# Greater East Alabama Regional Science and Engineering Fair- General Award Script - Senior Divisions (grades 9-12)

# Senior Divisions (grades 9-12)

## 0100 Animal and Plant Sciences

## **3rd Place**

Sania Kazmi - Auburn High School

SR-0100-0009 - Genetic Variation in Heat Tolerance in Drosophila

#### 2nd Place

Kira LeFevre - Wetumpka High School

SR-0100-0019 - Will Adding Artificial Light to a Chicken Coop Help With Egg Production During Molting?

## 1st Place

Annie Bao - Auburn High School

SR-0100-0010 - Development of a Novel Plasma Assay for Plasminogen Activator-Inhibitor (PAI-1) Activity in Healthy Dogs and Dogs with Immune-Mediated Hemolytic Anemia (IMHA)

#### 0200 Behavioral & Social Sciences

#### 2nd Place

Jeremiah Ray - Wetumpka High School

SR-0200-0049 - Smartphones: Are We Addicted?

#### 1st Place

Parker Thompson - Wetumpka High School

SR-0200-0013 - Leveraging Artificial Intelligence to Improve Health Literacy and Promote Health Equity

# 0300 Cell, Molecular, Microbiology & Biochemistry

#### 3rd Place

Gaeun Lee - Auburn High School

SR-0300-0133 - The Role of KatG-Specific Structures in Hydrogen Peroxide-Mediated Activation of the Anti-Tubercular Drug Isoniazid

#### 2nd Place

Liam Felio - Stanhope Elmore HIgh School

SR-0300-0082 - Sugar Rush

#### 1st Place

Mira Menon - LAMP

SR-0300-0134 - Dynamic Modulation of Axonal Trafficking of Synaptic Vesicles in Activity-Dependent Presynaptic Function

#### 0400 Chemistry

# 3rd Place

Jaida Davis - Central High School, Lowndes County

SR-0400-0052 - Assessing Water Qualities

## 2nd Place

Hayden Mckenzie - Wetumpka High School

SR-0400-0036 - Illuminating the Evidence

#### 1st Place

Alexis Saffold - Dothan High School

SR-0400-0107 - Clean Skin Mission!

## 0500 Engineering

## 3rd Place

Morgan Purdy, Zachariah Shleibak - Smiths Station High School

SR-0500-0097-T - Impact of EVOH Dissolution Rate in Multi-layer Packaging through Geometric and Shear Modifications

## 2nd Place

Jessica Shu - Auburn High School

SR-0500-0012 - VisionMouse: Integrating Deep Learning with Eyeball Tracking to Assist People with Reduced Motor Skills in Interacting with Touch-Screen Devices in the Digital Age

#### 1st Place

Will Bao, Austin Zhan - Auburn High School

SR-0500-0005-T - 3D-Printed Textiles via Computer Simulation and Machine Learning Optimization

#### 0600 Energy

### **3rd Place**

Colby (CJ) Allen, Dominic Jones - Stanhope Elmore HIgh School SR-0600-0115-T - Power Play: Watt's The Best Energy Source?

#### 2nd Place

Nicholas Davis, Dominic Vilardi - Wetumpka High School

SR-0600-0039-T - Revolutionizing Saving Energy Through Means of Tactical and Plentiful Sources

#### 1st Place

Andrew Zhang - Auburn Jr. High School

SR-0600-0083 - Hydrogen Synthesis via Electrolysis with Different Electrolytes

## 0700 Earth and Environmental Sciences & Environmental Engineering

#### 3rd Place

Gabrol Dubose, Taelynn Teel - Central High School, Phenix City

SR-0700-0121-T - Parameter Optimization of Reclaiming Polyolefins from Multilayer Plastics by Selective Dissolution

#### 2nd Place

Shalom McCloud - Holtville High School

SR-0700-0041 - Protect the Environment with Biodegradable Magic

#### 1st Place

Alexander Bian, Christopher Valeri - Auburn High School

SR-0700-0125-T - The Effect of 3D Printer Infills on the Mechanical Properties of Printed Parts

## 0800 Biomedical Engineering & Biomedical and Health Sciences

#### 1st Place

Jatin Banna, Yujin Bong - LAMP

SR-0800-0143-T - Investigating the Effects of Commercial Ganoderma lucidum Powder on Cancer Cell Proliferation

# 0900 Physics, Astronomy & Mathematics

#### **3rd Place**

Kaylee Oh - Auburn Jr. High School

SR-0900-0011 - Investigating the Relationship between Leaf Dimensions and Airflow Induced Transport

#### 2nd Place

Jackson Taylor - Elmore County High School

SR-0900-0037 - Up Up and Away

## 1st Place

John Parsons - Auburn High School

SR-0900-0006 - Examining and Mathematically Modeling the Einstein-de Haas Effect Under Varied Conditions

## 1100 Robotic Systems & Communication Technology

#### **3rd Place**

John Belew - Wetumpka High School

SR-1100-0016 - Developing an Enhanced Feature-Rich Dataset for Portable Executable Malware Classification with Deep Learning and Static Analysis

#### 2nd Place

Adonay Mahatsente-Tewelde - GEARSEF direct high school

SR-1100-0120 - Occlusion-Resilient Learning: A Novel Application of Synthetic Radar Data and the Orthogonal Matching Pursuit for Search and Rescue

## 1st Place

Edwin Wu - GEARSEF direct high school

SR-1100-0020 - Intelligent IoT-Driven Medication Dispenser with Predictive Machine Learning Algorithms for Enhanced Senior Care

# 1200 Computational and Bioinformatics Sciences

# 2nd Place

Cynthia Kim, Hyekyung Kim - LAMP SR-1200-0142-T - Utility Cost Analysis of Separating Two Different Solvents of EVOH

# 1st Place

Rhea Arya - LAMP

SR-1200-0135 - Computational Prediction of Nonabine as a Novel Cannabinoid Receptor Subtype 2 Selective Agonist