ASEF
Alabama Science & Engineering Fair

## American Psychological Association Award

*Sponsored by: American Psychological Association*
This award recognizes outstanding research in psychological science under the category of behavioral and social sciences or any category related to psychology (animal sciences, biomedical and health science, translational medical science). The award recipient will receive a certificate.

The winner is: Jakub Hel - Hoover High School

## AU - 100 Women Strong Achievement Award

*Sponsored by: AU - 100 Women Strong*
This achievement award recognizes females that exemplify excellence through research in any category. Winners will receive the following -1st place $100 cash prize and a certificate, 2nd place $75 cash prize and a certificate, 3rd place $50 cash prize and a certificate.

1st place – Makaila Jennings, Key Destiny Academy

2nd place – Urvi Mysore, James-Clemens High School

3rd place – Genevieve Detwiler, St. John Paul the Second Catholic High School

## AU - Biological Sciences Award for Creative Application of Biological Principles

*Sponsored by: AU - Department of Biological Sciences*
This award recognizes a senior division project in a biological field with a certificate and $100 cash award.

The winner is: Dev Mehta - Davidson High School

## AU - Biological Sciences Award for Outstanding Poster in Cellular, Molecular, or Microbiology

*Sponsored by: AU - Department of Biological Sciences*
This award recognizes an outstanding poster in any category, which has a Cellular, Molecular, or Microbiology emphasis by a high school student. The awardee will receive a certificate and a $100 cash award.

The winner is: Shivani Babu - Auburn High School

## AU - COSAM Future Scientist Award

*Sponsored by: AU - College of Sciences and Mathematics*
This award will be given to a student, in any category, who demonstrates a complete, thorough and current understanding of a scientific topic during their interview. As such, this student shows great promise as a future scientific researcher. The award winner will receive a certificate and a $100 cash award.

The winner is: Ashwin Prabhakar – Bob Jones High School

## AU - Department of Chemistry and Biochemistry Award

*Sponsored by: AU - Department of Chemistry/Biochemistry*
This award is designed to recognize the top chemistry/biochemistry project. The awardee will receive a certificate and $100 cash award.

The winner is: Ryan Montgomery – Alabama School of Fine Arts

## AU - Department of Geosciences Award

*Sponsored by: AU - Department of Geosciences*
This award recognizes high achievement in the area of geoscience, geology, and geography. The winners will be presented with a certificate and $100 cash award.

The winner is: Aanchal Behara - Alabama School of Fine Arts

## AU - Innovation of Robotic Systems

*Sponsored by: AU - Southeastern Center of Robotics Education (SCORE)*
This award recognizes a project that shows great promise in the use of robotic systems. The winner will receive a certificate and a $100 cash award.

The winner is: AnnaBekah Cress - Libertas Classical

## AU - Physics Award for Ingenuity and Inventiveness

*Sponsored by: AU - Department of Physics*
This award recognizes someone who demonstrates and understanding of the laws of physics and how to use them to interpret and understand the world around us. The winner will receive a certificate and a $100 cash award.

The winner is: Arjun Iyer - Homewood High School

## AU - Samuel Ginn College of Engineering Award

*Sponsored by: AU - Samuel Ginn College of Engineering*
This award recognizes a project, in any category, that demonstrates an innovative application of math or science to a societal challenge. The award winner will receive a certificate for their efforts and a $100 cash award.

The winner is: Judson Upchurch - Hewitt-Trussville High School

## AU - Society of Hispanic Professional Engineers Young Innovator Award

*Sponsored by: AU - Society of Hispanic Professional Engineers*
This award recognizes research excellence presented by a minority student in an effort to encourage a lifelong enthusiasm for the sciences in traditionally underrepresented demographics. The senior division winner will receive a certificate and $100 cash award.

The winner is: Daniel Zhao - Alabama School of Fine Arts

## AU - Society of Women in Sciences and Mathematics Achievement Award

*Sponsored by: AU - Society of Women in Sciences and Mathematics*
This award recognizes high achievement in scientific research by a female. The winner of this award will receive a certificate and a $100 cash award.

The winner is: Shivani Babu - Auburn High School

## AU - Spirit of Excellence Award

*Sponsored by: AU - COSAM Office of Inclusion, Diversity and Equity*
This award recognizes any student for any category considered an underrepresented minority in STEM (African Americans, American Indians including Native Alaskans, Hispanics and Native Pacific Islanders), or persons with disabilities. The winner will receive a certificate and a $100 cash award.

The winner is: Shemaiya Peak – Stanhope Elmore High School

## AU - Talent in Mathematics and Statistics Award

*Sponsored by: AU - Department of Mathematics and Statistics*
This award recognizes a project, from any category, that demonstrates a strong mathematical and statistical analysis. The winner will receive a certificate and a $100 cash award.

The winner is: Leo Shen – Auburn High School

## AU - Agronomy Award

*Sponsored by: AU - Department of Crop, Soil and Environmental Sciences*
This award recognizes high achievement in scientific research in fields related to soil management and cop production. Winners will receive the following -1st place $100 cash prize and a certificate, 2nd place $50 cash prize and a certificate, 3rd place $25 cash prize and a certificate.

1st place – Brennen Rey – Central High School

## AU - Biosystems Engineering Award

*Sponsored by: AU - Biosystems  Engineering Department*
This acheivement award recognizes an individual that demonstrates an innovative approach to application of math and or engineering to biological systems. The winner will recieve a certificate and a $75 cash award.

The winner is: Dakota Perry – Davidson High School

## AU - Chemical Engineering Award

*Sponsored by: AU - Chemical  Engineering Department*
This award recognizes high acheivement in scientific research in fields related to Chemical Engineering or Applied Chemistry. The winner will receive a certificate and a $100 cash award.

The winner is: Naeim Mahjouri - Auburn High School

## AU - Environmental Science Award for Water Science

*Sponsored by: AU - Department of Crop, Soil and Environmental Sciences*
This award recognizes high achievement in scientific research in fields related to water science. Winners will receive the following -1st place $100 cash prize and a certificate, 2nd place $50 cash prize and a certificate, 3rd place $25 cash prize and a certificate.

1st place – Dakota Perry - Davidson High School

2nd place – Aanchal Behara - Alabama School of Fine Arts

3rd place – Shemaiya Peak - Stanhope Elmore High School

## AU Soil Science Award

*Sponsored by: AU - Department of Crop, Soil and Environmental Sciences*
This award recognizes high achievement in scientific research in fields related to soil science. Winners will receive the following -1st place $100 cash prize and a certificate, 2nd place $50 cash prize and a certificate, 3rd place $25 cash prize and a certificate.

1st place – Maren Smith - Homewood High School

2nd place – Vaughan Mountain - Oakwood Adventist Academy - HS

3rd place – Shemaiya Peak - Stanhope Elmore High School

## Biophysical Award

*Sponsored by: The Biophysical Society*
This award will be given to the top project with a biophysical science theme. The winner will receive a certificate and a $100 cash award.

The winner is: Mayu Nakano - Indian Springs School

## Future Rocket Scientist Award

*Sponsored by: AU -  Aerospace Engineering Department*
This award recognizes high achievement in research related to Aerospace Engineering.

The winner is: Daniel Zhao - Alabama School of Fine Arts

## International Development Science Champion Award
*Sponsored by: U.S. Agency for International Development (USAID)*
This award will be given to the student(s) whose project is an outstanding demonstration of solving an important global development challenge in areas such as agriculture and food security, democracy and governance, economic growth, education, environment and global change, gender equality, global health, science, technology and innovation, water and sanitation or working in crises and conflict.

The winner is: Julian Vilardi – Wetumpka High School

## Most Outstanding Exhibit in Materials Science
*Sponsored by: ASM Materials Education Foundation*
This award will be given to the top project with a materials science theme.  The winner will receive a certificate and ribbon to follow.

The winner is: Naeim Mahjouri - Auburn High School

## Mu Alpha Theta Award
*Sponsored by: Mu Alpha Theta*
This award is presented to one Senior Division project that best demonstrates challenging, original, thorough, and creative investigation of a problem using mathematics. The winner will receive a certificate.

The winner is: Arjun Iyer – Homewood High School

## NASA Earth System Science Award
*Sponsored by: NASA*
This award will be given to the student whose project offers the greatest insight into earth's interconnected systems. The winner will receive a certificate.

The winner is: Joshua Sipper - Wetumpka High School

## National Geographic Society, That's Geography! - Cultivating Empathy for the Earth Award
*Sponsored by: National Geographic*
This award will be given to the student whose project focuses on issues of oceans, land, wildlife, human history & cultures, and human ingenuity or brings geographic concepts and skills to life in new, non-traditional ways.

The winner is: Eva Ledvina - Jefferson County International Baccalaureate (JCIB)

## Naval Science Award

*Sponsored by: The Office of Naval Research*
This award recognizes up to 2 students who show excellence in science or engineering. Winners will receive a certificate, a medallion and an award verification letter redeemable for a $50 cash award.

The winners are:

Jordan Jennings - Key Destiny Academy 9-12

Shemaiya Peak - Stanhope Elmore High School

Mayu Nakano - Indian Springs School

## Regeneron Biomedical Science Award

*Sponsored by: Society for Science*
This award will provide a $500 award and certificate to an exceptional student scientist who not only demonstrates an impressive command of biomedical science and resarch but also embodies Regeneron's core values and behaviors known as "The Regeneron Way" which are reflected in the award selection criteria.

The winner is: Shreya Sunil – James Clemens High School

## Ricoh Sustainable Development Award

*Sponsored by: RICOH*
This award recognizes the project that best reflects the principles of sustainability --balancing economic development with environmental responsibility. The awardee will receive a certificate.

The winner is: Naeim Mahjouri - Auburn High School

## Science, Technology, Engineering & Math (STEM) Achievement Award (U.S. Air Force)

*Sponsored by: US Airforce*
This certificate will be given to a student who shows excellence in science or engineering.

The winner is: Naiem Mahjouri - Auburn High School

## U.S. Stockholm Junior Water Prize

*Sponsored by: U.S. Stokholm Junior Water Prize*

This award is considered the most prestigious award for water related science, both nationally and internationally. The prize strives to encourage enthusiasm in today's youth regarding water issues, build an international community of young scientists bonded together for the water environment, raise public awareness about the future of water resources, and develop and ensure future leadership in the water quality community.

The winners are:

Shemaiya Peak - Stanhope Elmore High School

Dakota Perry - Davidson High School

Benjamin Tzou - Auburn High School

## Yale Science and Engineering Association Award

*Sponsored by: Yale Science & Engineering Association*

This award will be given to the most outstanding 11th grade project in the areas of computer science, engineering, physics, or chemistry. In extraordinary cases, it may be awarded to 10th or 12th grade. The winner will receive a certificate and a medallion to follow.

The winner is: Shivani Babu – Auburn High School

**Now we will shift gears and announce the placement winners of each category. A judging panel of over 40 scientists and engineers determined which projects scored highest in each category. Students who placed 1st, 2nd or 3rd will receive a medal and certificate. In addition, the 1st place winner of each category will receive a $100 cash prize while the 2nd place winner will receive a $50 cash prize.**

**CATEGORY AWARDS**

**Category 100: Animal, Plant, Computational & Bioinformatics Sciences**

1st – Kenneth Womble – Alabama School of Math and Science

2nd – Leo Shen – Auburn High School

3rd – Eva Ledvina – Jefferson County International Baccalaureate

**Category 200:  Behavioral & Social Sciences**

1st – Jakub Hel – Hoover High School

2nd – Adrianna Orsi – Wetumpka High School

3rd – Rachel Allen – Elmore County High School

**Category 300: Cell, Molecular, Microbiology & Biochemistry**

      1st – Shivani Babu – Auburn High School

      2nd – Dev Mehta – Davidson High School

      3rd – Caroline Hannah – Patrician Academy

      3rd – Dillon Middleton – Oakwood Adventist Academy

**Category 400: Chemistry**

      1st – Julian Vilardi – Wetumpka High School

      2nd – Ryan Montgomery – Alabama School of Fine

      3rd – Louisa Forbes – Davidson High School

**Category 500: Engineering Mechanics – Sponsored by AU Department of Electrical and Computer Engineering**

      1st – Judson Upchurch – Hewitt-Trussville High School

      2nd – Blaine Whitt, Tyler Bacon and Austin Smith – Hewitt-Trussville High School

      3rd – Kaylee Brooks, Shelby Stowe, Hollis Prosser – Hewitt-Trussville High School

**Category 600: Energy: Sustainable Materials and Design**

      1st – Naeim Mahjouri – Auburn High School

      2nd – Jordan Jennings – Key Destiny Academy

      3rd – Adam Ruf – Hewitt-Trussville High School

**Category 700: Earth and Environmental Sciences**

      1st – Aanchal Behara – Alabama School of Fine Arts

      2nd – Shemaiya Peak – Stanhope Elmore High School

      3rd – Vaughan Mountain – Oakwood Adventist Academy

**Category 800: Medicine, Health and Translational Medical Sciences – Sponsored by the Edward Via College of Osteopathic Medicine (VCOM)**

      1st – Sahishnu Saha – James Clemens High School

      2nd – Ian Shen and William Peng – Alabama School of Fine Arts

      3rd – Mayu Nakano – Indian Springs School

## Category 900: Physics, Astronomy, Mathematics & Materials Science

1st – Aaron Piya – Alabama School of Fine

2nd – Arjun Iyer – Homewood High School

3rd – Joshua Sipper – Wetumpka High School

## Category 1100: Robotic Systems & Communication Technology

1st – Daniel Zhao – Alabama School of Fine Arts

2nd – Ashwin Prabhakar – Bob Jones High School

3rd – Alexander Halbesleben – Holy Spirit Catholic High School

## Category 1200: Bio-Engineering

1st – Lillian Vilardi – Wetumpka High School

2nd – Shreya Sunil – James Clemens High School

3rd – AnnaBekah Cress – Libertas Classical

**ASEF Best of Fair Judges were asked to select the top two projects from the Northern Alabama Science and Engineering Fair (NARSEF) as well as the top four projects from across the state to join the rest of the delegation of students who had previously been selected from their Regional Fairs to advance to the Regeneron International Science and Engineering Fair (ISEF) 2022. This year's event will be held in Atlanta, GA May 7-13, 2022. The Regional Fairs and ASEF will cover all expenses for these students to participate in ISEF as representatives of the state.**

**This year's two NARSEF Best of Fair Winners (in no particular order) are:**
Ashwin Prabhakar – Bob Jones High School
Shreya Sunil – James Clemens High School

**This year's ASEF Best of Fair Winners (in no particular order) are:**
Daniel Zhao – Alabama School of Fine Arts
Julian Vilardi – Wetumpka High School
Jakub Hel – Hoover High School
Judson Upchurch – Hewitt-Trussville High School

**The Alabama Science and Engineering Fair is proud to present the complete delegation of 15 students who will be representing the State of Alabama at the Regeneron International Science and Engineering Fair 2022:**

**Alabama State Science and Engineering Fair (Auburn University virtual)**
Jakub Hel – Hoover High School
Judson Upchurch – Hewitt-Trussville High School
Julian Vilardi – Wetumpka High School
Daniel Zhao – Alabama School of Fine Arts

**Central Alabama Regional Science and Engineering Fair (University of Alabama at Birmingham)**
Elizabeth Lancaster – Alabama School of Fine Arts
Catherine Kung – Indian Springs School
Mayu Nakano – Indian Springs School
Trisha Bheemanathini – Alabama School of Fine Arts

**Greater East Alabama Regional Science and Engineering Fair (Auburn University)**
Leo Shen –Auburn High School
Naeim Mahjouri – Auburn High School
Shivani Babu – Auburn High School

**Mobile Regional Science and Engineering Fair (University of South Alabama)**
Sanjana Mupparaju – Alabama School of Math and Science (ASMS)
Dakota Perry – Davidson High School

**North Alabama Regional Science and Engineering Fair (University of Alabama Huntsville Virtual)**
Ashwin Prabhakar – Bob Jones High School
Shreya Sunil – James Clemens High School


**ISEF Alternates:** If any of the above named students are unable to attend ISEF, the following students will be invited to take their place in the order listed below.

1. Shemaiya Peak – Stanhope Elmore High School
2. Kenneth Womble – Alabama School of Math and Science
3. Sahishnui Saha – James Clemens High School


**Congratulations to all of our participants and winners!**

A few notes for winners:

1.) This year's winners have received a variety of awards – some sponsored internally by Auburn University as well as others sponsored by other outside organizations. We will mail all certificates and medals to your school. Please note, some of these awards may have a specific requirement for follow up action (especially cash prizes). Directions and

any additional forms, paperwork or instructions will be included in your award packet. Please pay close attention to all stated deadlines to avoid any issues.

2.) If you are advancing ISEF, you will have an extremely short deadline for registering online. All paperwork must be completed by April 11, 2022 in order to compete.  We wish you the best of luck in your next level of competition!