STEDTRAIN

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

STEDTRAIN 2024-25 Grant Year Report

February 1, 2024 through April 30, 2025

Mission and History

STEDTRAIN encourages and supports the development of the next generation of Tennessee Valley scientists, engineers, and technical professionals by providing local educators with funding to conduct innovative, hands-on STEM programs in their classrooms.

These funds are called "Seed Grants" because they are intended to "seed" the students' enthusiasm for science and technology while also encouraging them to pursue technology-oriented higher education opportunities and careers. Tax-deductible donations from forward-looking companies, professional societies, and individuals in the community enable STEDTRAIN.

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 $689,302 for 627 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.

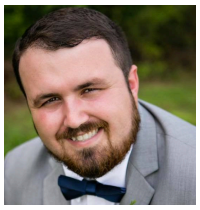
HATS is grateful to many of its Member societies, corporate, and individual donors for their support. The economic situation of the past few years has substantially increased the number of grant applications received. The increase has required funding substantially beyond what was previously possible.

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.

Federal EIN: 23-7070415
Alabama Solicitation License: AL21-068

Key Personnel

Mr. Paul Agarwal
Project Specialist
COLSA Corporation
STEDTRAIN Chair



Jesse Widner
Software Design Engineer III
Torch Technologies, Inc
STEDTRAIN Vice Chair

Ron Hackett, PE
Electrical Engineer, President & CEO
US Air Force (Ret), Hackett Information Systems Engineering
STEDTRAIN Website Administrator

Allison Cash
Capture Manager
Stratolaunch
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.

In the year the Seed Grant is awarded:	
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,
In the year following the Seed Grant award:	
Midterm reports due	January 20th before midnight
Final reports due	Thursday at noon before presentations
Final presentations	Usually the last Saturday in April

Proposal 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	10
Funded	8
Not funded for lack of funds	2
Not funded for cause	0
Total Funds	$17,470
Funding Shortfall	$4,192

Selected Proposal Abstracts

Rainbow Elementary School (Madison County, Alabama)
Mrs. Megan Hockey
Let's Makey-Makey it Hands On
Rainbow Elementary's STEM program cultivates essential 21st-century skills and fosters a foundational understanding crucial to STEM disciplines and global citizenship. Students actively participate in inquiries employing scientific and engineering methodologies to discern global challenges and real-world problems. The use of Makey-Makeys will allow students to create interactive, experiential projects integrating coding, engineering, and science while honing collaborative problem-solving skills.

Lincoln County High School (Lincoln County, Tennessee)
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.

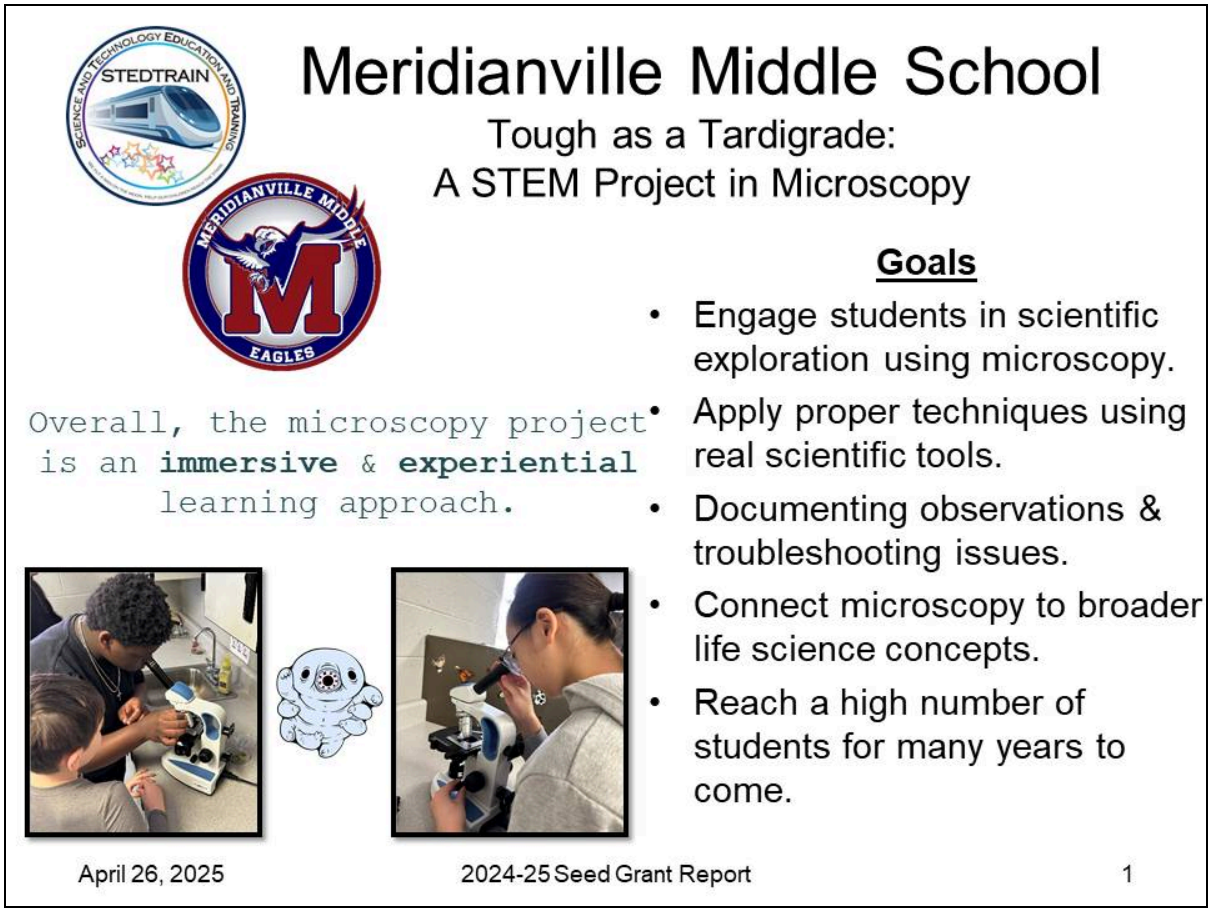
Limestone County Career Technical Center (Limestone County, Alabama)
Meridianville Middle School (Madison County, Alabama)
Mrs. Brandi Glenn
Tough as a Tardigrade!
I propose a project that will provide 7th-grade students with the opportunity to explore the fascinating world of microscopic organisms found in pond water. Students will embark on an engaging exploration of tardigrades, also known as "water bears," using high-quality microscopes. Through hands-on investigations, students will observe these resilient microorganisms' unique characteristics and capabilities. The project aims to foster students' scientific curiosity, critical

thinking, and communication skills as they share their tardigrade discoveries with their peers & community

A complete list of funded proposals and abstracts can be found on our website at /showpage.php?pageId=84&gy=2425

Selected Final Reports

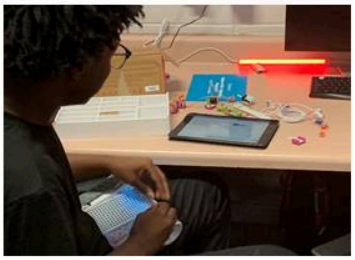
At the end of each Seed Grant cycle, the teachers participate in a conference that is intended to facilitate networking and the sharing of ideas for future STEM education projects. The teachers prepare a tri-fold display and are encouraged to bring in hardware and other examples of their project. They 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.



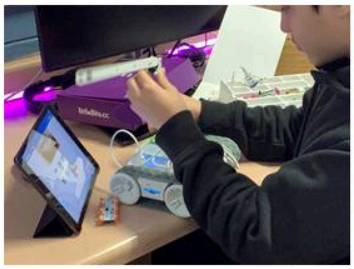
Overview

Coding Custom Built Hardware

- **Program Goal**
  - To enable students to interact with programming Hardware to accomplish a task
- **Program Objective**
  - To use Little Bit kits to add sensors and motors to programmable RVR(Cars)
  - Simulate Self Driving Cars



- **Learning Outcomes**
  - Apply programming skills to actual hardware
  - Create a self Driving Car using custom sensors
  - Demonstrate an understanding of how hardware and software relate



Indi Speed Coding

Diane Trout, Julian Newman Elementary

1st grade

Can you get Indi to drive in a square?

2nd grade

Problem solving how far the tiles can be apart

- Goal: Get students familiar with computational thinking, problem solving, functions, algorithms, decomposition and patter recognition through color tiles.
- Results: Students were excited and able to work through problems presented to them such as make a square with the tiles or guess the function. They worked collaboratively and used correct vocabulary while working with Indi.
- Objectives: Allow students to try, fail, and try again to utilize paths using different colors. Learn the functions of tiles and be creative in how they use Indi.

Overview

Lincoln County Schools Robotics After School Program

Thanks to STEDTRAIN's support, the Lincoln County Robotics Program expanded hands-on STEM opportunities for students in grades 6–12 by adding new VEX V5 robotics kits. This allowed us to launch additional teams, engage more students in classroom and after-school settings, and prepare for competitions like VEX, TSA, and FIRST Robotics. Through designing, building, and coding robots, students applied the Engineering Design Process to solve real-world challenges while developing critical skills in programming, CAD, teamwork, communication, and leadership. The project fostered deeper academic engagement in math and science, encouraged peer mentorship with feeder schools, and inspired students to pursue STEM careers and post secondary opportunities. Thank you for shaping the next generation of innovators!

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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 techical 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	2525	900	3425
Number of teachers involved	58	6	64
Number of classes involved	108	18	126
Number of external advisors involved	14	4	18

Donors

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

2024-25 Donors and Contributors

Cash Donors:

Space and Missile Defense Working Group of the National Defense Industrial Association (NDIA), Tennessee Valley Chapter

IEEE, Huntsville Section

Website And Communication Donors:

Hackett Information Systems Engineering

Georgia Tech Research Institute Huntsville Research Center

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.

Credits	
Rollover from previous Grant Year	2,583.87
HATS	0.00
Donations from HATS members	2,000.00
Outside donations	15,000.00
Grants	0.00
Other sources	5.50

Total Credits	**19,589.37**
Debits	
Grants to Educators	17,469.80
Prizes and special awards	300.00
Event costs	0.00
Website and Communications	20.99
Other expenses	60.00
Rollover to next Grant Year	1,738.58
Total Debits	**19,589.37**

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 99.5463%.

Contact Information

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