
Joshua Kim.....**Zoology**

McCallie School, Chattanooga
"Uncovering the Effects of Potassium Nitrate on *Moina sp.* Populations"

Nishanth Basava.....**Biology**

McCallie School, Chattanooga
"The Cytotoxic Effect of Silver Nanoparticles on Human Lung Cells"

Ben Amonette and Kate Joseph.....**Physics**

Pope John Paul II Preparatory School, Hendersonville
"The Effect of Volume of Water on the Natural Resonant Frequency of a Wine Glass"

Yatzil Cervantes-Cruz.....**Biology**

Stratford STEM High School, Blythe
"The Quantification of Mitochondrial Products in ARDS Patient HME Fluid"

Jacob Cesario.....**Biology**

Stratford STEM High School, Nashville
"Identifying Tuft Cell Markers in Human IPMN Samples"

Emiliano Anderson, Mira Berkey &

Allison Sellers.....**Ecology**

School for Science and Math at Vanderbilt, Nashville
"Environmental Influence on Bat Activity in Centennial Park, Nashville TN"

Gokul Palanati.....**Biology**

McCallie School, Chattanooga
"The Restrictive Effect of Ammonia on Human Lung Cells"

Ava Thorsen, Solomon Debrezion, Sabina Thabit-

Yousef & Sara Petollari.....**Botany**

School for Science and Math at Vanderbilt, Nashville
"Growth of Four Different Crop Species in Supplemented Loamy Lunar Regolith"

Mohamed Sankari.....**Microbiology**

Hillsboro High School, Nashville
"Optimizing the Cell Culture Procedure in a High School Laboratory"

Natalie Marler-Thomas.....**Environmental Science**

John Overton High School, Nashville
"Testing How Soil Degrades Cotton at John Overton Campus and Glen Leven"

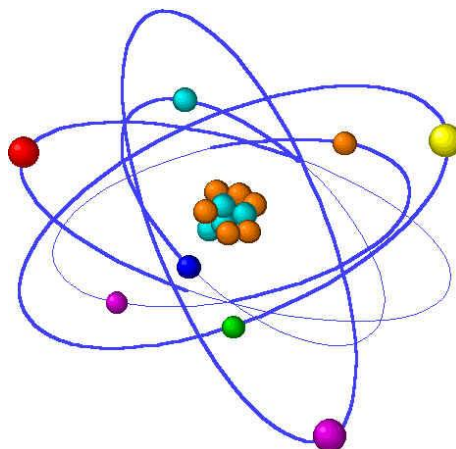
Dallas Whitehead.....**Biology**

Hillsboro High School, Nashville
"Assessing the Potential Toxicity of Kratom and Dextromethorphan Using *C. Elegans*"

Amanda Shelton.....**STEM Education**

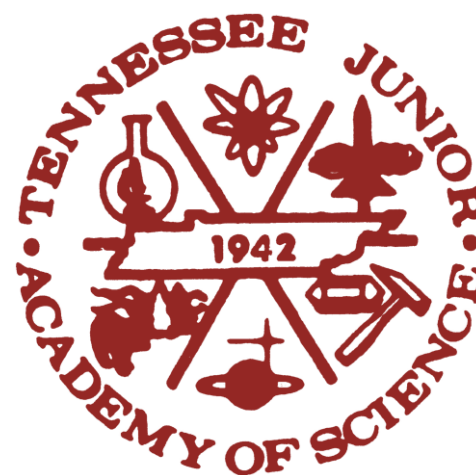
Hillsboro High School, Nashville
"Learning From Mistakes: The Benefit of Incorrect Worked Examples"

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TENNESSEE JUNIOR ACADEMY OF SCIENCE

ANNUAL MEETING



BELMONT UNIVERSITY

Nashville, Tennessee

Friday, April 21st 2023

Sponsored by the
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JUDGES

- Dr. M. Gore Ervin** Middle Tennessee State University
- Dr. Joel Harp**Vanderbilt University
- Dr. Marcia Schilling**Austin Peay State University

PROGRAM

Friday, April 21st, 2023

- 9:00 - 9:30 am.....Registration
- 9:30 - 9:40 am.....Welcome
- 9:40 - 12 noonPaper Presentations
- 12:00 noon - 1:00 pm.....Lunch
- 1:00 pm - 4:00 pm.....Paper Presentations
- 4:00 pm.....Adjournment

TENNESSEE
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Papers to be Presented

Student's Name, Research Classification,
School, City, and Title of Paper

Ben Strausbaugh.....Zooology

Stratford STEM High School, Nashville
"The Effect of Randomized Food Locations on
Domestic Goats' Behavior"

Addy Grace Summers.....Biology

Christ Presbyterian Academy, Nashville
"The Effects of Different Species of Aquatic Plants
on the pH Level of Synthetic Ocean Water"

Lauryn StewartBotany

Pope John Paul II Preparatory School, Hendersonville
"The Effect of Lower pH on Coral Calcification"

Isaiah Dulin and David Han.....Data Science

Montgomery Bell Academy, Nashville
"Examining the Correlation between Mental Health
Risk Factors and Hypertension Rates"

Benjamin Watts.....Microbiology

John Overton High School, Nashville
"Comparing the Prevalence of *Wolbachia* in Two
Diverse Ecosystems"

**Nicole Hemby, Reed McClain, Monzerrat Ruiz
& Syrah Sanders**.....Engineering

School for Science and Math at Vanderbilt, Nashville
"Structural Integrity of Hexagonal Structures for
Sustainable Housing Models"

Savannah Beck and Gavin Rodenhaber.....
Health Science

Clarksville Christian School, Clarksville
"Compact Hygiene Kit"

Isabella Hollman and Ben Frisbie.....Chemistry

Pope John Paul II Preparatory School, Hendersonville
"The Relationship between Measured Vitamin C
Concentration of Orange, Apple, and Lemon Juice and
their Vitamin C Concentration Listed in the Nutrition Facts"

Rodney Glover.....Chemistry

Hillsboro High School, Nashville
"Quantifying Microplastics within Water Bottles
Exposed to Different Heat Levels"

**Neena Praveen, Gabriela Havron &
Alessandra Perez**.....Neuroscience

School for Science and Math at Vanderbilt, Nashville
"Testing the Viability of and Improving the Microsoft
HackingSTEM Brain Impact"

Callum Neel.....Engineering

Hillsboro High School, Nashville
"Designing a Self-charging Keyboard Using Superior
Quartz Crystal Piezo Elements"

**Sofia Payne, Joshua Purucker &
Thomas Stafford**.....Computer Science

School for Science and Math at Vanderbilt, Nashville
"Effectiveness of Learning Mediums in Python Education
through Gamification and Traditional Approaches "

Lunch Break!
