

Seed Funding Program to Promote Sustainability Research Using Campus as a Living Laboratory

Institute for Sustainability, Energy, and Environment (iSEE)

Background

Transforming university campuses into “living laboratories” is a timely, important path for applying sustainability research and education toward enhancing campus sustainability. Using a living lab enables students, faculty, and staff to work together to use campus and the surrounding community as a testbed to pilot promising new solutions to real-world challenges. The University of Illinois Urbana-Champaign has committed to promoting campus sustainability via hundreds of projects on campus under the Illinois Climate Action Plan (iCAP) (<https://icap.sustainability.illinois.edu>). More than 700 iCAP projects — categorized into energy, water, transportation, building and space, procurement and waste reduction, education, extension, and general research — are online for public assessment. These projects, many based on unique facilities/programs on campus, have great value for developing research and education projects targeting external resources; however, the realization of many campus sustainability objectives will need research support. Recently, iSEE has mapped the relevance of iCAP projects to a number of national research programs, which allows campus researchers to identify existing and/or ongoing efforts that can be incorporated into their proposal development for a particular national program (<https://icap.sustainability.illinois.edu/themes/research>). A report describing the iCAP projects and the links between those projects to major national research programs can be found at the following link: [Overviews of Campus Sustainability Projects at Illinois: Opportunities for Education and Research.](#)

The purpose of this *seed funding program* is to encourage faculty to use campus sustainability projects as a testbed for research and education and submit proposals for external funding of at least \$1M. Nationwide, some universities already have one or more funding sources that are specifically available to provide seed funding for faculty to conduct research projects with the focus of sustainability on campus and/or in the community. These programs regularly call for proposals, provide mentoring and consultation resources to applicants, and encourage involving more academics in campus sustainability projects. See a report prepared by iSEE, titled “[Review of Campus Sustainability Programs: Opportunities for Education and Research.](#)” For examples at Harvard University, go to [Campus Sustainability Innovation Fund](#) for [Living Lab](#); at Ohio State University go to [Campus as a Living Laboratory \(CALL\)](#) and [Campus as a Testbed](#); at University of Minnesota go to [Living Lab](#); and at University of Washington go to [Campus Sustainability Fund](#).

Funding Opportunities

Launched in February 2018, iSEE’s Living Lab program is designed to link campus sustainability targets to national and global sustainability, energy, and environment challenges. Two times a year, iSEE calls for proposals to provide quick seed money for promising faculty-led teams that will engage with interdisciplinary sustainability issues on

campus or in neighborhood communities in their proposal development. Specifically, iSEE wants to leverage this seed money to attract external funds for research relevant to achieve [Illinois Climate Action Plan \(iCAP\)](#) objectives.

Requirements for Seed Funding Projects

Teams on campus who wish to develop a research proposal for external funding are required to follow these criteria:

- The research in a proposal for external funding must be tied to existing or ongoing campus sustainability project(s) <https://icap.sustainability.illinois.edu>, and/or use campus (or surrounding communities) facilities/programs (<https://icap.sustainability.illinois.edu/collections/living-lab-facilities-programs>) as a testbed (case study). In general, the proposed project should be relevant to one of the iCAP objectives/strategies, as stated in 2015 iCAP: <http://sustainability.illinois.edu/wp-content/uploads/2016/12/2015iCAPweb.pdf>.
- The research team should aim to apply for external funding of not less than **\$1M**.
- The proposal team must include at least two PIs from at least two different departments.
- The proposal for external funding source must be submitted via iSEE

Proposal Guidelines

The proposal should include a front page with project title, principal and co-investigator information (names, affiliations, and email addresses), and a 150-word abstract. Additionally, the narrative of the proposal should be a maximum of three single-spaced pages (minimum 11 pt. font; 1-inch margins) not including references, figures, and tables. The narrative should address how the criteria listed above are met, as well as a description of the research for the external proposal and how the seed funding will be used. If the external funding proposal involves collaboration with campus Facilities & Services (F&S) or other administrative staff, the narrative must include an explanation of this collaboration. It also should describe the problem the team is trying to solve, the potential impact of solving it, the proposed approach for the seed-funded project, and most importantly specific plans for seeking external funding, including names of agencies and relevant programs likely to issue calls for proposals in 2022. Any previous efforts for seeking external funding for this research should be described.

Additional required documents include (i) a three-page CV that includes five most relevant recent publications and five other publications; (ii) a summary of all internal and external current and pending research funding for the principal investigator (PI) and co-investigators; and (iii) an itemized budget of not more than \$30K. NSF- or NIH-style documents can be used for the CV and current and pending funding.

A list of national programs and the links between each of the programs and selected iCAP project are provided in the appendix. However, the external funding sources are not limited to those in the list.

The LOI is limited to three pages and must use the attached template. In general, the LOI must address how the criteria listed above are met, as well as a description of the research for the external proposal and how the seed funding will be used. If the external funding proposal involves collaboration with campus Facilities & Services (F&S) or other administrative staff, the LOI must include an explanation of this collaboration. If the LOI is selected and the expertise and time required in the proposal for external funding are beyond the regular job responsibilities of the related administrative staff, an agreed-upon budget must be reached between the proposal team and the administrative unit (iSEE will assist in the agreement preparation as needed).

The LOI must include a budget not over **\$30K** and a statement of how the funding will be used to prepare the external funding proposal.

Any questions about the seed funding should be sent to the attention of iSEE Managing Director Jenny Kokini via email at jkokini@illinois.edu.

Procedures

The proposal materials should be submitted as an email attachment to Amy Rosenbery (email: husted@illinois.edu) with a copy to iSEE Associate Director Ximing Cai (email: xmcai@illinois.edu).


A panel formed by iSEE will review the proposal. Seeding fund will be provided to selected teams based on the review. Comments and suggestions from the panel will go along with the review.

General Review Criteria

- Scholarly merit, innovation, and substantive interdisciplinarity of the proposed research;
- The potential to impact one or more of the iCAP objectives, and impact Illinois leadership in campus sustainability in general;
- Need for collaboration and how well the team is suited to tackle the problem at hand;
- Potential impact of the proposed research initiative on the field of sustainability;
- Potential to develop a large-scale (>\$1M), externally funded research program;
- Productivity of the applicants and quality of their scholarship;
- Comprehensive plan to pursue external funding with identified opportunities which the applicants will pursue; and
- The fit to at least one of [iSEE's five research themes](#) and interest in a longer-term engagement with iSEE to develop research programs in this area.



Appendix

National research programs and links between the programs and iCAP projects







(Click on  to access the links to iCAP projects)

USDA

[Agriculture and Food Research Initiative \(AFRI\)](#)




1. [Foundational Program](#) 
2. [Childhood Obesity Prevention Challenge Area](#) 
3. [Food Safety Challenge Area](#) 
4. [Resilient Agroecosystems in a Changing Climate Challenge Area](#) 
5. [Sustainable Bioenergy and Bioproducts Challenge Area](#) 
6. [Water for Food Production Systems Challenge Area](#) 
7. [Community Food Projects](#) 
8. [Biomass Research and Development Initiative](#) 

NSF

9. [Innovation in Food energy and water systems \(INFEWS\)](#) 
10. [Smart and Connected Communities](#) 
11. [Prediction of and Resilience against Extreme Events PREEVENTS](#) 
12. [Critical Resilient Interdependent Infrastructure Systems and Processes \(CRISP\)](#) 
13. [Dynamics of Coupled Natural and Human Systems \(CNH\)](#) 
14. [Research Traineeship \(NRT\) Program](#) 

DOE

[SUNSHOT Initiative](#)

15. [Advance Power Electronics Designs for Solar Applications](#) 
16. [Generation 3 Concentrating Solar Power Systems \(Gen3CSP\)](#) 
17. [Solar Desalination Technology](#) 

[Vehicle Technologies Office](#)

18. [Batteries and Electrification to Enable Extreme Fast Charging](#) 
19. [Medium/Heavy-Duty, On-Road Natural Gas Engine Research and Development](#) 

Bioenergy Technologies Office

20. Biofuels and Bioproducts from Wet and Gaseous Waste Streams: Challenges and Opportunities

(possible RFP within next six months)

DOD/DARPA

Biological Technologies Office

21. Biological Technologies

(open for proposal by April 26, 2018)

22. Living Sensors

Defense Sciences Office

23. Office-wide RFP

(open for proposal by June 11, 2018)

Information Innovation Office

24. Harnessing Autonomy for Countering Cyberadversary Systems

NASA

25. Earth Science Applications: Disaster Risk Reduction and Resilience

26. Earth Science Applications: Health and Air Quality

27. Supporting UN Sustainable Development Goals 14 and 15 in the Context of Climate Variability and Change

NIH

National Institute of Environmental Health Sciences

28. Environmental Health Sciences Core Centers

Office of Behavioral and Social Sciences Research

29. Mobile Monitoring of Cognitive Change

30. Intensive Longitudinal Analysis of Health Behaviors: Leveraging New Technologies to Understand Health Behaviors