quality and recommendations for air quality safety.

**AB 345 Establishment of Oil and Gas Setbacks:** CSTAC organizations are supporting legislation to establish 2500 foot setbacks around oil and gas wells in California. Continued research is needed on the local and regional human health impacts of oil and gas operations in various settings.

**AB 617 Community Air Protection Program:** Many community organizations in the CSTAC are closely involved with AB 617 and continue to organize communities to participate in local air monitoring and advocate for improvements to the regulation. Major issues the organizations are focused on are connecting air quality regulations with land use planning and land use authority and determining human exposure to local sources of toxic and criteria pollutants and precursors.

**Potential Research Contributions:**

**Air quality notifications:** Research can better clarify how much and for how long developing bodies and sensitive populations can be exposed to various criteria and toxic pollutants before experiencing short and/or long term health consequences. New research or analysis of existing research can help inform the development of these notifications, along with appropriate steps to protect oneself and one’s family.

**Adequacy of setback distance:**
Regarding setbacks of oil and gas drilling, community organizations need to know what a safe distance is from oil and gas operations in order to protect the health of residents.

**Quantifying Community Health Impacts of Climate Action and Air Quality Regulation:** Applied research or data quantification of local and regional health impacts (benefits and unintended harms) associated with climate actions and policies and air quality mitigation efforts, to support or inform relevant work being done by local health departments and other community health partners.
## Water Quality and Quantity

### Policy Priorities:

**SB 200 Safe and Affordable Drinking Water Fund:** With the recent passage of SB 200, advocacy organizations are now working to ensure the fund reaches communities most in need. Environmental health research can help support the fund’s goals.

**SB 971 Drought Resilient Communities:** CSTAC organizations are supporting legislation to better coordinate drought preparedness for small and rural communities.

### Potential Research Contributions:

**Drought Resilience:** Research can bring forward new ideas and technology that might better prepare and sustain rural communities during future drought events, including how to protect water quality.

## Hazardous Waste Disposal

### Policy Priorities:

**Hazardous Waste Disposal:** Residents of Kettleman City and other communities impacted by hazardous waste facilities are working to influence California's new permitting framework for hazardous waste disposal. They are focused on issues of setbacks, violations, and community engagement within the permitting process.

### Improving CalEnviroScreen

Unlike the other policy priorities on this list, this priority is technical in nature. However, CalEnviroScreen is used as a tool amongst agencies and community organizations to determine funding and regulatory rule-making, so it has direct impact on environmental health policy.

CalEnviroScreen is a tool that is becoming more widely used by state and local agencies, but there is a need to improve its accuracy and utility. Needed improvements include adding additional information beyond the current set of indicators (e.g. socioeconomic status, pollution), ensuring data utilized is the most current, and assessing the impacts of different numbers of indicators in each category that influence their individual weight on the final cumulative impact score. In addition, there are needed improvements in how a community’s environmental hazard "score" is calculated to improve how budgeting, land use and permitting decisions are made using information from CalEnviroScreen.
Needed Research Methods

In addition to advising on specific topical priorities, our CSTAC has also advised us on types of research projects that can be most useful for them to use to build evidence-based cases for health-protective policies.

Health Risk Assessments

The key question the public have around many environmental pollutants is, “Should I be concerned about this?” Environmental Health Risk Assessment is focused around the methods used to evaluate exposure, predict health risks and outcomes, and inform decision-making to control or otherwise respond to exposures to environmental hazards. The work requires multidisciplinary teams to take on the assessments. Many of the topics we talked about today could be ripe for these health risk assessments.

True Cost Accounting

True Cost accounting is often used in sustainable agriculture to talk about the externalities associated with growing food. Our CSTAC has really emphasized the importance of incorporating health economics and the true cost of environmental pollution into research they partner on. The CSTAC emphasized the importance of incorporating health economics and the true cost of environmental pollution into research they partner on. They specifically asked the Community Engagement Core to facilitate relationships with more UC Davis health economists.

Regulatory Watchdogs

Following the implementation of environmental regulations, community-based organizations see a great need in knowing whether those regulations are being followed/enforced, and whether they are having an impact on environmental quality and ultimately, human health.