

9WYb'BY[Uqjz7Ufgcb'K f][\hZ'K UHYf' Cgfdck g_] /
@Yc'<i bYnW/H'.....D\ngjVg
GWcc'`Zcf' GWYbW' UbX' A UH' UhJ UbXYfV]hZ' BUgJ]'Y
"Prototype Analysis of Football Helmet Drop Mechanism"

6fUXYb'<i bYnW/H'z@gJ'?'Ja z'Gcd\]Y'@j /
@JhbY'DUF_Yf'.....DgnWology

GWcc'`Zcf' GWYbW' UbX' A UH' UhJ UbXYfV]hZ' BUgJ]'Y
"HAY =a dUMicZHAY'7CJ =8!% 'DUBXYa]Mbn Adolescent
Sleep, Technology Use, and Caffeine Intake"

Benjamin Yang.....Biology

McCallie School, Chattanooga
"Inflammatory Impact of Microplastics on Human
Lung Cells"

Isabella Hollman.....Physics

Pope John Paul II Preparatory School, Hendersonville
"Effects of Blade Angle on Voltage Generation of a
Wind Turbine"

Analia Winters.....Chemistry

Pope John Paul II Preparatory School, Hendersonville
"The Effect of Fruit Dye pH on Dye Sensitized Solar
Cell Efficiency"

Zach Lance.....Engineering

Pope John Paul II Preparatory School, Hendersonville
"Design Specifications of a Precise Thrust Scale and
Experimental Data Confirming the Validity of the
Thrust Scale"

Dara Gyauch-Lewis.....Psychology

Hillsboro High School, Nashville
"Examining Sensory Perception in Relation to
the Imagination"

Rasaq Oyewoga.....Psychology

Stratford STEM High School, Nashville
"The Intrinsic Differences of Introverts and
Extroverts in Social Situations"

**Ella Daugherty, Gaby Gamboa &
Eli Kane.....Biology**

School for Science and Math at Vanderbilt, Nashville
"Determining the Health of the Harpeth River Using
Macroinvertebrate Indicators"

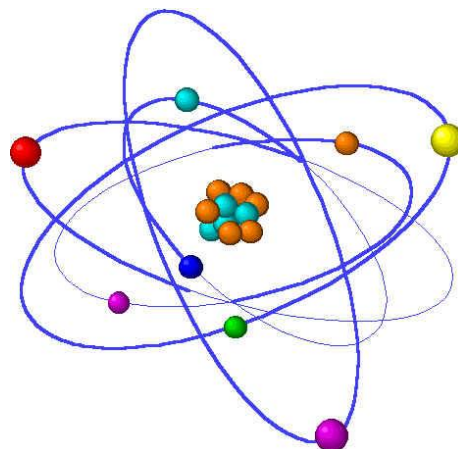
Ryan Gregory.....Biology

Stratford STEM High School, Nashville
"Are Natural Antibiotics Equally Effective Against
Bacteria as Chemical Antibiotics?"

**Nabil Azizi, Gregory Gomez, Sonya Jayathilake
& Calista Pointer.....Game Theory**

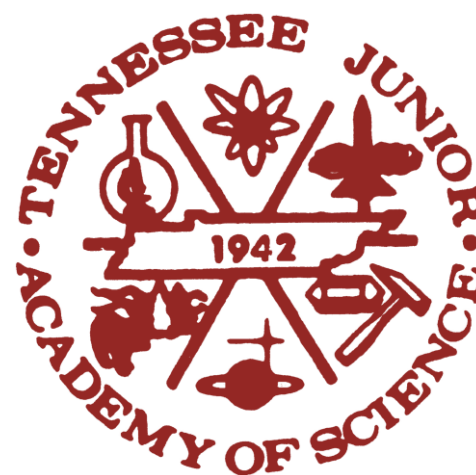
School for Science and Math at Vanderbilt, Nashville
"Experience Level Does Not Affect the Success of
Lies in 'Among Us'"

117
Ts
Tennessee



TENNESSEE JUNIOR ACADEMY OF SCIENCE

ANNUAL MEETING



BELMONT UNIVERSITY
Nashville, Tennessee

Friday, April 29th 2022

Sponsored by the
Tennessee Academy of Science

TENNESSEE ACADEMY OF SCIENCE

OFFICERS

- Dr. Greg Vieira**.....President
Rhodes College, Memphis
- Dr. Clint Ary**.....President-Elect
University of Tennessee at Martin
- Dr. Amy Thompson**.....Immediate Past President
Austin Peay State University, Clarksville
- 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*
- Dr. Gilbert Pitts**.....Assistant Editor
*Tennessee Academy of Science Journal
Austin Peay State University, Clarksville*

TENNESSEE JUNIOR ACADEMY OF SCIENCE

Sponsored by the

TENNESSEE ACADEMY OF SCIENCE

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

READING COMMITTEE

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

LOCAL ARRANGEMENTS

- Dr. C. Steven Murphree**.....Belmont University

JUDGES

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

PROGRAM

Friday, April 29th, 2022

- 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 JUNIOR ACADEMY OF SCIENCE

Papers to be Presented

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

-
- Tabitha McCormack**.....Neuroscience
Stratford STEM High School, Nashville
"The Effectiveness of Preventing Head Injury in Sports:
How Protective is Sports Equipment Against Trauma?"
-
- Abbygale Robledo and Adam Curwen**.....Biology
Fred J. Page High School, Franklin
"The Effect of Electro-Culture on Radish Growth"
-
- Parker Buchanan, Jaxon Draughon, Marina Khalif
& Avery Roth**.....Botany
School for Science and Math at Vanderbilt, Nashville
"Growth Variance Among Assorted Mixtures of
Fertilized Soil and Lunar Regolith Simulant"
-
- Yatish Jindal**.....Computer Science
Montgomery Bell Academy, Nashville
"Object Recognition in a 3D Spatial Environment"
-
- Aliya Harris**.....Ecology
Cleveland High School, Cleveland
"Relative Importance of Habitat Features and Water
Quality in Predicting River Otter Occurrence"
-

**Jemma Biggs, Abigail Koczaja, Cynthia Liang
& Samiksha Venkateswaran**.....Biology

Fred J. Page High School, Franklin
"The Impact of Ethanol Exposure on Exosome
Protein Production in Colorectal Cancer Cells"

Nishanth Basava.....Biology

McCallie School, Chattanooga
"The Inhibitory Effect of Isopropanol on Human
Lung Cells"

Nathan Gafney.....Chemistry

Pope John Paul II Preparatory School, Hendersonville
"Which Vegetable Oil Creates the Greatest Percent Yield of
Biodiesel?"

Emily Boeing.....Biology

John Overton High School, Nashville
"Effect of *Carassius auratus* in a Hydroponic System
on Romaine Lettuce Growth"

**Sonny Ravinder, Vihaal Vellanki &
Avi Patel**.....Behavioral Science

McCallie School, Chattanooga
"Discerning the Effectiveness of Automated Mental
Health Support on Adolescents in the Reduction of
Stress and Anxiety"

Bill Ouyang.....Biology

Montgomery Bell Academy, Nashville
"Computational Analysis of Protein-Ligand
Interactions"

Tristan Morgan.....Ecology

Cleveland High School, Cleveland
"Assessing the Effect of Industry and City Runoff
on Water Quality and Protozoal Abundance in a
River in Southeast Tennessee"

Lunch Break!
