View results

Respondent

7 Ahmed Faisal

200:24
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.
- If this project is funded, 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, 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 impact(s)
- Intended sustainability impacts
- Optional supporting documentation (e.g., Working Group presentation, letters of support)
- Detailed project budget information

See our website for a sample application.

2

Today's Date

10/2/2025

3

Is the Project Lead a currently enrolled Illinois student? *

NOTE: Only currently enrolled Illinois students are eligible to be a Project Lead.

- (●) YES (by selecting YES, you affirm that the Project Lead is a currently enrolled Illinois student)
- ( ) NO

4

Project Lead's Name *

Project Lead must be a currently enrolled Illinois student.

Ahmed Faisal

5

Project Lead's University Email Address *

afais5@illinois.edu

6

Project Lead's Department *

Electrical Engineering

7

Has someone from the project team presented their proposed project at a SSC Working Group meeting this semester? *

If not, please attend one and present your project. After presenting your proposed project (and attendance has been documented by the SSC), please return here to complete your application. The Working Group meeting schedule can be found on the SSC website.

- (●) YES
- ( ) NO

8

Select the Working Group meeting at which you presented. *

- (●) Energy + Transportation & Infrastructure Working Group Meeting
- ( ) Food & Waste + Land, Air, & Water Working Group Meeting
- ( ) Education & Justice Working Group Meeting

9

Enter the date of the Working Group meeting you attended. *

9/15/2025

10

What is the name of your project? *

InSPIRE Solar Wireless Drone Charging Station

11

Total funding requested from the SSC for this project *

This application is restricted to students requesting $10,000 or less. The amount entered here must match the amount reflected in your detailed primary budget spreadsheet that you will submit with this application.

1274.37

Please enter a number less than or equal to 10000

12

Project Category *

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

13

Project Abstract *

In 100 words or less, briefly describe the project.

We are designing and manufacturing a wireless drone charging station powered by an off-grid solar system. This reduces the carbon footprint generated by commercial and research drone use which is a growing industry. By using solar power, the system avoids reliance on fossil fuels and promotes renewable energy solutions. Wireless charging minimizes manual work and makes the system easy to scale for mass applications. This project demonstrates a sustainable path forward for drone operations while supporting innovation in clean technology.

PROJECT DESCRIPTION

14

Describe your project in detail. Make sure you include sufficient details about your project so that the SSC can comprehensively evaluate the merits and feasibility of your 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 goal of this project is to help decrease the carbon footprint of charging drones. With the rise of commercial, environmental, and other forms of drone usage, the carbon footprint caused by them has been increasing. Oftentimes when drones are used it is either one large drone or many smaller drones with the later being the case for search and rescue drones. Through a solar charging station the electricity used by drones could be lessened. The use of a wireless system would also make it appealing to different organizations due to ease of use. The drone could automatically fly to its charging station and connect without human intervention. The project will when completed be able to charge a drone without any human action. All the electricity to charge the drone and power the system will be generated through solar. It will also collect data using onboard computers to monitor power generated and spent as well as usage.

15

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.

Start: 9/7/2025 - Completion: 9/28/2025
Initial Design: Create design of final project to know what parts are needed and how to accomplish task.

Start: 10/26/2025 - Completion: 11/30/2025
Manufacture Box to Hold Components: Create box that will contain all the electronics needed besides the Solar PV system

Start: 10/5/2025 - Completion: 1/25/2026
Design and Print Needed PCBs: PCBs will be used to make the wiring cleaner and more efficient while also allowing the solar charging station to function.

Start: 1/25/2026 - Completion: 2/1/2026
Assemble Charging Method: This step is the majority of our work. It includes creating the wireless charging method from our designs as well as the solar PV system to get power.

Start: 2/1/2026 - Completion: 3/15/2026
Final Integration: The charging method and solar PV system will be put into the box to make the fully functioning device.

Start: 3/15/2026 - Completion: 4/5/2026
Testing and Bug Fixes: In order to assure the system is working and has no errors before EOH we will go through a testing process.

Start: 12/2/2025 - Completion: 12/9/2025
First Semester Report: Will be completed before finals start.

Start: 4/30/2026 - Completion: 5/6/2026
Final Report: Will be completed before finals start.

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Has the project team spoken with UIUC's Division of Facilities and Services (F&S) personnel about the feasibility of the proposed project? *

NOTE: While this step is optional for many projects, all projects involving infrastructure (e.g., internal or external physical infrastructure of university buildings) or grounds (e.g., plantings, installing structures on campus grounds) 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

STUDENT IMPACTS

17

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

50 club members who will be working on the project.

18

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

Using research studies that found 8% of Americans own a drone this means 4800 students would be imapcted.

19

What are the intended student impacts? *

At the minimum, be sure to address the following:
-How will this project benefit students?
-How will students be involved with this project?
-What educational components are there in this project?

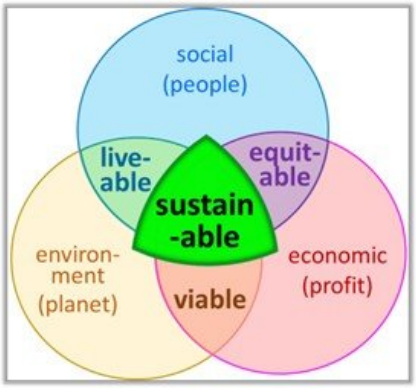
This project will both directly impact students who will be able to learn about sustainability engineering and those who use drones. It would also impact everyone as reducing the carbon footprint humanity has will help make the world a better place. The club is open to any UIUC students and they are able to freely pick what they want to work on. They get to learn about different engineering concepts and how that can be used for a sustainable project. It will teach them real world skills and applications of them. This project involves mechanical work such as CAD, 3d printing and machining. It also has electrical components through the charging mechanism and the solar PV system. Through the embedded team students can learn about data collection and analytics.

SUSTAINABILITY IMPACTS

20

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

Describe how your project addresses sustainability. *



Our solar charging station is designed to help the environment through reducing the worlds carbon footprint through making a desirable device that would help people. By being solar powered it has a net zero impact and it also makes any drones that use it have a near zero impact to the environment as well. It also would help business owners or everyday consumers by reducing their energy costs and being easy to use that would attract them to utilize the device.

21

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.

Through our charging station there is large energy savings for electric powered drones. Large search and rescue drones can utilize up to 5kW of power during use. On average this would be 4.05lbs of carbon dioxide released per hour of usage. With multiple drones this number can increase rapidly. By creating this project it will educate people about the impact of their electricity usage. Students on campus who use small personal drones could be more informed of their usage and look into similar solutions.

22

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

This project is partially related to 2.3 of iCAP (using clean energy sources). Solar power is a clean energy source since it does not release carbon dioxide. Drones on campus could possibly use a similar solution to reduce their carbon footprint.

FACULTY/STAFF ADVISOR

All student-led projects require a Faculty/Staff Advisor. NOTE: Project teams must obtain confirmation from faculty/staff PRIOR to listing them as an advisor.

23

Faculty/Staff Advisor's Full Name *

Elle Wroblewski

24

Faculty/Staff Advisor's Department *

Aerospace Engineering

25

Faculty/Staff Advisor's University Email Address *

wroblew3@illinois.edu

PROJECT'S FINANCIAL CONTACT

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

26

Financial Contact's Full Name *

Elle Wroblewski

27

Financial Contact's Department *

Aerospace Engineering

28

Financial Contact's University Email Address *

wroblew3@illinois.edu

29

Are there additional members of your project team? *

- ( ) YES
- (•) NO

SUPPORTING DOCUMENTATION

30

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

InSPIRE SSC Energy Working Group Meeting 2025_Ahmed Faisal.pptx

SSC Complete Links_Ahmed Faisal.xlsx

PROJECT FINANCES

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Describe 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 to create the frame of the charging station, the solar PV system that generates electricity, as well as the wireless charging mechanism.

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If additional funding is required to achieve your project's goals, do you have a plan in place to obtain additional funding from other sources? *

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

- ○ YES
- ○ NOT YET
- ◉ N/A

33

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

- ○ YES
- ◉ NO

34

What is the total amount of SSC funding received to date for the same or similar projects by the project team/department submitting this project? *

0

35

Download, complete, and submit the **SSC-Budget-Timeline_NEW APPLICATION_template** file linked below.

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

Please be very detailed so that the SSC can fully evaluate the merit of your funding request. Your proposed budget should total the amount you are requesting and should correlate well with the the description of how you will spend SSC funds on your project on this application. The budget template allows you to also submit alternative budgets in addition to your main budget.

SSS-Budget-Timeline_charging_station_Ahmed Faisal.xlsx