

View results

Respondent

6 Hongxu Zhou

59:16

Time to complete

ACKNOWLEDGMENT

1

Please read and acknowledge the following:

- SSC funding can take ****1 MONTH OR LONGER**** to receive after the SSC has voted to approve a project because it includes several steps:
 - the authorization of an award letter by SSC, iSEE, Division of Student Affairs, the project's advisor (*student-led projects only*), and the project lead;
 - the creation of the CFOP by the project team's departmental financial contact in conjunction with the project team;
 - the transfer of funds from SSC to the project's CFOP.
- If you are a project lead for a new project that is approved by the SSC, be sure to check your email regularly for the prompt to sign the award letter to help facilitate the efficiency of the process.
- Project teams for funded SSC projects do NOT receive funds directly. After a project's SSC funds have been transferred to the project's CFOP, the project team must work with the sponsoring department to purchase the approved budgeted items on behalf of the project team.
- This application will be shared publicly on our SSC Illinois Climate Action Plan (iCAP) portal so that others can learn from your project.
- Funded projects have grant reporting requirements. See our website for more information.

*

I acknowledge that I have read this information.

APPLICATION INSTRUCTIONS

Prior to starting your application, make sure you have the following information available:

- Project personnel including project lead, confirmed faculty/staff advisor (**student-led projects only**), departmental financial contact, other team members
- Working Group attendance information
- Project title and abstract
- Project description including timelines, deliverables, detailed description about the project, project feasibility information
- Intended student impacts
- Intended sustainability impacts
- Optional supporting documentation (e.g., Working Group presentation, letters of support)
- Detailed project budget information
- Information about changes to the Step 2 application submitted compared to the Step 1 application submitted

See our website for a sample application:

<https://studentengagement.illinois.edu/studentsustainability/illinoisgreenfund/funding>

2

Today's Date *

11/4/2025



3

Please tell us how you heard about the availability of SSC's funding for your sustainability project. *

- I Have Received SSC Funding Previously.
- Instagram
- MassMail
- SSC's Newsletter
- Departmental Newsletter
- Digital Signage
- LinkedIn
- SSC Website
- SSC Board Member or Other Member of the Committee
- Other Project Teams that Received Funding
- Illinois Faculty or Staff
- At a Tabling Event
- General Word of Mouth
- Other

4

A follow up project presentation at a SSC Working Group meeting is *occasionally* requested of a project team prior to submitting their Step 2 application. Did someone from the project team present updates to their originally proposed Step 1 project at a SSC Working Group meeting this semester?

*

YES

NO

5

Select the Working Group meeting you attended. *

Energy + Transportation & Infrastructure Working Group Meeting

Food & Waste + Land, Air, & Water Working Group Meeting

Education & Justice Working Group Meeting

6

Date of the Working Group meeting you attended. *

9/24/2025



7

What is the name of your project? *

From Tap to Tributary: Mapping and Evaluating PFAS Concentrations Across Campus and the Champaign-Urbana Water Systems

8

Amount of funding requested from the SSC for this project *

The amount entered here must match the amount reflected in your detailed primary budget spreadsheet that you will be prompted to submit with this application.

\$99760

PROJECT DESCRIPTION

Project Category *

- Education & Justice
- Energy
- Food & Waste
- Land, Air & Water
- Transportation & Infrastructure

Project Abstract *

In approximately 100 words, describe your project.

This project, From Tap to Tributary: Mapping and Evaluating PFAS Concentrations Across Campus and the Champaign–Urbana Water Systems, aims to establish a comprehensive baseline of per- and polyfluoroalkyl substances (PFAS) in our local water sources. Our team (multiple faculty/staff and students) will systematically collect and analyze samples from campus building taps, drinking fountains, stormwater runoff, and adjacent tributaries (Boneyard Creek). Data will be evaluated using laboratory analysis and machine learning to identify spatial and temporal trends. The project will generate actionable recommendations, support campus sustainability goals, and provide public-facing communication to raise awareness and inform PFAS mitigation strategies for protecting community health.

What key changes are reflected in your Step 2 application compared to your Step 1 application, if any, and why? *

Key changes reflected in Step 2 compared to Step 1: (1). We communicated and coordinated with Facilities & Services (F&S), and finalized the sampling locations upon receiving their approval. (2). Based on Illinois' minimum wage, we finalized the student wages and developed three budget scenarios. The workload will be adjusted according to the final grant amount awarded. (3). We updated the section describing how students will be impacted by this project, emphasizing their research involvement, professional development, and experiential learning opportunities.

Describe your proposed project in detail. Ensure the SSC has sufficient details to be able to evaluate the merits and feasibility of this project. *

Be sure to address the following:

- What are your project's goals and how do you intend to accomplish them?
- What are your project's deliverables?

The primary goal of this project, From Tap to Tributary: Mapping and Evaluating PFAS Concentrations Across Campus and the Champaign–Urbana Water Systems, is to establish a comprehensive and scientifically rigorous baseline of per- and polyfluoroalkyl substances (PFAS) in campus and community water systems. PFAS are persistent contaminants that pose significant environmental and public health risks; however, current campus monitoring is limited. By generating reliable data and increasing awareness, this project will provide the knowledge needed to better understand PFAS occurrence on our campus. Such understanding is essential for protecting community health, guiding proactive sustainability strategies, and ensuring our campus is equipped to address emerging environmental challenges.

To accomplish this goal, our interdisciplinary team of faculty, staff, and students will:

- (a) Design and implement a sampling strategy covering representative campus building taps, drinking fountains, stormwater runoff points, and adjacent tributaries (e.g., Boneyard Creek).
- (b) Conduct monthly sampling for two years to capture both spatial and temporal variability.
- (c) Analyze samples in the laboratory using advanced analytical techniques to quantify PFAS concentrations.
- (d) Apply machine learning and statistical analysis to identify patterns, trends, and potential hotspots of concern.
- (e) Engage stakeholders and students through outreach, data sharing, and integration into sustainability education.

The project will produce multiple tangible outcomes that support SSC's mission:

- (a) Comprehensive PFAS Dataset – A structured, accessible database of PFAS concentrations across campus water systems and tributaries.
- (b) Spatial and Temporal Maps – Visualized data highlighting PFAS distribution trends, hotspots, and seasonal changes.
- (c) Student-Led Engagement and Training – In this project, postdoc Hongxu Zhou, along with a group of undergraduate and graduate students, will lead field sampling, data management, and outreach activities. This direct involvement will provide experiential learning opportunities, increase awareness of emerging contaminants, and cultivate the next generation of sustainability leaders on campus.
- (d) Analysis and Recommendations Report – At the end of the project, we will provide evidence-based guidance for campus sustainability planning related to the PFAS issue, summary reports, and presentations tailored for students, staff, and the broader community.

List your proposed project's timeline and major milestones. *

NOTE: SSC funding agreements remain active for two years. Thus, your timeline should reflect your activities over a two year period or less.

Dec 1 – Dec 15, 2025: Project kickoff; design and refine sampling tools; confirm representative sampling points; purchase materials (e.g., sampling tubes, storage boxes) with faculty and financial advisor support.

Dec 15 – Dec 31, 2025: Finalize selection of representative sampling points across campus taps, distribution nodes, stormwater outfalls, and tributaries.

Jan 1, 2026 – Jul 1, 2027: Conduct baseline PFAS sampling twice per month at ~30 sites; samples analyzed in laboratory and results added to dataset.

Apr 30, 2026: Submit first semester progress report to SSC.

Jul 1, 2026 – Jun 30, 2027: Analyze collected data to evaluate spatial and temporal trends; compare results to regulatory and health guidelines.

Oct 1, 2026: Submit second-semester progress report.

Apr 1, 2027: Submit third semester progress report.

Oct 1, 2026 – Oct 31, 2027: Apply machine learning to predict PFAS distribution patterns; draft recommendations and prepare public-facing summary report.

Nov 1, 2027: Submit final project report and deliverables to SSC.

Have you spoken with anyone in UIUC's Facilities & Services (F&S) department regarding the feasibility of your project? *

NOTE: While this step is optional for many projects, all projects involving infrastructure (e.g., internal or external physical infrastructure of university buildings, etc.) or grounds (e.g., plantings, installing structures on campus grounds, etc.) must have F&S approval prior to receiving SSC funding. If you need assistance evaluating the feasibility of your proposed project, please reach out to SSC-Advisor@illinois.edu PRIOR to submitting your application.

- YES
- NOT YET
- N/A

With whom in the Facilities & Services department did you speak and when did you speak with them? *

I communicated with Morgan B. White (she/her), Director of Strategic Initiatives & Sustainability, and Betsy Richardson. Through our collaboration and coordination with multiple facility managers, we obtained approval for sampling at the following locations: Illinois Sustainable Technology Center (Shari Effert-Fanta), Turner Hall (Doug Wolters), Civil and Environmental Engineering (CEE) Building (Qu Kim), Electrical and Computer Engineering Building (Qu Kim), Grainger Engineering Library (Tim Newman), Illini Union (Wade Franklin), and Boneyard Creek near the Engineering Quad (Dave Wilcoxon). The final support letter from F&S was provided by Morgan B. White on November 4, 2025.

STUDENT IMPACTS

How many students will be directly impacted by this project? *

This project will directly impact up to 5 undergraduate students who will be involved in sample collection, laboratory analysis, data processing, and public outreach activities. These students will gain hands-on research experience in environmental monitoring and water-quality assessment, strengthen their technical and analytical skills, and contribute to advancing campus sustainability goals.

How many students will be indirectly impacted by this project? *

This project will indirectly impact the entire campus community, including over 50,000 students at the University of Illinois Urbana-Champaign. By mapping PFAS concentrations across campus water sources and communicating findings through outreach events, educational materials, and public presentations, the project will raise awareness of drinking water quality and promote sustainable water management practices that benefit all students.

What is the intended student impact? *

Be sure to address the following:

- How will this project benefit students?
- How will students be involved with this project?
- What educational components are in your project?

This project will have a transformative educational and experiential impact on students by combining research, training, and outreach focused on real-world environmental challenges. The core team of 3 to 4 undergraduate students will be directly involved in all stages of the project — from designing sampling strategies and collecting water samples across campus sites to conducting laboratory PFAS analyses, data visualization, and public communication. Through this hands-on participation, students will gain valuable technical experience, strengthen their scientific reasoning and data literacy, and develop practical skills in environmental monitoring and sustainability assessment. They will also receive close mentorship from researchers at the Illinois Sustainable Technology Center and collaborate with Facilities & Services staff, helping them understand how academic research connects with campus operations and policy decisions.

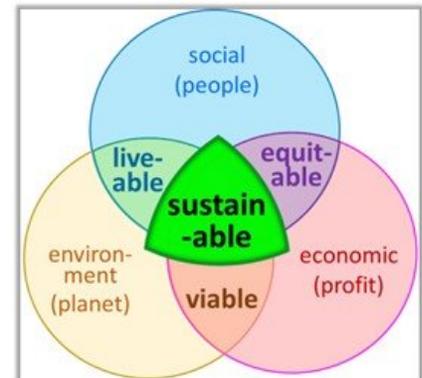
Beyond the research team, the project will indirectly benefit the entire campus community of over 50,000 students by increasing awareness of drinking water quality, PFAS contamination, and sustainable water management. Educational materials, interactive maps, and outreach presentations will be shared through the University of Illinois Undergraduate Research Symposium, SSC and ISEE events, classrooms, and online platforms, fostering a deeper understanding of the relationship between human activity, environmental health, and sustainability.

By linking science, policy, and public engagement, this project will help students see themselves as active contributors to campus sustainability solutions rather than passive learners. It nurtures leadership, collaboration, and communication skills while inspiring long-term interest in environmental research, community involvement, and green innovation.

SUSTAINABILITY IMPACTS

Authentic sustainability consists of the overlapping area of 3 spheres: Environment, Society, and Economy.

Describe how your project addresses sustainability. *



From an environmental perspective, it improves our understanding of PFAS threaten water and ecosystem health. By monitoring PFAS across campus and tributaries, we provide data that can guide strategies to reduce contamination and protect natural resources.

From a social perspective, the project directly engages students and the campus community. It raises awareness of water quality issues, empowers students to take part in sustainability research, and promotes informed decision-making to safeguard public health. Communicating results in accessible ways ensures that students, staff, and local residents can benefit from the findings.

From an economic perspective, early identification of PFAS hotspots allows for proactive, cost-effective management rather than reactive and expensive cleanup. The project also builds campus capacity by training students and staff, reducing future costs of external expertise while fostering long-term stewardship.

Together, these elements show how the project contributes to authentic sustainability by balancing environmental protection, social awareness, and economic responsibility.

How does your project promote and increase environmental stewardship at UIUC? *

If applicable, also address what the carbon, water, waste, and/or energy savings is associated with your project.

This project promotes environmental stewardship at UIUC by directly engaging students, researchers, and Facilities & Services staff in protecting campus water quality and raising awareness of emerging contaminants. By mapping and evaluating PFAS concentrations across key campus water sources, from academic buildings to natural waterways, our project supports evidence-based decision-making for a safer, more sustainable environment for students and the community.

Through student-led sampling, laboratory testing, and data visualization, the project fosters a culture of shared responsibility for environmental health, empowering students to take an active role in understanding and addressing pollution issues within their own campus environment. Educational materials and outreach events will further encourage the broader campus community to adopt informed and sustainable water-use behaviors, strengthening collective stewardship.

While this project's primary focus is on water quality monitoring rather than direct resource savings, its outcomes will contribute to long-term water conservation and pollution prevention efforts. By identifying contamination hotspots and informing potential mitigation strategies, the project lays the groundwork for reducing the campus's chemical footprint and advancing UIUC's overall sustainability and resilience goals.

Does your project aim to advance one or more of the Illinois Climate Action Plan's (iCAP) objectives? If so, indicate which and describe how. If not, enter N/A.

A full list can be found here: <https://icap.sustainability.illinois.edu/objectives>

5.7 Green Cleaning Program:

By monitoring PFAS concentrations in campus water systems, this project helps identify the potential presence of PFAS-containing cleaning or maintenance products. The findings can guide Facilities & Services in selecting and promoting safer, PFAS-free alternatives, thereby supporting the university's commitment to green cleaning and pollution prevention.

8.2 Coordinated Rainwater Management:

Sampling at both building sites and the Boneyard Creek allows assessment of how PFAS and other pollutants move through stormwater and drainage pathways. These results can inform coordinated rainwater and runoff management strategies to reduce contaminant transport and improve watershed health.

8.4 Local Sustainability Issues:

The project directly addresses an emerging local environmental concern (PFAS contamination) through student-led research and public outreach. It increases campus awareness of chemical pollution, fosters collaboration between students, researchers, and F&S, and strengthens UIUC's leadership in addressing local sustainability challenges.

PROJECT LEAD

Project Lead's Full Name *

Hongxu Zhou

Project Lead's Department *

Illinois Sustainable Technology Center

24

Project Lead's University Email Address *

hongxu@illinois.edu

25

The Project Lead must be a UIUC faculty, staff, or currently enrolled student. Which category describes the Project Lead's primary role at the university? *

- Currently enrolled UIUC student
- UIUC faculty
- UIUC staff

PROJECT'S FINANCIAL CONTACT

The project's Financial Contact must be a full-time Illinois employee who has the authority to make university purchases, manage the project's financials, and generate financial reports on behalf of the project.

26

Financial Contact's Full Name *

Hongxu Zhou

27

Financial Contact's Department *

Illinois Sustainable Technology Center

28

Financial Contact's University Email Address *

hongxu@illinois.edu

29

Are there additional members of your project team? *

- YES
- NO

ADDITIONAL TEAM MEMBER

30

Team Member's Full Name:

Alicia Chen

31

Team Member's Department/Campus Affiliation:

Natural Resources and Environmental Sciences

32

Team Member's University Email Address:

alicia8@illinois.edu

33

Do you have additional team members? *

YES

NO

ADDITIONAL TEAM MEMBER

34

Team Member's Full Name *

Dominic Mini

35

Team Member's Department/Campus Affiliation *

Chemical Engineering

36

Team Member's University Email Address *

mini2@illinois.edu

37

Do you have additional team members? *

YES

NO

ADDITIONAL TEAM MEMBER

38

Team Member's Full Name: *

Ino Zhu

39

Team Member's Department/Campus Affiliation: *

Chemical Engineering

40

Team Member's University Email Address: *

inozhu2@illinois.edu

SUPPORTING DOCUMENTATION

41

OPTIONAL: Attach any letters of commitment or support here along with any supplemental media that will support your application (presentations, photos, etc.).

 [Appendix A. Letter of Support from Facilities Hongxu Zhou.pdf](#)

 [Project presentation Hongxu Zhou.pptx](#)

PROJECT FINANCES

42

Describe in detail how SSC funds will be used in your project.

NOTE: Only address the use of SSC funds, specifically, even if the project will be funded by multiple sources.

SSC funds will be used primarily to support laboratory PFAS analysis, student wages, and essential sampling supplies. The largest expense is the PFAS laboratory analysis at ISTC, estimated at \$200 per sample for 300 samples (totaling \$60,000). The second major funding area is student wages (\$21,760) to support two undergraduate research assistants working 8 hours per week at \$17/hour over two years. This ensures meaningful student engagement in sampling, laboratory work, and data analysis. Additional SSC funds (\$15,500) will cover sampling tubes, gloves, reagents, PPE, water sampling expenses, and data analysis software, while \$2,500 will support outreach and stakeholder engagement materials to share findings with the campus community. Overall, SSC funds will directly enable high-quality PFAS analysis, hands-on student research, and campus-wide education. Following SSC's feedback, we also developed two alternate budget scenarios to provide flexible funding options. Under these alternatives, the total number of sampling sites or sampling frequency would be adjusted based on the final award amount, while maintaining the project's core goals.

43

If you receive SSC funding, will your project require additional sources of funding to achieve your project's overall goals? *

NOTE: SSC cannot guarantee financial support beyond that provided in an approved funding agreement.

YES

NO

44

Has your project team or department previously been awarded funding from the SSC for the same or a similar project? *

YES

NO

45

Download, complete, and submit the **SSC-Budget-Timeline_NEW APPLICATION_template** file linked below. Please be very detailed so that the SSC can fully evaluate the merits of your funding request. **We STRONGLY recommend providing alternate budgets in addition to your main budget in case SSC cannot fully fund your project. There are alternate budget tabs in the template.**

<https://studentengagement.illinois.edu/sites/default/files/2024-09/SSC-Budget-Timeline-NEW-APPLICATION-template.xlsx>

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 [SSC-Budget-Timeline-Hongxu Zhou_Hongxu Zhou.xlsx](#)