SCIF 2023-2024 Annual Report

During the 2023-2024 academic year, the Sustainable Campus Initiative Fund (SCIF) provided about $89,466.68 to 16 projects designed by University of Utah community members. The projects covered a range of issues, trash and food waste recovery, recycling soft plastics, homelessness, and more. All project funding was approved by an allocation committee composed of students, staff, and faculty.

All projects awarded funding in the 2023-2024 academic year:

SMALL 2023

Generative Spaces Project: $938.56

Project Executive: **Douglas Tolman** I Project Advisor: **Paul Stout**

"Generative Spaces" is an art exhibition by MFA candidate Douglas Tolman, held at the Alvin Gittins Gallery, University of Utah. The exhibition focuses on climate and land-use issues in the Great Salt Lake Watershed, promoting ecological, cultural, and economic sustainability. It aims to shift from fear-based climate narratives to empowering local action. Combining photography, sculpture, short films, and climate data, the exhibition offers an immersive experience to help visitors process climate anxieties.

The exhibition targets students, faculty, and staff, encouraging engagement with environmental issues in a constructive way. It also aims to engage the wider local community, sparking conversations about sustainability.

Visitor numbers will be tracked, and an optional survey will gather feedback on thoughts and optimism about climate solutions. Funding will support printing visuals for the exhibit, sourced from a local business, RepliColor Inc.

In summary, "Generative Spaces" seeks to inspire action on climate issues through art, aligning with the goals of the Sustainable Campus Initiative Fund.

Recycling and Food Waste Recovery on the Sunnyside: $995.00

Project Executive: **Angelo Oliveri** I Project Advisor: **Valerie Green**

The "Recycling and Food Waste on the Sunnyside" project aims to enhance recycling and composting practices at Sunnyside Apartments through community education. It focuses on informing residents about ACE Recycling materials, composting benefits, proper waste disposal, and sustainable alternatives. Educational resources, including flyers, QR codes, and interactive activities like a Jeopardy game, will be shared at Resident Life events, with prizes like reusable items to encourage participation.

The project seeks to improve recycling efficiency, reduce waste contamination, and promote composting as a key action to lower the community's carbon footprint. By offering information on local recycling resources and composting subscriptions, the initiative empowers residents to adopt sustainable practices.

Outlet Timers Project: $320.00

Project Executive: **Rebecca Zitnay** I Project Advisor: **Robert Judson-Torres**

Biomedical research, though vital for human health, often has a significant environmental impact due to the high energy usage of lab equipment. Researchers, under pressure to meet tight deadlines, often leave instruments like water baths and centrifuges running continuously. To address this, I propose equipping labs with programmable outlet timers to automatically turn off these devices at night and have them ready in the morning. Graduate students in oncological sciences will monitor baseline energy usage, use timers, and compare energy savings. Follow-up surveys will assess long-term use and the timers' impact on lab work.

MEDIUM 2023

Imagine Futures Project: $5,360.75

Project Executive: **Esther Mathieu** I Project Advisor: **Danielle Endres**

"Imagining Futures: Art and Action" aims to engage the University of Utah campus community in climate adaptation through a workshop and event that explores four core frameworks: transition design, universal design, climate adaptation, and community. The project, supported by the Sustainable Campus Initiative Fund, will involve students, local artists, and the nonprofit ASSIST Community Design Center in envisioning a sustainable future. A key part of this event is the release of an artist's book featuring collaborative art and essays, enriching discussions on creating a more sustainable, accessible campus. The workshop will foster connections between students and community members, encouraging campus-led sustainability projects and supporting climate and social justice.

Upcycling Soft Plastics: $10,000.00

Project Executive: **Chen Wang** I Project Advisor: **Chen Wang**

This campus-based project aims to recycle soft plastic wastes (#3-#7) into 3D printing filament, addressing low plastic recycling rates in the U.S. through a system of collection bins and consumer engagement. Utilizing existing equipment, the project will convert plastics like LDPE and PS into reusable filament for educational use. The initiative seeks to reduce campus landfill contributions, offset carbon emissions, and promote a circular economy, ultimately serving as a model for other institutions. The project relies on collaboration with campus Operations and focuses on environmental justice, knowledge generation, and local impact.

Utah Radon Lab: $9,990

Project Executive: **Gavin Ballard** I Project Advisor: **Tabitha Benney**

The Utah Radon Lab team plans to extend radon testing and awareness on campus, using remaining test kits to target student housing in collaboration with university Facilities and the Utah Radon Coordinator. Success metrics include tracking kit distribution, student engagement, and social media interactions. If elevated radon levels are detected, students receive guidance and resources for mitigation. Partnerships with state agencies and educational events will further support awareness efforts. While current resources don't cover campus housing, future collaborations may expand testing access, drawing on best practices from radon awareness initiatives to enhance effectiveness.

SMALL 2024

Fire Break: $975.00

Project Executive: **Michael Jewkes** I Project Advisor: **Leandra Hernandez**

A University of Utah student documentary crew follows researchers and wildland fire experts to explore new wildfire prevention methods. The film highlights university climate scientists, field researchers using SAGE fire sensors, and wildland firefighters, focusing on innovative practices to mitigate climate change impacts from wildfires.

Portable Grow Unit: $1,182.24

Project Executive: **Creed McCord** I Project Advisor: **Andy Gill**

Edison Morrow's project aims to create a portable, autonomous grow environment that optimizes temperature, humidity, and CO2 for culinary mushroom growth, allowing individuals, especially apartment dwellers or those with busy schedules, to grow fresh mushrooms sustainably at home. Unique for its mushroom-specific environmental controls, the product is

versatile and promotes home-based food production. It aligns with SCIF's mission by providing a tangible, marketable outcome to inspire similar sustainable food projects.

Mask Recycling: $1,000.00

Project Executive: **Marge Volkeing** I Project Advisor: **Scott Patteron**

The University of Utah's MICU Practice Council has initiated a Terracycle "Zero Waste Box" program to recycle disposable masks, aiming to reduce waste and promote sustainability by managing mask collection and shipment for recycling.

MEDIUM 2024

Supporting the sustainability of Code Blue homeless events: $5,000.00

Project Executive: **Jeff Rose** I Project Advisor: **Jeff Rose**

University of Utah students and faculty collaborate with Salt Lake City to participate in the annual Point-In-Time Count, gathering data and providing resources to people experiencing homelessness. During harsh winter nights, students volunteer at Code Blue facilities, offering emergency shelter support for those without access to traditional resources. The project aligns with the Sustainable Campus Initiative Fund (SCIF) goals, focusing on equity and environmental justice, with a funding request for 50 sleeping cots and pads to enhance comfort at these emergency shelters.

Monarch Waystation: $2,890.43

Project Executive: **Eron Powell** I Project Advisor: **Ann Williams**

The project aims to create a monarch butterfly habitat at the University of Utah by establishing a milkweed-based Monarch Waystation near a high-traffic area on campus. This habitat will support monarch butterflies by providing a native food source and breeding space, essential

given the sharp decline in monarch populations due to urbanization and habitat loss. It will also foster student and community involvement in sustainability efforts, promote biodiversity, and enhance ecological education. The project seeks to inspire a greater connection with nature among students and create a living space that nurtures both the monarch population and the broader ecosystem.

Mission Pacific: $3,261.86

Project Executive: **William Wenger** I Project Advisor: **Andy Gill**

This project aims to develop an autonomous trash removal prototype to increase the efficiency of cleaning the Pacific Ocean, currently hindered by manual collection methods. Using GPS and force sensors, two autonomous watercraft will tow a net to capture trash, offering a proof of concept for a future system that could operate independently at sea. This project, part of a senior mechanical engineering design course, will use university resources to design and test the prototype, with funding needed for specialized components. This effort supports long-term ocean sustainability by reducing reliance on labor-intensive cleanup.

Supporting Solutions for Indoor AQ on Campus: $9,999.00

Project Executive: **Kerry Kelliy** I Project Advisor: **Kerry Kelliy**

This project monitors indoor air quality (IAQ) at the University of Utah using a network of CO_2 and PM2.5 sensors across campus buildings with various HVAC systems. Findings show that IAQ worsens during wildfire smoke events, particularly in buildings with variable air volume (VAV) systems. The project seeks funding to maintain and replace sensors for an additional year, allowing further data collection during seasonal pollution events. This effort supports improved campus IAQ management and offers hands-on student involvement through capstone projects and courses, integrating learning with campus sustainability improvements.

Bailey Brackets: $2,553.84

Project Executive: **Benjamin Eder** I Project Advisor: **Elpitha Tsoutsounakis**

LARGE 2024

Pajcha Penas: $30,000.00

Project Executive: **Maximilian Anger** I Project Advisor: **Maximilian Anger**

Engineers Without Borders at the University of Utah collaborates with Engineers in Action and the Pajcha Peñas community in Bolivia to implement sustainable water solutions. The project empowers students to apply their engineering skills while addressing water access issues in a community lacking infrastructure, where residents currently drink untreated water from Lake Titicaca. Students will conduct assessments, develop designs, and implement solutions such as wells or pipelines, ensuring community involvement and sustainability through training. The initiative fosters professional development, networking, and a commitment to social responsibility, aiming to enhance both local and global water quality.

Bird Strike Prevention at RBG: $38,901.18

Project Executive: **Mable Wood** I Project Advisor: **Lynsey Nielson**

Red Butte Garden and Arboretum (RBGA), established in 1985 at the University of Utah, is the largest botanical garden within a 400-mile radius, encompassing over 100 acres and attracting over 229,000 annual visitors. Its mission is to connect people with plants, promoting environmental stewardship through initiatives like the Water Conservation Garden. As a significant green space, RBGA supports biodiversity, including a rich bird population. However, its reflective glass buildings pose a danger to birds, leading to fatal collisions. The project aims to install Feather Friendly Bird Strike Prevention film on the Orangerie's windows to reduce bird strikes by making the glass visible to birds. This initiative will be coupled with educational outreach to raise awareness about bird conservation and the importance of bird-friendly architecture.