STEDTRAIN

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

STEDTRAIN 2022-23 Grant Year Report

February 1, 2022 through April 30, 2023

Mission and History

STEDTRAIN is a Committee of the 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 $650,691 for 610 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 ou 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
Dynetics
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

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	17
Funded	11
Not funded for lack of funds	0
Not funded for cause	6
Total Funds	$26,600
Funding Shortfall	$0

Selected Proposal Abstracts

Ralph Askins Elementary (Lincoln County, Tennessee)
Mrs. Shana Smith
Little Tigers STEM Lab
Ralph Askins is implementing a Little Tigers STEM lab for all 540 little Tigers. A STEM facilitator will create

weekly lessons to support classroom learning. The little Tigers will experience at least one unique STEM activity per month. The STEM lab facilitator will plan, develop, and create STEM activities to collaborate with the classroom curriculum. The first project to be introduced in the Little Tigers STEM lab will be to buil robots and program them using basic coding language. The Little Tigers Stem lab will develop and build or the natural curiosity of elementary students.

Madison County Virtual Academy (Madison County, Alabama)
Ms. Whitney Evans
First LEGO League Challenge Robotics Team
The Madison County Virtual Academy set course for its maiden voyage in creating a Robotics team last year. Students in 4th-6th grades learned to build and program robots using the FIRST LEGO League resorces. The robotics team worked together to solve a real-world based challenge using the scientific method, STEM skills, and a LEGO SPIKE Prime Robot Kit. Students also learned robotics and engineering basics as well as strengthened their leadership and collaboration skills. For the 2022-2023 year, we plan to extend the skills the students have learned and compete in our first competition.

Limestone County Career Technical Center (Limestone County, Alabama)
Ms. Monica Hobson
Team 34 - Rocket Robotics - Limestone County
Team 34 participates in the FIRST FRC competition. It is a program that teaches students the principles of engineering and how to work as a team. In a short amount of time, students must work together and desig and program a fully functioning robot to compete in the game for that year. It is designed to promote interests in careers in STEM fields. The competitions are opportunities to work with teams from all over the country to achieve their goals. It allows them the chance to learn how to work as a team with strangers.

A complete list of funded proposals and abstracts can be found on our website at /showpage.php?pageId=84&gy=2223

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

Launching the Future

- Objectives
  - Basic coding skills
  - Collaboration
  - Problem solving
  - Force and motion concepts
- Learning outcomes
  - Student led collaboration and problem solving
  - Application to real world aeronautics and space exploration after hands on projects
- Program Goals
  - Utilize gripper attachment to "rescue" a pet during a natural disaster
  - Cross grade level collaboration
  - Launch projectiles and hit a target
  - Problem solve and troubleshoot basic coding algorithms
  - Encourage student interest in space exploration and aeronautics

Overview

First LEGO League Challenge Robotics Team

- Rocket Robotics used the grant to purchase two laptops to program our robot and to research design and build ideas.
- These computers contributed to the success of our team. We qualified for the State Competition. At State, we scored high enough to qualify for the World Championship in Dallas, TX.

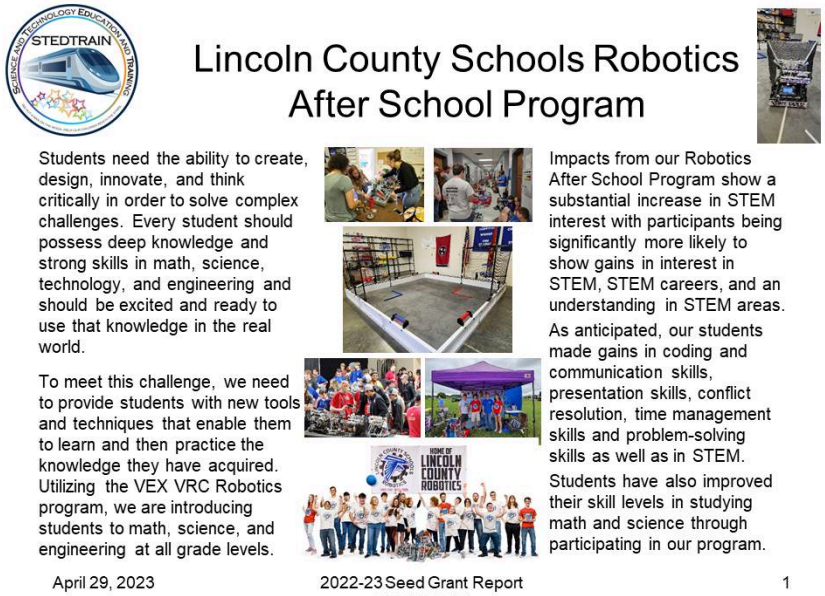
Team 34 The Rockets

Monica Hobson
Limestone County Career Technical Center

Team 34 participates in the FIRST FRC competition. It is a program that teaches students the principles of engineering and how to work on as a team. In a short amount of time, students must work together and design, build, program, and market a fully functioning robot to compete in the game for that year. It is designed to promote interests in careers in STEM Fields.

Team 34 members and mentors with their 2023 competition robot at the Rocket City Regional

A Team 34 student preparing to use a bandsaw to cut materials during the robot build season.



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 t 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	2189	760	2949
Number of teachers involved	125	9	134
Number of classes involved	121	25	146

Number of external advisors involved	52	7	59

Donors

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

2022-23 Donors and Contributors

Cash Donors:

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

H2L Solutions

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.

Income	
Rollover from previous Grant Year	9,061.91
HATS	0.00
Donations from HATS members	17,000.00
Outside donations	3,000.00
Grants	0.00
Other sources	6.25
Total Income	**29,068.16**
Expenses	
Grants to Educators	26,600.43
Prizes and special awards	300.00
Event costs	0.00
Website and Communications	18.99
Admin	0.00
Rollover to next Grant Year	2,148.74
Total Expenses	**29,068.16**

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 99.9295%.

Contact Information

Email us at admin@stedtrain.org

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