



EMORY



sustainability
initiatives



GREEN OFFICES AT EMORY



GREEN LABS AT EMORY

2022-2023 OSI Incentives Funds Application

This combines applications for the Green Offices, Green Labs, and General Sustainability & Social Justice Incentives Funds

All applications due by **8:00am Monday, September 26, 2022**

The Funds:

Green Offices and Green Labs Incentives Funds: submit to greenoffices@emory.edu or greenlabs@emory.edu respectively

The Green Offices and Green Labs Incentives Funds support certified workspaces participating in the [Green Offices](#) and [Green Labs](#) at Emory Programs by funding sustainable processes and procedures in Emory's workspaces. Creative proposals are welcomed for initiatives that seek new knowledge, support new behavior patterns, and make sustainable practices feasible. **Grants may be awarded up to \$5,000.**

Faculty, staff, and students from certified workspaces or laboratories in Emory University and Emory Healthcare are eligible to apply for the Green Offices and Green Labs Incentives Funds. Funds may be used for supplies, equipment, and materials necessary to implement an item on the Green Offices or Green Labs checklist, or a sustainability innovation. Grant recipients must provide a brief written report at the conclusion of the project, including documentation of the resulting changes utilizing photographs, written material, data, and other tools appropriate for documentation.

General Sustainability & Social Justice Incentives Fund: submit to emorysustainability@emory.edu

The Office of Sustainability Initiatives provides Incentives Fund grants to support research, campus-based projects, and the development of new rituals that promote sustainability on Emory's Atlanta and Oxford campuses and in Emory's healthcare spaces. Creative proposals that seek new knowledge, support new behavior patterns, and foster cultural change are welcomed. Faculty, staff and students from Emory University and Emory Healthcare are eligible to apply.

Projects that are centered on the social justice facets of sustainability or highlight the social justice impacts of their project or research are encouraged to apply.



EMORY



sustainability
initiatives

Up to \$3,000 is available for projects supporting General Sustainability and Social Justice. Funds may be used for supplies, materials, publicity, and other approved costs supporting projects, research, and rituals that promote sustainable ideas.

Requests for funding for food purchases, honoraria, publishing fees, conference fees, and travel expenses are rarely approved by Incentives Fund Committees.

Selection:

The selection committee composed of staff, faculty, and students will assess grant proposals based on the following criteria:

1. Relevance of the project to the [Green Offices](#) or [Green Labs](#) programs, [Emory's 2025 Sustainability Vision](#), and/or [the United Nations Sustainable Development Goals](#).
2. Clarity and feasibility of the proposal, including clear goals and objectives
3. Sustained impact and reach of the proposed project
4. Innovation and creativity to address complex sustainability-related challenges
5. Relevant skills and experience of project personnel

Submission:

Please submit applications in this Word document saved with the corresponding file name to the fund for which you are applying:

- **Green Offices:** "Name of Office or Department_Last Name of Project Lead_Green Office Incentives Fund 2022"
- **Green Labs:** "Lab PI Last Name_Project Lead Last Name_Green Lab Incentives Fund 2022"
- **General Sustainability & Social Justice:** "Last Name of Project Lead_First Name of Project Lead_General Incentives Fund_2022"

Questions?

Green Offices: lydia.janine.stubbs@emory.edu

Green Labs: zoe.price@emory.edu

General: taylor.spicer@emory.edu

The Application:

For which Incentives Fund are you applying?



EMORY



sustainability initiatives

Green Offices

Green Labs

General Sustainability & Social Justice

Identify one or more themes to categorize your project:

Academics

Biodiversity & Landscapes

Climate Solutions

Community

Energy

Food & Dining

Green Building

Greening healthcare

Research

Social justice

Sustainable

Procurement

Transportation

Waste

Water

Wellbeing

Other

(specify _____)

Incentives Fund Application

Team Leader (Last name, first name):	Li, Eva
Title of Project:	Assessing and Improving Indoor Air Quality Across Emory's Campus
Amount Requested:	\$2,600.00
Department, Office, Club, or Group:	Emory Climate and Analysis Solutions Team
Department Head Name, PI Name (if applicable):	N/A
Building and Room #:	N/A

Project Personnel: For each team member, please submit the following information:

Name	Role	Email
Eva Li	Team Leader	Eva.li@emory.edu
Patrick Latting	Team Member	Patrick.latting@emory.edu



EMORY



sustainability initiatives

Adina Peck	Team Member	Adina.rachel.peck@emory.edu
Jack Miklaucic	Team Member	Jack.miklaucic@emory.edu

Summary (2-3 sentences) of each applicant’s skills and experience, as relevant to the project proposal:

Eva Li: Eva is currently the co-president of ECAST (Emory Climate and Analysis Solutions Team) She is currently leading an educational initiative focusing on bringing air pollution curricula to local Atlanta-area middle and high school classrooms, where she develops educational content on various air pollution topics and will hold educational workshops for these students. She has also been working in the LEADER laboratory in the Rollins School of Public Health, specifically analyzing human samples to determine concentrations of chemical pollutants present in them.

Patrick Latting: Patrick spent two years in high school running a non-profit [composting company](#) after successfully receiving two rounds of grant funding from the Dragon Kim Foundation. He spent the past summer interning for the interconnector portfolio company [Xlinks](#) as a procurement intern, managing bid processes, negotiating contracts, and completing commercial evaluations of contractor pricing proposals. He is the current co-president of the Emory Climate Analysis and Solutions Team, having served as the Research and Projects Manager during the preceding year.

Adina Peck: Adina is a senior who is a second year Treasurer of ECAST, and she has been involved in ECAST’s events, executive meetings, and logistics since her first year at Emory. Currently, she volunteers with the EmPower project that increases awareness about energy efficiency for middle schoolers in Atlanta. For this project, she will assist in installing materials, coordinating with Residence Life and student volunteers, and in collecting and analyzing data. She has experience in project management, and she will serve as an advisor and resource in coordinating the timeline and organization of this research project.

Jack Miklaucic: Jack is a senior in Emory College and serves as an executive advisor to ECAST, having been President and Co-President in previous years. He leads an educational program through ECAST called the EmPower Academy that instructs middle school students about energy efficiency and energy auditing, which is directly relevant to this project. He has also interned in data science/energy analytics and energy policy and can apply that expertise to this initiative.



EMORY



sustainability
initiatives

His organizing and leadership experience with climate and energy justice activism will also help him contextualize the results of this project. He has overseen many research projects through ECAST like this one in past years and is also conducting his own research in the Saikawa Lab, culminating in an honors thesis. As an Environmental Sciences major, he can also utilize knowledge gained through his classes to increase the efficacy of this initiative.

REQUIRED if applicant is a student or all-student team:

Faculty/staff advisor's name: Shaunna Donaher

Email: Shaunna.donaher@emory.edu

Faculty/staff advisor expectation: As an advisor to this project, I accept the role of guiding this student or student team as they develop a proposal, as they respond to additional requests from the Incentives Fund Committee, as they implement their project, and/or as they complete a final report.

Date of faculty/staff advisor's acknowledgment of this expectation: 9/21/22

Project Description: Provide a detailed description of the goals, activities, methods, and success indicators of the proposed research, project, or behavior change.

Exposure to air pollution has long been a detrimental effect on overall human health. Many people are familiar with outdoor air pollution, such as particulate matter from fossil fuel combustion and ground-level ozone from vehicle emissions. But most people spend about 90% of their lives indoors, where there are also many air pollutants.

This is a large issue in many college campuses, where most students spend most of their time in dorms, dining halls, and classrooms. In these locations, they can be exposed continually to a variety of indoor air pollutants such as dust mites, mold, radon, indoor carbon monoxide, and others. This can result in adverse effects on the overall health of students, faculty members, and campus workers. Specifically, it can increase cardiorespiratory symptoms, exacerbate existing allergies or asthma symptoms, and affect mental health. College is already very stressful for many students, and poor indoor air quality has been associated with consequences such as depression, anxiety, and decreased motivation, resulting in poor grades and other negative effects. Dr. Saikawa, a faculty member in Emory's Environmental Sciences department and renowned air quality researcher, informed me that there is minimal data on indoor air pollutant concentrations across Emory's campus. The lack of knowledge concerning Emory's indoor air pollution is a major issue due to the potential



EMORY



sustainability
initiatives

presence of health-threatening pollutant concentrations in several Emory buildings.

Therefore, the main goal of this project is to first quantify indoor air pollutant concentrations across several Emory buildings and provide low-cost yet highly effective ways to decrease pollutant concentrations. The Emory campus buildings that will be the central focus are the DCT, the ESC, Cox Hall, White Hall, and the Atwood Chemistry Building, all of which have high foot traffic daily. If any modifications need to be made to this selection of buildings, they will be adjusted accordingly. First, indoor air pollution sensors that can measure a wide range of indoor air pollutants will be placed inside these buildings. The collected data will be used to construct an online database of indoor air pollutant concentrations, which will be made available to the general public (if the concentrations are found to be insignificant, then the project will focus more on constructing a comprehensive online database that will track pollutant concentrations day-by-day, allowing Emory students and faculty to be well-informed on indoor air quality). Then, using this data, certain locations and times of day will be identified that have the greatest indoor air pollutant concentrations. These areas will be the focus of the next project step—the solutions. One solution will be to construct Corsi-Rosenthal air filtration boxes that were popularized by an indoor air quality researcher and air filtration expert in 2020. They are composed of several air filters and a box fan, allowing for quality and effective air filtration through a simple design. Several of these boxes will be placed in each of the target locations on campus, and if possible, there will also be an initiative started to encourage students to construct these boxes, as they are relatively simple and low-cost to make. In addition to these DIY air filtration devices, green spaces will be designed and implemented in these target locations, specifically with plants shown to be especially effective in air purification (see budget to know exact plants).

The success indicators used will be the indoor air pollutant concentrations after implementing these two main solutions. We hope that there will be a statistically significant decrease in concentrations after we implement the solutions, and the data will indicate if we were able to achieve this.

Project Timeline: Project teams will be notified by early November about funding of their proposals. All projects must be completed by Friday, July 28, 2023. With these parameters in mind, please provide a detailed timeline for project implementation and completion.

November 2022

- Place indoor air quality sensors in the target buildings around Emory's campus and begin monitoring of indoor air pollutant concentrations



December 2022

- Conclude monitoring of indoor air pollutant concentrations
- Collect indoor air pollutant concentration data and construct an online public database using the data
 - Will include the times of day with the greatest concentrations
 - Will provide information on which target locations on Emory's campus have the greatest average concentrations for each pollutant measured

January 2023

- Construct designs of air purification spaces in target buildings, which will consist of:
 - Corsi-Rosenthal boxes
 - Green spaces with specific air-purifying plants
 - Posters and other educational materials on specific practices that can reduce indoor air pollutant concentrations

February 2023

- Gather materials needed for constructing Corsi-Rosenthal boxes
- Construct Corsi-Rosenthal boxes and distribute them to the target locations

March 2023

- Gather air-purifying plants and design them into green spaces for the target locations
- Construct the designed green spaces in the target locations

April 2023

- Design and display the educational content regarding indoor air pollution in the air purification spaces
- Begin re-monitoring of indoor air pollutant concentrations in the target locations

May 2023

- Collect the indoor air pollutant concentration data and analyze them to determine if any statistically significant improvements have been achieved

Budget: Provide an itemized description of expenditures with short explanation and justification. \$5,000 maximum for certified Green Offices and Green Labs and \$3,000 maximum for General Sustainability & Social Justice.



Item Description (please include detail on the specific item desired, with relevant details like make, model #, size, etc.)	Website Link to Item (if applicable)	Unit Cost	Unit Count	Amount
MERV 13 Air Filters (20" x 20")	MERV-13 Air Filters	\$8.67	80	\$693.60
Lasko 3733 Box Fan (20" x 20")	Lasko Box Fan	\$13.49	20	\$269.80
Spider Plant (potted)	Spider Plant	\$12.00	5	\$60.00
Chinese Money Plant (potted)	Chinese Money Plant	\$22.00	5	\$110.00
Snake Plant (potted)	Snake Plant	\$12.00	5	\$60.00
English Ivy Plant	English Ivy Plant	\$5.00	10	\$50.00
Aloe Vera Plant	Aloe Vera Plant	\$6.00	10	\$60.00
Plant Drainage Pots	Drainage Pots	\$3.00	20	\$60.00
Airthings 2960 View Plus Air Quality Monitor	Airthings Air Quality Monitor	\$300.00	4	\$1200.00
Indoor Potting Mix Soil Mix	Potting Soil	\$7.00	5	\$35.00
Total: \$2598.40 (taxes included)				

Budget Explanation and Justification: In this section, please carefully explain the need and use for each item listed in the table above. If you already have received partial funding for this project from another entity, please list that entity below and which aspects of the project are already funded. If uncertainties exist in project budgets, please note them here. Projects with incomplete budgets or justifications will not be considered for funding.

Item	Explanation/Justification
MERV 13 Air Filters	For each Corsi-Rosenthal box (we plan to construct 20), four MERV 13 air filters are needed, which will make up the four sides of the box. MERV 13 is the optimal model



	of air filters for constructing these boxes, according to scientists who have analyzed the effectiveness of these boxes.
Lasko 3733 Box Fan	Each Corsi-Rosenthal box requires a box fan that is 20" x 20", and the Lasko box fan is an optimal brand and model.
Spider Plant	According to scientific studies (Air-Purifying Plants), spider plants are especially effective in air purification and are relatively easy to maintain. Therefore, spider plants will be included in the green spaces we plan to implement in the target locations around Emory's campus.
Chinese Money Plant	According to scientific studies (Air-Purifying Plants), Chinese Money plants are especially effective in air purification and are relatively easy to maintain. Therefore, Chinese Money plants will be included in the green spaces we plan to implement in the target locations around Emory's campus.
Snake Plant	According to scientific studies (Air-Purifying Plants), snake plants are especially effective in air purification and are relatively easy to maintain. Therefore, snake plants will be included in the green spaces we plan to implement in the target locations around Emory's campus.
English Ivy Plant	According to scientific studies (Air-Purifying Plants), English ivy is especially effective in air purification and are relatively easy to maintain. Therefore, English Ivy will be included in the green spaces we plan to implement in the target locations around Emory's campus.
Aloe Vera	According to scientific studies (Air-Purifying Plants), aloe vera is especially effective in air purification and are relatively easy to maintain. Therefore, aloe vera will be included in the green spaces we plan to implement in the target locations around Emory's campus.
Airthings 2960 View Plus Air Quality Monitor	This brand and model of indoor air quality monitors has been ranked as one of the most effective ones, as it has the ability to test for eight indicators of indoor air quality (radon, particulate matter, carbon dioxide, volatile organic compounds, humidity, temperature, pressure, and local outdoor pollen levels). It is also easy to install and collect data from and has a customizable display. Therefore, we have selected this type of air quality



EMORY



sustainability
initiatives

	monitor to use. They will be placed at the target locations around Emory's campus specified above.
--	--

On behalf of the OSI team, thank you for your time and effort! Emory is a better place because of innovators like you.