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**Rishi Soni.....Zoology**

Cleveland High School, Cleveland  
"Developing a Fish Image Classification System for Mouse Creek, TN, Using Machine Learning"

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**Jennifer Li, Nathan Solomon & Rena Shi.....Environmental Science**

School for Science and Math at Vanderbilt, Nashville  
"Temperature and Humidity Dashboard Using the Array of Things"

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**Beatrix Adams, Jed Comia, Ribca Girma Lucia Hall.....Biology**

School for Science and Math at Vanderbilt, Nashville  
"The Effect of Collagen Doses on the Growth of *Dugesia tigrina*"

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**Emi Gilmer, Jasmin Neely, Maya Reilly & Seth Shaw.....Biology**

School for Science and Math at Vanderbilt, Nashville  
"Effects of Microplastics on the Growth and Germination of *Lobelia siphilitica* and *Achillea millefolium*"

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**Aleyna Loughran-Pierce.....Biology**

School for Science and Math at Vanderbilt, Nashville  
"Cooperative Breeding and the Evolution of Birdsong"

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**Holden Korbey.....Botany**

Hillsboro High School, Nashville  
"Density-Dependent Effects of *Lonicera maackii* (Amur Honeysuckle) Allelopathy"

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**Paa Kwesi Mensah.....Botany**

Hillsboro High School, Nashville  
"Testing the Efficacy of Organic and Chemical Fertilizer on Moulin Rouge Pansies"

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**Kate Roller.....Botany**

Hillsboro High School, Nashville  
"BPA Impacts Plant Growth in Beginning Stages of Life"

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**Lucas Herculano Houzel.....Computer Science**

Hillsboro High School, Nashville  
"An Analysis of Team Compositions in VALORANT Through a Python Written Web-Scraper"

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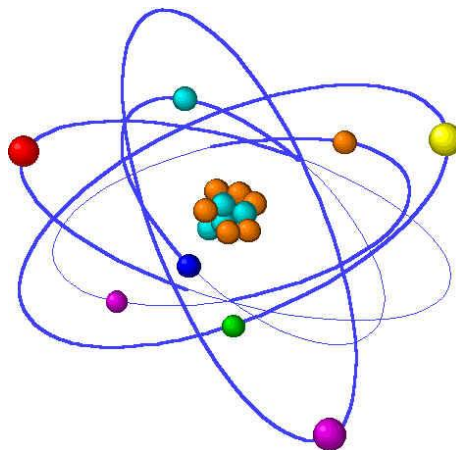
**Isabella Woodward.....Botany**

Hillsboro High School, Nashville  
"Determining the Effectiveness of Music City Gold in Crop Yield and Seed Starting"

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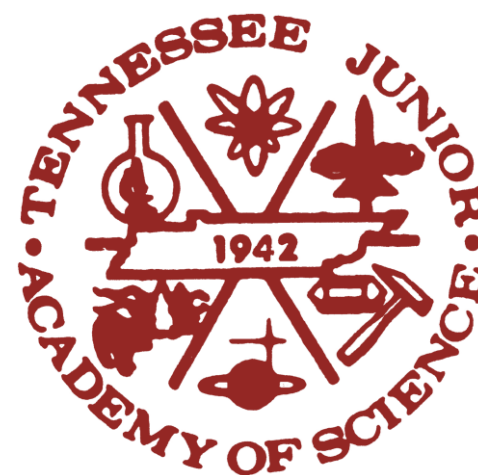
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# TENNESSEE JUNIOR ACADEMY OF SCIENCE

## ANNUAL MEETING



### Via Zoom!

From across Tennessee;  
Nashville down to  
Chattanooga, back up  
to Cleveland and  
Greeneville, with  
home-based research  
labs in between!

Friday, April 16<sup>th</sup> 2021

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TENNESSEE  
ACADEMY OF SCIENCE

OFFICERS

- Dr. Amy Thompson** .....President  
*Austin Peay State University, Clarksville*
- Dr. Greg Vieira** .....President-Elect  
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- Dr. Darlene Panvini** .....Immediate Past President  
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- Dr. Marcia Schilling** .....Secretary  
*Austin Peay State University, Clarksville*
- Dr. C. Steven Murphree**.....Treasurer  
*Belmont University, Nashville*
- Dr. Justin Oelgoetz**.....Managing Editor  
*Tennessee Academy of Science Journal  
Austin Peay State University, Clarksville*

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- Dr. Preston MacDougall** .....Director  
Tennessee Junior Academy of Science

READING COMMITTEE

- Dr. Preston MacDougall**..Middle Tennessee State University

NON-LOCAL ARRANGEMENTS

- Zoom Video Communications**.....San José, California

JUDGES

- Dr. M. Gore Ervin** ..... Middle Tennessee State University
- Dr. Hanna Terletska** ..... Middle Tennessee State University
- Dr. Joel Harp** ..... Vanderbilt University

PROGRAM

Friday, April 16<sup>th</sup>, 2021

- 9:00 - 9:30 am..... Logging-on to Zoom Meeting
- 9:30 - 9:40 am.....Welcome
- 9:40 - 12 noon .....Paper 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

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**Vivian Song**.....**Chemistry**

Hamilton County Collegiate High School, Chattanooga  
"The Potential of Different Rice Varieties as a Natural  
Water-Resistant Adhesive"

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**Grace Maddox**.....**Environmental Science**

Cleveland High School, Cleveland  
"Assessing Stream Health as it Pertains to Plethodontid  
Salamanders within the Cherokee National Forest"

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**Jennie Bulawa & Sarah Grace Evans**.....**Physics**

Greeneville High School, Greeneville  
"Cymatics in Near-zero Gravity"

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**Clark Danelz & Weston Geuther**.....**Biology**

Christ Presbyterian Academy, Nashville  
"The Effects of Temperature and Relative Humidity  
on *Escherichia coli* Growth"

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**George Renaudin, Jace Johnson & Graham  
Jackson**.....**Botany**

Christ Presbyterian Academy, Nashville  
"The Effects of Various Nitrate Salts on the Growth  
of *Triticum aestivum* in a Standard Ebb-and-Flow  
Hydroponics System"

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**Jack Hartert, Elle Murphey, Hamza Yousuf  
& Ian Henson**.....**Engineering**

The School for Science and Math at Vanderbilt, Nashville  
"Design, Development, and Testing of Composite  
Multirotor Drones Using Virtual Programs"

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**Maya Underwood, Frank Yang**...**Computer Science**

The School for Science and Math at Vanderbilt, Nashville  
"Virtual Chemistry Classroom Prototype"

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**Savannah Root** .....**Psychology**

Hillsboro High School, Nashville  
"The Effectiveness of Teaching Methods during Virtual  
Learning"

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**Kurt Schelzig**.....**Electronics**

Hillsboro High School, Nashville  
"The Development of an Improved Wireless Energy  
Transmission System and Adapter"

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**Charles Eichman**.....**Biology**

Hillsboro High School, Nashville  
"Effects of Diammonium Phosphate on  
*Saccharomyces cerevisiae* Growth and Metabolism"

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*Lunch Break - while  
Socially Distanced!*

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