



# STEDTRAIN

We put a man on the moon.  
Help our children reach the stars.

## STEDTRAIN 2023-24 Grant Year Report

February 1, 2023 through April 30, 2024

### Mission and History

STEDTRAIN is a Committee of The Huntsville Association of Technical Societies (HATS) that administers a Science, Technology, Engineering, and Mathematics (STEM) Seed Grant program that provides Type I and Type II Grant funding of \$250 to \$1000 and \$1500 to \$2500 respectively to an educator for innovative hands-on classroom projects that will stimulate children's interest in science and technology.

Since the Program began in 1988, it has distributed over \$671,832 for 619 individual grants and other worthy educational projects. The grants currently benefit approximately 10,000 students directly and about 20,000 indirectly a year.

The STEDTRAIN program covers Limestone, Madison, Jackson, Morgan, and Marshall Counties in Alabama and Lincoln County in Tennessee.



The U.S. National Science Foundation (NSF) introduced the acronym STEM in 2001. STEDTRAIN and our Seed Grant program were already well established by that time, so we retain the names and the pseudo-acronym to acknowledge the history of our Committee.

HATS is a nonprofit 501(c)(3) organization supporting Huntsville area technical and professional societies dedicated to the advancement of science and engineering. Founded on June 17, 1969, HATS has grown from seven charter societies to the current organizations representing more than 18,000 individuals. The STEDTRAIN Committee encourages the next generation of scientists, engineers, and technical professionals within our community. We put a man on the moon. Help our children reach the stars.

HATS is grateful to many of its Member societies, corporate, and individual donors for their support. The economic situation of the past few years has substantially increased the number of grant applications received. The increase has required funding substantially beyond what was previously possible.

HATS is listed on Charity Navigator, the nation's largest and most-used charity evaluator, but has not been assigned an Encompass Rating because the organization does not file a full IRS form 990s.

[View HATS Rating on Charity Navigator](#)

Federal EIN: 23-7070415

Alabama Solicitation License: AL21-068

## Key Personnel



**Col Michael (Mike) F. Baran (retired),  
Ph.D.**  
Systems Engineer - Senior Principal  
US Air Force (Ret), SAIC Huntsville  
STEDTRAIN Chair



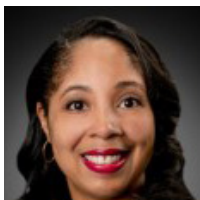
**Mr. Paul Agarwal**  
Project Specialist  
COLSA Corporation  
STEDTRAIN Vice Chair



**Ron Hackett, PE**  
Electrical Engineer, President & CEO  
US Air Force (Ret), H-STAC Software and  
Web Solutions  
STEDTRAIN Website Administrator



**Allison Cash**  
Capture Manager  
Leidos  
HATS Treasurer



**Allison Rhen**  
Project Manager - Technical  
Torch Technologies, Inc.  
HATS President

## Calendar

The STEDTRAIN Seed Grant cycle is 15 months long beginning on February 1st and ending on April 30th of the following year. It is built around the school year and allows for collecting and evaluating proposals and then awarding and executing grants. This causes a three month overlap with the calendar year. To eliminate confusion from these overlapping cycles, this report will focus on one complete Seed Grant cycle

<b>In the year the Seed Grant is awarded:</b>	
Request for Proposals begins	February 1st
Deadline for proposals submission	April 1st before midnight
Deadline for principals to accept proposals	April 3rd before midnight
Deadline to notify STEDTRAIN of problems	April 15th before midnight
Awards published and notices sent	On or about August 5th
Deadline to accept awards	15 days after notification
Deadline to verify award ceremony attendance	4 days before the ceremony
Award Ceremony	Usually the last Saturday in August except Labor Day Weekend,
<b>In the year following the Seed Grant award:</b>	
Midterm reports due	January 20th before midnight
Final reports due	Thursday at noon before presentations
Final presentations	Usually the last Saturday in April

## Proposals Statistics

HATS rules prohibit STEDTRAIN taking money from other HATS programs, so STEDTRAIN funds as many acceptable proposals as possible each year without running a deficit. Some proposals do not qualify for funding and are not funded for cause. There can be proposals that were deemed to be acceptable that are not funded because of a lack of funds.

Submitted	14
Funded	12
Not funded for lack of funds	1
Not funded for cause	1
Total Funds	\$26,141
Funding Shortfall	\$2,095

## Selected Proposal Abstracts

### Mill Creek Elementary School (Madison County, Alabama)

Ms. Jackie Smith

#### Engineering Design Process: Lab 8

Engineering Design Lab 8 is an ongoing effort to create STEM Lab curriculum that correlates to the Next

Generation Science Standards. It will provide students with a variety of hands-on, engineering based projects that will challenge them to utilize critical and analytical thinking skills. 3rd-5th grade students will work collaboratively to design, construct, and test weather balloons, CO2 metric dragsters, and drones. They will use Sphero Bolts to develop coding skills. These activities will foster the concept of teamwork and strengthen student understanding of the engineering design process.

### **Julian Newman Elementary (Limestone County, Alabama)**

Mrs. Diane Trout

#### **Growing the Future**

Growing the Future is a program that will enable to students to grow healthy, nutritious food in the school year round. This project will also provide a place for students to conduct controlled experiments with seeds in an indoor or outdoor environment and relate it to the future of agriculture and how the impact of human's choices today, effect tomorrow's food supply.

Ms. Mary E LeBlanc (Marty)

#### **Lincoln County Schools Robotics After School Program**

Students need the ability to create, design, innovate, and think critically in order to solve complex challenges. Every student should possess deep knowledge and strong skills in math, science, technology, and engineering and should be excited and ready to use that knowledge in the real world. To meet this challenge, we need to provide students with new tools and techniques that enable them to learn and then practice the knowledge they have acquired. A number of robotics kit platforms are available to schools and have introduced students to math, science, and engineering at all grade levels.

A complete list of funded proposals and abstracts can be found on our website at </showpage.php?pageld=84&gy=2324>

## **Selected Final Reports**

At the end of each Seed Grant cycle, the teachers participate in a conference that is intended to facilitate networking and the sharing of ideas for future STEM education projects. The teachers prepare a tri-fold display and are encouraged to bring in hardware and other examples of their project. They also prepare a final report in Microsoft PowerPoint format and a single overview slide. The overview slides are compiled into a single presentation that runs on a timed loop that is display during the networking period. The following are selected examples of the overview slides.



## **Overview**

Engineering Design Process: Lab 8



The objective of this lab is to give students real life experiences using the engineering design process to solve problems. The lab choices were green power racing, sphero bolt challenges, and flying drones.

The students learned about various STEM careers, worked collaboratively to learn new technology to gather and analyze data, and used block coding.



**Our success is possible because of your support of STEDTRAIN!**

Code.org  
Bee Bot App

Brock Optical "Magiscope"

We purchased durable goods and consumables to use for experiments and hands-on explorations.



Ipads & Protective Cases

April 27, 2024

2023-24 Seed Grant Report

2



## Overview

Growing the Future

Exploring leaves, stems, and roots



- Growing the Future is a program that will enable to students to grow healthy, nutritious food in the school year round. This project will also provide a place for students to conduct controlled experiments with seeds in an indoor or outdoor environment and relate it to the future of agriculture and how the impact of human's choices today, effect tomorrow's food supply.



Seedlings beginning to emerge

April 27, 2024

2023-24 Seed Grant Report

3



# Meridianville Middle School

Oh, The Places We Will GROW:  
A STEM Project in Hydroponics



Overall, the hydroponic project is an **immersive** & **experiential** learning



April 27, 2024

2023-24 Seed Grant Report

4

### Goals

- Explain how hydroponic systems function.
- Observe plant growth and development.
- Documenting observations & troubleshooting issues.
- Connect the hydroponic system to broader life science concepts.
- Engage actively in the hands-on, collaborative project.

Click on a slide for a full scale image.

## Impact on the Community

As part of the final report process, teachers report on the participation in their projects. This includes teachers and students who directly participate in the project and teachers and students who are exposed to the project through demonstrations and presentations. Teachers are encouraged to collaborate with other schools, and to bring in external advisors from the area's technical community. The following table summarizes the teachers input for this Seed Grant cycle.

Involvement	Teacher's School	Other Schools	Total Involvement
Number of students involved	2451	900	3351
Number of teachers involved	72	8	80
Number of classes involved	125	18	143
Number of external advisors involved	23	4	27

## Donors

Thanks to the following companies, corporations, institutions, and individuals who contributed generously to the HATS STEDTRAIN program.

### 2023-24 Donors and Contributors

#### Cash Donors:

Space and Missile Defense Working Group  
of the  
National Defense Industrial Association



(NDIA),  
Tennessee Valley Chapter

IEEE, Huntsville Section



Redstone Federal Credit Union



**Website And Communication Donors:**

Hackett Information Systems Engineering



Georgia Tech Research Institute  
Huntsville Research Center



**Individual Donors:**

## Financial Report

As a small organization with less than \$50k in annual revenue, HATS files an annual IRS form 990N. The financial information included in the 990N report may not be sufficiently detailed for some potential donors considering making donations to the HATS STEDTRAIN Seed Grant program, so we provide the following financial report.

Other sources of income include interest on the savings account, PayPal donations, Amazon Smile, and Facebook fundraisers.

<b>Income</b>	
Rollover from previous Grant Year	6,500.34
HATS	0.00
Donations from HATS members	0.00
Outside donations	18,000.00
Grants	0.00
Other sources	-17.88
<b>Total Income</b>	<b>24,482.46</b>
<b>Expenses</b>	

Grants to Educators	21,140.90
Prizes and special awards	300.00
Event costs	5.00
Website and Communications	80.97
Admin	0.00
Rollover to next Grant Year	2,955.59
<b>Total Expenses</b>	<b>24,482.46</b>

The Program Expense Ratio is a number that tells how much of an organization's funding went toward the stated mission of the organization. It is defined as the ratio of Program Expenses (how much was spent on the mission) to Total Expenses.

The STEDTRAIN Program Expense Ratio for this cycle is 99.6008%.

## Contact Information

Email us at [admin@stedtrain.org](mailto:admin@stedtrain.org)

<b>Telephone Contacts:</b>
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Ron Hackett, PE 931.438.3298