

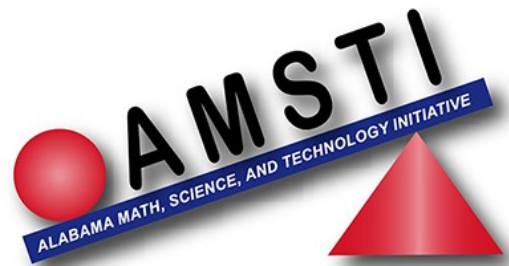
UNA STEAM OUTREACH INITIATIVE 2018-19



Program Report

STEAM Outreach Initiative Sponsors

STEAM Outreach Initiative is pleased to have the sponsors listed below.
The program would not be possible without their support .



University of NORTH ALABAMA

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Mr James Mitchell- Systems Librarian

Mr Shannon Uptain- AMSTI UNA Director

Mrs Stephanie Newland- Vice President of Workforce Readiness,
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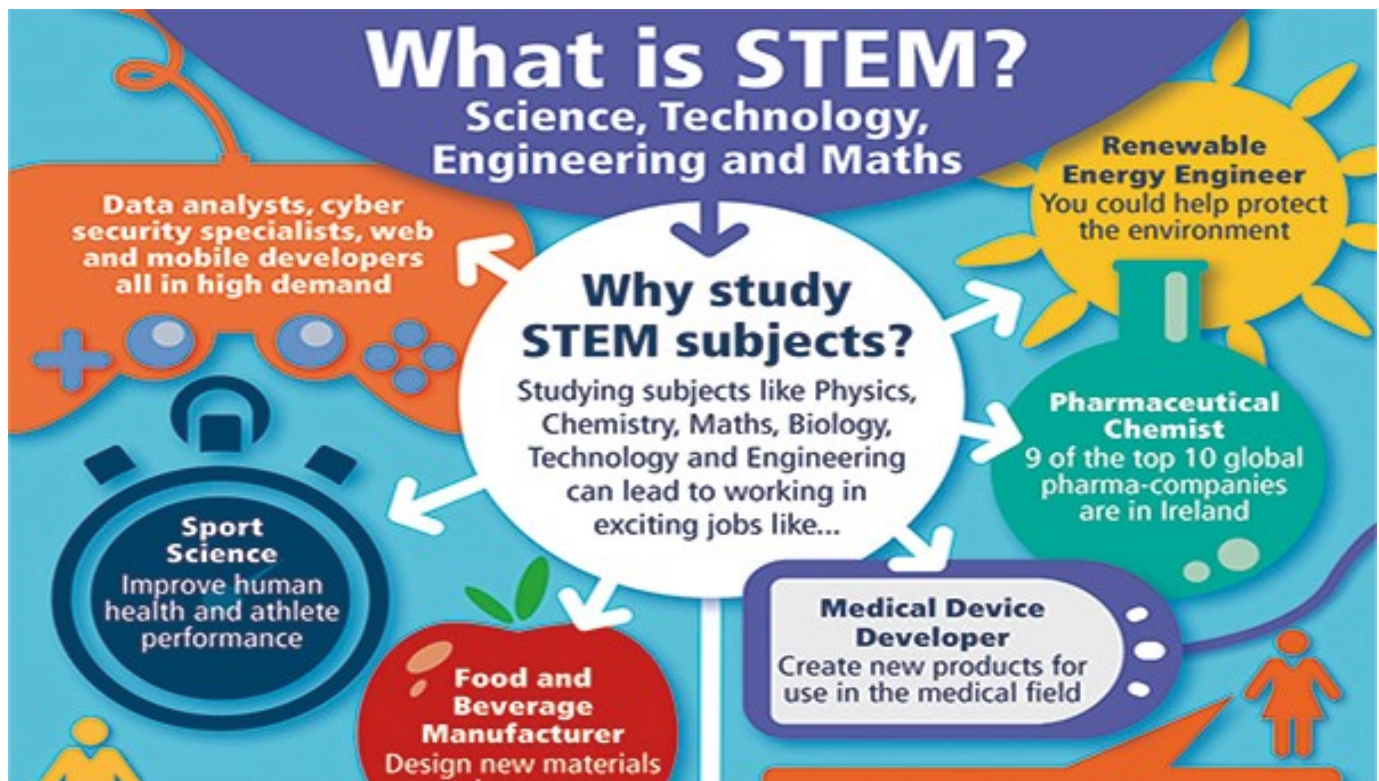
Mr Ches Smith- Instructor, Northwest Shoals Community College

Ms Darien Burden- University Innovation Fellow

Program Overview

STEAM, an acronym that stands for science, technology, engineering, the arts and mathematics, encompasses a group of some of the fastest-growing industries and career opportunities in the world.

UNA is honored to currently host two STEM competitions in the Spring. They are UNA Rocketry and UNA Robotics. The STEAM Outreach Initiative also works in cooperation with Shoals Spark and STEM Camps at UNA. The programs involve hundreds of students from over 50 schools in three states. These students collaborate in teams to showcase their research and engineering design ideas. These students, along with their research and ideas are our future! The future is bright!



UNA Robotics



The UNA Robotics competition was held on January 26, 2019. Eighty teams comprised of almost 400 students competed in grades K-12. Teams came from across North Alabama.

This year's competition, "Mission to Mars" had students coding robots to prepare a landing site for future human colonization of Mars.

K-2 First Place:	Russellville West Elementary
3-5 First Place:	Russellville Elementary Team 1
6-8 First Place:	Florence Middle School
9-12 First Place:	Whitesburg Christian Academy
Grand Champion:	Russellville West Elementary

"....The event showed me that we are able to create fun and safe learning events for our children to promote and excel their interests, like robotics, in the Shoals"

Andy Alonso, Partcycle.com




UNA Robotics



UNA Rocketry

The UNA Rocketry Competition was held on March 23, 2019, at the Mike Green Industrial Complex in Russellville, AL.

Eighteen teams, comprised of over 100 students competed. Teams came from across North Alabama. This year the competition was for the rocket to attain an altitude of 856 feet and stay aloft for 43-46 seconds while safely carrying three eggs.



First Place:	Cullman Area Technical Academy
Second Place:	Tharptown High School
Third Place:	Rogers High School

This year, two teams from ***Russellville High School***, one from ***Tharptown High School***, one from ***Cullman Area Technology Academy*** and one from ***Rogers High School*** advanced to the **National Championship in Washington** where all teams competed very well.

".....We really did not grasp how great this was for the students until having a chance to speak with them and watch them in action. This was about these students taking math and science and putting it into action at a different level."

Shannon Uptain, AMSTI UNA Director

UNA Rocketry

Alabama hosted 31 teams this year. Of those, 14 were from the UNA Rocketry Competition. Another team at the Alabama School of Math and Science was founded by a student that formerly competed at UNA Rocketry.



TEAM AMERICA ROCKETRY CHALLENGE (TARC)



TARC started in 2002 to coincide with the centennial of flight. Since then it has grown to involve over 5000 students each year in with over 800 teams nationwide.

This year, teams had to create a rocket that flew to a target altitude of 856 feet and remained in the air 44-46 seconds while safely carrying three eggs.

UNA Rocketry



Team America Rocketry Challenge

The Team America Rocketry Challenge is the world's largest student rocket contest and a key piece of the aerospace and defense industry's strategy to build a stronger U.S. workforce in science, technology, engineering and mathematics (STEM). Sponsored by the Aerospace Industries Association (AIA) and the National Association of Rocketry (NAR), the Team America Rocketry Challenge was created in the fall of 2002 as a one-time celebration of the Centennial of Flight, but by popular demand became an annual program.

Nearly 5,000 students from across the nation compete each year. The contest's rules and scoring parameters change every cycle to challenge the students' ingenuity and encourage a fresh approach to rocket design.

Place	Team	Total	Scholarship/Prize
2	Russellville Team 2	12.56	\$15,000
11	Cullman Area Technology Academy	35.44	
14	Russellville Team 1	37.88	\$500 (Best Rocket Craftsmanship: Lockheed Martin)
23	Tharptown High School	67.16	
53	Rogers High School (One launch)	45.72	



**Cullman Area
Technology Academy
11th Place**



Russellville Team #2 — 2nd Place

**Russellville
Team #1
14th Place**



Tharptown HS — 23rd Place



Rogers High School — 53rd Place

Shoals SPARK



Shoals Spark is an idea competition for students living in the Shoals. It was created to foster innovation and entrepreneurship in our community's young people to generate unique ideas about how to make the Shoals a very cool place to live and work.

HIGH SCHOOL CATEGORY

First Place: Red Bay High School

ELEMENTARY / MIDDLE SCHOOL CATEGORY:

First Place: Muscle Shoals Middle

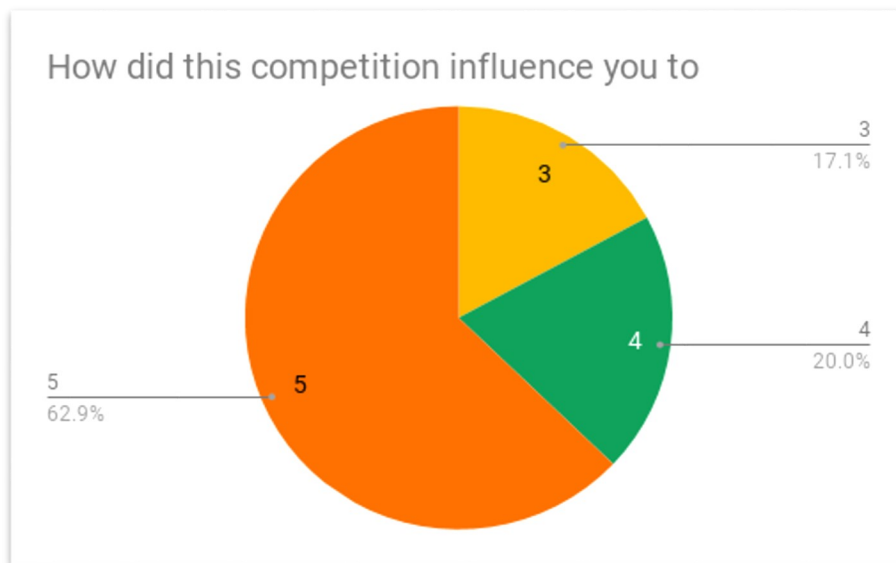
The annual competition is sponsored by Listerhill Credit Union, the University of North Alabama, Shoals Shift, and the Shoals Chamber of Commerce. The event was partially funded by a grant from the Appalachian Regional Commission. This event was created to identify those in our area who are on the path to becoming leaders in digital technology.



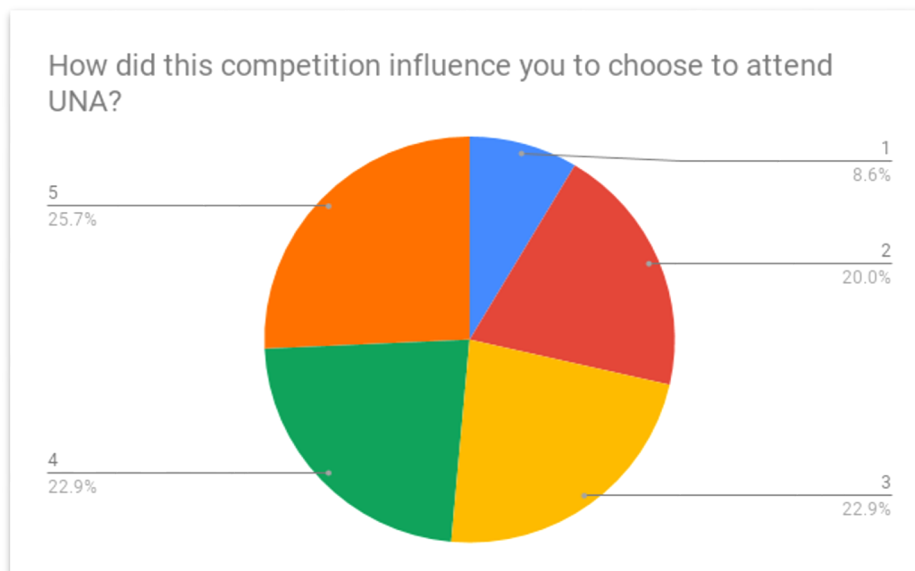
UNA STEAM Surveys

Students were given a survey and asked to answer a few questions (N=36). They were asked to rate their response to the given question on a 5 point Likert Scale.

How has this competition influenced you to participate in future UNA STEM activities? **Mean=4.5**



How has this competition influenced you to consider attending UNA in the future? **Mean=3.4**

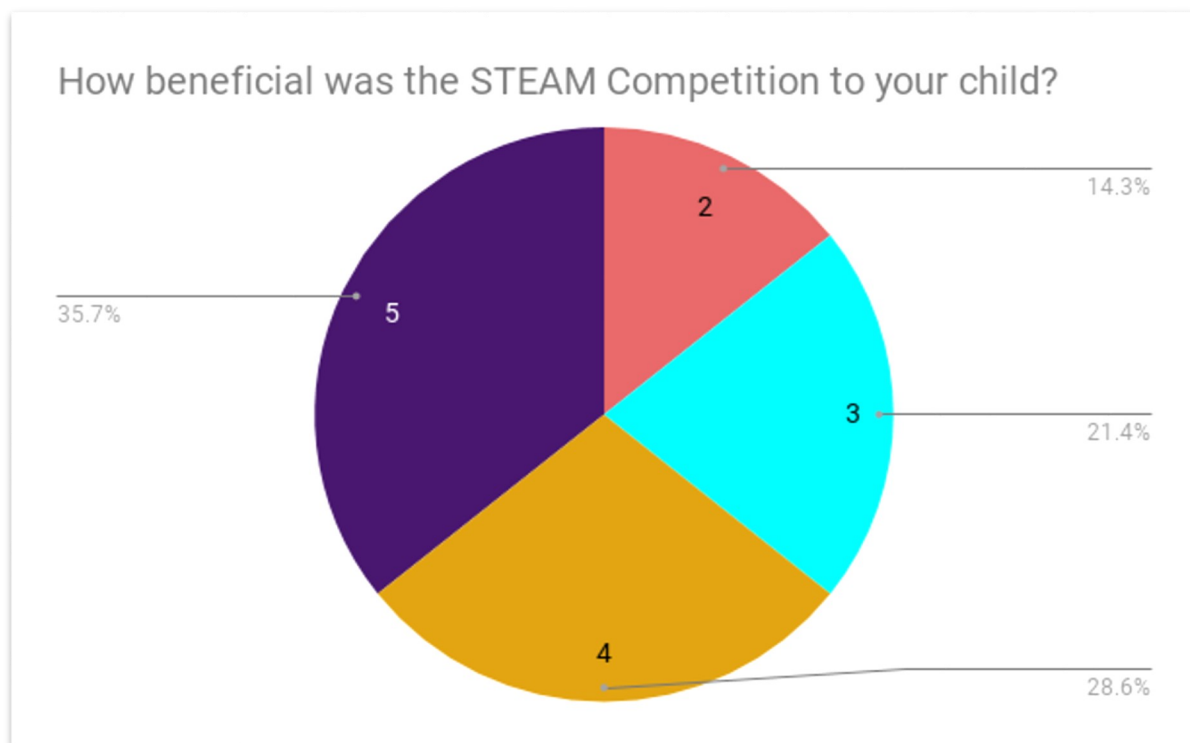


UNA STEAM Surveys

Adults were asked a question about their reaction to the competitions (N=36). They were asked to rate their response to the given question on a 5 point Likert Scale.

How beneficial was this STEAM project was to your child/students?

Mean=4.3



Next Steps

UNA STEM Outreach Initiative is committed to making sure there are STEM competitions available for schools in North Alabama. We believe this is vital for students to achieve continued success.

The **UNA ROV** competition has been put on hiatus until a suitable location can be found to host.

UNA Rocketry is on track, meeting the goal of sending 5 teams to the national championship in Washington. The goal for next year is to maintain 4 or more teams at Washington and have 2 or more teams get scholarships at the National Competition.

UNA Robotics is continuing to grow. Eighty teams from across North Alabama joined us this year. We hope to keep that number for next year and to get other locations across the state to join us, perhaps culminating in a state championship. We are also considering the possibility of Regional Tournaments being held in other locations across the state and a State Finals being held at UNA.

A new competition is in the works, **UNA Racing**. Stay tuned for information.

We would love to invite area Colleges and Universities to join our current competitions as exhibition teams.

