

# STEM OUTREACH ANNUAL REPORT 2022-23



**AUBURN**  
UNIVERSITY

College of Sciences  
and Mathematics  
*STEM Outreach*

AUGUST 2022 - JULY 2023

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## DEAR SCIENCES AND MATH ENTHUSIASTS,

Young scientists participated in scientific engagement and exploration through more than 30 programs offered by the STEM Outreach office during the 2022-23 calendar year. STEM programs ranged from intimate gatherings discussing a recent scientific discovery to large, sports-like competitions. STEM Outreach impacted more than x lives this year.

In addition to inspiring and engaging k-12 students, STEM Outreach is an avenue for sharing r esources with and educating teachers about agricultural, environmental and scientific resources and advancements. Teachers inspire and mold young minds and show students the joy in learning about STEM topics. Their knowledge and themactic excitement is contagious.

The STEM Outreach office is committed to continue sharing our passion for science, technology, engineering and mathematics with others in the coming years. Watching a new concept being understood and feeling the enthusiasm of discovery or is one of the joys of my career.

War Eagle!



Mary Lou Ewald

Director COSAM Outreach

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## OUR MISSION

The College of Sciences and Mathematics at Auburn University aims to promote scientific and mathematic literacy and interest among K-12 students, teachers and communities in our region, state and nation

*“Curiosity is the wick of the candle in learning.”*

- *William Arthur Ward*



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# AUGUST 2022 - JULY 2023 IMPACT NUMBERS AT A GLANCE

## INDIVIDUALS

4,862+

## AGES

*ALL*

## DAYS

94

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## PROGRAMS

Destination STEM, 10/1/2022

AMP'd, 11/5/2022

COSAM Campfire, 11/16/2022

South's BEST, 12/3 - 12/4/2022

AJAS Paper Reading Competition, 2/2/2023

MaPP, 2/11/2023

EmpowHER, 2/14/2023

Elementary Science Olympiad, 3/25/2023

ASEF, 3/31 - 4/1/2023

Aspire Summer Training (ASEF)

New Teacher Training (ASEF)

State Science Olympiad, 4/22/2023

Summer Science Institute, 6/4- 6/10/2023

Science Matters Camps (six weeks)

GUTS (three)

Science Cafe/Pub (eight)

Collaborative Programs\*

## NUMBER IMPACTED

715 students & teachers

125 students, teachers & parents

41 participants

1,400 students, parents, teachers & community members

6 participants

83 students & teachers

130 students

104 students

136 students

9 teachers

46 teachers

204 students

16 students

438 students

77 students & parents

250+ participants

1,082 participants

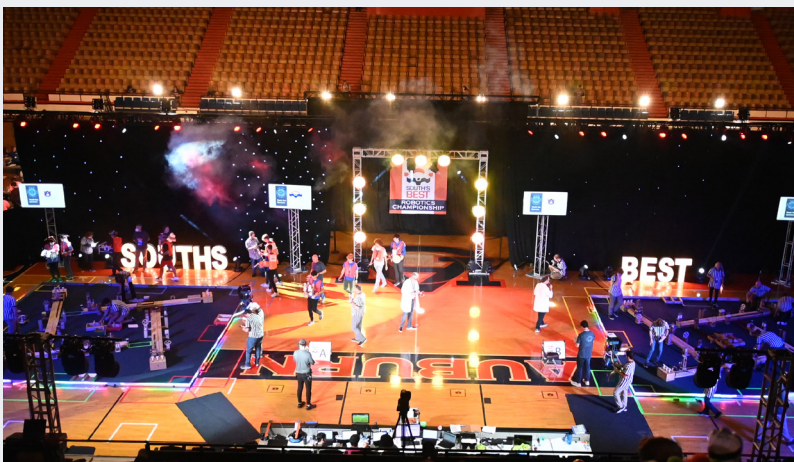
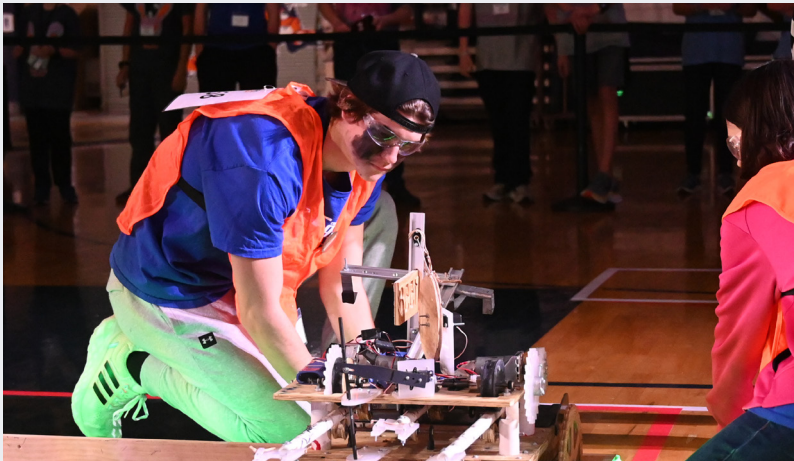
\* Collaborative programs are a partnership between STEM Outreach and another entity. During the 2022-2023 year these included GEASEF, Spring into Science, Junior Mad Scientist, College Quest Academy STEM Day, AP Summer Institute, Modeling the Future Challenge Workshop, Science in Motion, COSAM before Convocation & Camp War Eagle.

# PROGRAM SPOTLIGHTS

## SOUTH'S BEST ROBOTICS COMPETITION

The 2022 South's BEST Robotics Championship marks the end of an era for Auburn University. This was the 21<sup>st</sup> and final year Auburn will host this inspirational program. During its tenure, Auburn had the privilege of impacting more than 50,000 people through the BEST program. Robotics education and competition also transformed into a significant part of STEM education in our region. Auburn will pass the honor of hosting South's BEST to the University of North Alabama in Florence in 2023.

Best robotics fosters knowledge, teamwork and communication. It provides students an authentic problem-solving experience based on real-world science and engineering problems. The 2022 theme, "Made 2 Order," challenged students to experience automated manufacturing by designing, building and controlling a robot that can assemble and control another robot. The South's BEST Regional Championship at Auburn University is the final competition for top southeastern teams.



## DESTINATION STEM

Destination STEM was reinstated in 2022 after a short hiatus due to the coronavirus pandemic. Over 800 sixth through ninth grade students from 13 rural Alabama schools joined COSAM and Engineering faculty, staff and students for an exciting day of exploring interactive exhibits and discussing careers in science, technology, engineering and mathematics (STEM).

Students used a travel passport to document what they learned at more than 50 interactive stations showcasing the wonders of science. Examples of displays included Theremin (an electronic musical instrument controlled without physical contact by the performer), a hair-raising Van de Graaf Generator demonstrating static electricity, rock-solid Geosciences collections, laser harps projecting DNA imagery, botanical oddities of Alabama and more.

Some displays even allowed students to engage in mathematical folding puzzles, play probability games at a math carnival and scope out fruits and vegetables using microscopes.

Science truly came to life when participants learned about biomimicry live animals, an invasion of invertebrates and reptiles of Alabama like the large Eastern indigo snake and the checkered corn snake.

Throughout the morning, students gained an increased awareness of opportunities in STEM fields in an exciting, hands-on manner and walked away with a greater appreciation of how scientists can make meaningful impacts throughout the world.



## ALABAMA SCIENCE AND ENGINEERING FAIR (ASEF)



After 15 years of being a regional and virtual science fair site, Auburn University welcomed almost 200 of the brightest and most creative middle and high school minds for the Alabama State Science and Engineering Fair (ASEF). Auburn University is the new, permanent home of ASEF.

Champions from five regional fairs, representing 47 different schools, assembled to showcase projects from one of eleven categories related to science or engineering in either the junior (6-8 grades) or senior (9-12 grades) divisions. Participants prepared a poster and video summary of their results and presented findings to judges.

ASEF attendees competed for 83 junior division and 95 senior division awards valued at more than \$15,000 in prizes. Winners also vied for one of four slots to the Regeneron International Science and Engineering Fair (ISEF) in Dallas, Texas on May 14-19, 2023. ISEF is the world's largest pre-college science competition.

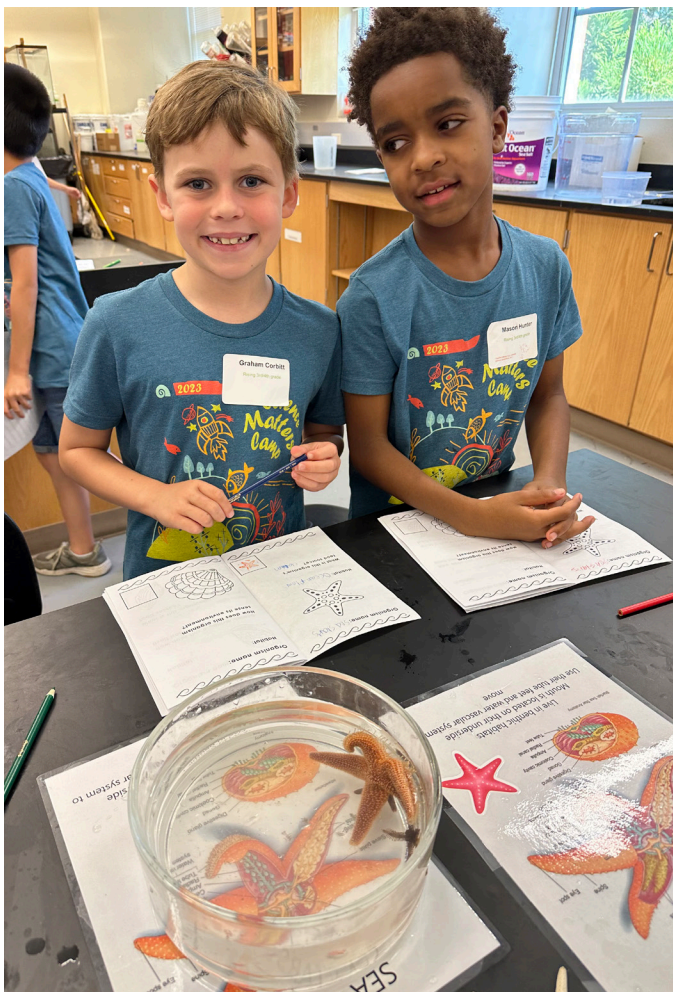
The College of Sciences and Mathematics (COSAM) and the Samuel Ginn College of Engineering have been long-time regional science fair collaborators, but this year marked the first time a campus-wide alliance supported the STEM initiative. Campus units contributed financially, provided judging and offered department-specific awards to participants.

ASEF plans to continue to bring STEM initiatives to the community through professional development for teachers from rural, urban and low-socioeconomic status (SES) and Title 1 schools in Alabama.

*"I really enjoyed the rocks and minerals display. We got to match minerals with the object they make, and it showed me what everyday items are made of."*

*- John Henry, a seventh-grade student at W.F. Burns Middle School and first-time visitor to Destination STEM.*

## THANK YOU



Thank you to our countless employees, mentors, donors and volunteers during the 2022-23 academic year. We would not have had the impact we did without your support.

Your commitment to meaningful exposure to the sciences and mathematics enabled our youth to learn and explore their environment and increase their scientific literacy. You are inspirational.



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