2018-2020 Human Health & the Environment Seed Grant Program
Request for Proposals

Introduction

Proposals are invited for funding of pilot research projects exhibiting innovative approaches to significant problems related to human health and the environment. This request for proposals is being sponsored by the Penn State College of Medicine, Penn State Cancer Institute (PSCI), Social Science Research Institute (SSRI), Clinical and Translational Science Institute (CTSI), Materials Research Institute (MRI), Institute for CyberScience (ICS), and Institutes of Energy and the Environment (IEE).

Proposals **must** meet the priorities/missions of the sponsoring Institutes and/or College of Medicine. In addition, proposals **must** encompass at least two dimensions of the environment, including biological, social, built, physical, and/or natural.

We seek applications aimed at:
- Building collaborations involving new interdisciplinary research teams whose research is aimed at attracting external funding, particularly from the National Institutes of Health (NIH); cross-college, campus (including Commonwealth Campuses), and/or cross-Institute teams will be prioritized as will collaborations that involve junior and senior faculty (associate professors can serve in either role depending on their experiences and the goals of the mentoring activities);
- Novel research, including high-risk, high-reward and transformative, proof of concept projects that provide preliminary data necessary for external funding; and
- Developing and/or applying novel methods, devices, and/or analytics and testing potential solutions to adverse effects of the environment on health.

Overall, we are interested in a range of topics, including, but not limited to:
- Environment-cancer linkages, particularly within the Penn State Cancer Institute's 27-county catchment area in central Pennsylvania;
- Environmental impacts to human health from factors including but not limited to indoor/outdoor air, land, water, home/neighborhood/work/school, noise, light, population density, stress and trauma;
- Health in rural communities;
- The use of sensors/devices to capture environmental influences on human health;
- The role of human behavior in health-relevant environmental exposures;
- Immigration/migration destinations and health;
- Smart and connected communities and health;
- Food-energy-water nexus and health; or
- Advanced computation- and data-enabled research, particularly with the integration of human health and environmental data sets.

A list of projects funded through the 2017 Human Health and Environment RFA can be found at: http://news.psu.edu/story/476699/2017/08/04/academics/institutes-energy-and-environment-seed-grant-recipients-announced. **Note that priority will be given to proposals from faculty who were not funded in the last round of funding.**

Eligibility

All Penn State faculty members (tenured, tenure track, fixed term, and clinicians) who hold an appointment of half-time or more at any Penn State location are eligible to submit a seed grant proposal as a Principal Investigator (PI) of an interdisciplinary research team. Single investigator proposals will not be considered. Researchers, students and staff from Penn State may receive funding as collaborators as indicated under Funding Availability below. Pennsylvania state agencies, federal agencies, and private industry may collaborate in seed grant proposals but would not be eligible for funding. Investigators may be the lead or co-PI on only one proposal; however, investigators may also serve as a collaborator on up to two proposals.

Timeline for pre-proposals and proposals

December 15, 2017	Call for pre-proposals released
January 12, 2018 (3-5 PM)	Meet & greet + open house, 110 Henderson (please register by **January 8** as space is limited and we need a head count for food)
January 18 (1 PM)	Webinar for proposal process
February 15	Pre-proposals due no later than 5:00 pm
March 15	PIs notified of result; full proposals requested
April 13	Full proposals due no later than 5:00 pm
May 15	Seed grant funding decisions announced
July 1, 2018	Funding available (projects must be completed by June 30, 2020)

Funding Availability

At least $400,000 of funding is available through this seed grant solicitation. Costs will generally range from $25,000-$50,000 for each project. Funding is not available for individual researchers. Grant funds will be available by July 1, 2018. A timeline for project completion will be required, and funds must be expended by June 30, 2020.

Funds can be used to support research expenses such as:
- Graduate and undergraduate student support (including stipends/fringe and tuition)
- Up to $5,000/proposal for salary/fringe benefits of fixed term faculty and staff members who will contribute to the project (other than tenured/tenure track faculty)
- Instrumentation fees and sample analysis to collect preliminary data
- Equipment, supplies, technical equipment. Use of shared facilities is encouraged; a list of available facilities is online at http://ctsi.psu.edu/research-resources/eagle-i/.
- Participant payments and expenses related to the use of human subjects
- Travel associated with the conduct or reporting of seed grant research
- Hosting a research planning meeting for an interdisciplinary team
- Funding for data conversion technology and wages to support data conversion
- Up to $2,000 for publication costs in a peer reviewed journal in your field

Funding will not be provided for:
- Summer or supplemental salary support for tenured/tenure track faculty
- Postdoc salary
- Travel support to attend conferences
- Funding for non-Penn State collaborators (including, but not limited to, travel)

Submission Instructions

All pre-proposals must be submitted electronically at
https://psu.infoready4.com/#competitionDetail/1766986 or by following the link at
http://www.iee.psu.edu/health-environment-seed-grant-2018 no later than **5:00 pm on February 15, 2018**. *Please save and submit all materials as a single .pdf file.* The pre-proposal must include the following.

<u>Cover page(s)</u>
1. Title of project

2. List of key terms and most likely relevant units, specifically from the following:
   o Penn State College of Medicine
   o The Penn State Cancer Institute
   o The Social Science Research Institute
   o The Clinical and Translational Science Institute
   o The Materials Research Institute
   o The Institute for CyberScience
   o The Institutes of Energy and the Environment

3. List of PI/Co-PIs and collaborators
   o For each person, include department, college, and relevant institute(s) (if any)
   o Address the nature of interdisciplinary collaboration, including each person's role
   o Priority will be given to new collaborations; cross college, campus and/or institute collaborations; and junior-senior faculty teams.

<u>Description of project (limited to one page)</u>
4. Specific aims, significance, innovation, approach and overall impact. <u>Note</u>: Make sure that people not in your direct areas of expertise can also understand your proposal.

<u>Appendix:</u>
5. Short description of research environment and funding request, including brief budget justification.

6. Short statement of how seed funding will be leveraged to develop a competitive proposal for external funding (such as by referencing specific program calls and due dates; agency mission statements, etc.). Details of discussions with a funding agency will be a focus of review for full proposals, so make appointments now.

7. NIH[1] or NSF biosketch ($\leq$ 5 pages) for each collaborator.

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[1] For NIH biosketches, see https://grants.nih.gov/grants/forms/biosketch.htm

Review Criteria (based on National Institutes of Health (NIH) system)
Pre-proposal and Proposal reviews will use the following criteria. *The pre-proposal review will focus on the first four criteria and overall impact:*

1. <u>Significance:</u> How will the project advance understanding or advance solutions to at least **two** of the following environmental dimensions (biological, social, built, physical, and/or natural) on an important human health problem? This section should be written in a way that can be understood by a broad audience.
   - Proposals must address at least two environmental dimensions (yes/no)

   - Explain the significance of the Aims for promoting human health and/or preventing disease, including developing and/or applying novel methods, devices, and analytics and testing potential solutions;

   - Explain how study of the targeted components of at least two of the environmental and/or novel methods for their study and/or approaches to solutions will advance solutions or transform understanding of environmental impacts on human health.

2. <u>Investigators:</u> Do the PI/Co-PIs and collaborators have the expertise needed to conduct the project? Do the investigators capitalize on differing disciplinary perspectives to provide a truly interdisciplinary approach? Are there mentorship opportunities for junior scholars? Does the team come from different colleges/campuses/institutes?

3. <u>Innovation:</u> Does the project challenge or shift current research or practice paradigms, advance novel concepts, approaches/methods, instrumentation, or interventions or apply these in novel ways?

4. <u>Approach:</u> Are the procedures and analysis plans clearly described, justified and appropriate to accomplish the specific aims? Will the project provide the foundation for a competitive proposal for external funding and dissemination? What is the likelihood of successful project completion?

5. <u>Research Environment:</u> This criterion refers to the appropriateness of the resources, facilities, equipment for the needs of the proposed project, including the following questions. Are the resources, facilities & equipment described reasonable for the proposed work? For multiple sites, are the resources at all sites appropriate? Is the budget request appropriate for supporting the proposed research?

6. <u>Overall Impact:</u> What is the likelihood that the research will exert a sustained, powerful influence on the field(s)? The Overall Impact rating is influenced by all 5 criteria (Significance, Investigators, Innovation, Approach, Research Environment), weighted by the reviewer's judgment. In addition, *full proposals* will be evaluated in terms of rigor and reproducibility in terms of NIH guidelines.[2]

Pre-proposals will be evaluated by reviewers with subject matter expertise in the general areas. However, you should recognize that your team members are the experts; successful proposals will convey the significance of the proposal to a general audience. Upon review, proposals will be categorized as "Request Proposal" or "Do Not Request Proposal." All submissions will receive reviewer feedback. Those invited to submit a full proposal (5 pages plus supporting documents) will receive additional instructions.

Additional Information
Please direct any questions regarding the proposal process to the relevant Institute Director(s). General questions can be sent to info@ssri.psu.edu.

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[2] NIH Rigor and Reproducibility: https://www.nih.gov/research-training/rigor-reproducibility