OFFICIAL AWARDS DOCUMENT FOR PUBLIC RELEASE
Special Awards & VJAS Top Awards Document
Section Awards were announced separately in May

Document formalized on June 25, 2020 by the
Virginia Junior Academy of Science Committee
(Revised with minor corrections June 26)

All awards conferred to listed awardees virtually due to the coronavirus pandemic. We wish the best to our graduating seniors and look forward to greeting all other students at the next VJAS Annual Meeting & Research Symposium.

www.vjas.org/

SPECIAL AWARDS
FIRST PLACE CATEGORY-SECTION AWARDS

VAS BOTANY AWARD
The award is given by the Botany Section of the Virginia Academy of Science, to the best paper on a botanical subject.

Winner
Name Jackie Wang
Title Effects of Inositol Pyrophosphates on the Growth Rate and Physical Characteristics of *Arabidopsis thaliana*
School Blacksburg High School

RODNEY C. BERRY CHEMISTRY AWARD
The Rodney C. Berry Chemistry Award is given for the paper that evidences the most significant contribution in the field of chemistry.

Winner
Name Emily Haueis
Title The Effect of Homemade and Commercial Fabric Softeners on Fire-retardant Materials
School Todd Allen Phillips Center for Medical Sciences at Godwin High School

WILLIAM W. BERRY ENGINEERING AWARD
This award is given by Dominion Energy in honor of Mr. William W. Berry who was a past Chairman of the Board of Virginia Power.

Winner
Name Arthur Buck
Title The Effect of Various Cushioning Materials on the Pliancy of a Running Surface Over Time
School Central Virginia Governor’s School
ANN M. HANCOCK CELLULAR BIOLOGY AWARD
This award is given to the best paper in cellular biology and is presented in memory of Anne M. Hancock who retired from Patrick Henry High School in Hanover County and who gave many years of service to the Jr. Academy not only by teaching but also serving on the Jr. Academy Committee.

Winner
Name Harrish Ganesh
Title The Investigation of the Interactions between the HIV-1 Envelope Glycoprotein and the Lymphocyte Receptor Integrin α4β7
School Thomas Jefferson High School

MATHEMATICS AWARD
The Mathematics Award is given for the paper that evidences the most significant contribution in the field of Mathematics.

Winner
Name Solomon Ralston
Title The Kinematic Analysis of Dominant vs. Non-Dominant Lacrosse Shot Speed
School Colgan High School

STATISTICS AWARD
The Statistics Award is given for the paper that evidences the most significant contribution in the field of Statistics.

Winner
Name Brandon Fan
Title An AI-based System for Early Detection of Natural Disasters and Incidents through Open Data
School Blacksburg High School

VABE ZOOLOGY AWARD
This award is presented by the Virginia Association of Biology Educators and is given for outstanding research in the Zoology section.

Winner
Name Mrunal Kute
Title An Investigation of Different Concentration of *Ginkgo biloba* on *Danio rerio* Memory Development in the Prevention of Alzheimer's Disease
School Todd Allen Phillips Center for Medical Sciences at Godwin High School
SPECIAL INTEREST AWARDS

CANCER RESEARCH AWARDS
These awards are to recognize outstanding science papers related to cancer research. These awards are provided by the American Cancer Society.

**Winner**
- **Name:** Mahia Rahman
- **Title:** Single-cell Analysis of Megakaryoblasts by Laser Ablation Electrospray Ionization Mass Spectrometry and Automated Image Processing with Object Recognition
- **School:** Washington-Liberty High School

**Winner**
- **Name:** Karuna Ramnani
- **Title:** The Effect of FD Drugs on Inhibition of Cholangiocarcinoma Cell Growth
- **School:** Mills E. Godwin High School

DR. AND MRS. PRESTON H. LEAKE AWARD IN APPLIED CHEMISTRY
The Dr. and Mrs. Preston H. Leake Award in Applied Chemistry is given to the author of a research paper which best exemplifies how chemicals, chemical principles, or chemistry have been used, are used, or might be used to enhance or even to save life.

**Winner**
- **Name:** Ellie Peterson
- **Title:** The Effects of Oxybenzone, Octinoxate, and Zinc oxide on the Heart rate of *Daphnia magna* as a Model for Humans
- **School:** Central Virginia Governor’s School

ROSCOE HUGHES GENETICS AWARD
The Roscoe Hughes Award is given for the best paper in the field of Genetics.

**Winner**
- **Name:** Claire Morton
- **Title:** The Division Decision: The Cdc13 Protein and Cell Size Control
- **School:** Blacksburg High School
DR. SMITH SHADOMY INFECTIOUS DISEASES AWARD
This award is given to commemorate Dr. Smith Shadomy by the Virginia Chapter of the National Foundation for Infectious Diseases to the paper that evidences outstanding research in the field of infectious diseases.

Winner
Name: Nikki Kumar
Title: Statistical Analysis of United States Influenza Coverage 2010-2019
School: Maggie L. Walker Governor’s School

SPELEOLOGICAL SOCIETY AWARD
Given by the Richmond Area Speleological Society for outstanding research addressing karst or topics related to speleology (bats, caves, carbonate geology, paleoenvironments, limestone fossils, sinkholes, etc).

Winner
Name: Nora Brakman
Title: The Effect of Epsom Salt Concentration on Stalactite Growth
School: Sabot at Stony Point

VIRGINIA MUSEUM OF NATURAL HISTORY (VMNH) AWARD
This award is presented by the Friends of the Virginia Museum of Natural History in recognition of a significant contribution in the study and interpretation of Virginia's Natural Heritage.

Winner
Name: Jordan Yocum
Title: A Comparison of the Biodiversity and Species Richness of Bird Species in Native and Invasive Habitats
School: Chesapeake Bay Governor’s School

VIRGINIA SEA GRANT COLLEGE PROGRAM AWARD
This award is given by the Virginia Sea Grant College Program for outstanding marine or coastal research.

Winner
Name: Kristen Frank
Title: Assessing Oyster Reef Restoration and its Effect on Nearby Oyster Spat Recruitment
School: Chesapeake Bay Governor’s School
GAMMA SIGMA DELTA AWARD
The Gamma Sigma Delta Award is presented by the Virginia Tech Chapter of the Honor Society of Agriculture. This award is given in recognition of excellence in research dealing with application of new technologies and/or concepts in agriculture forestry, or veterinary medicine.

<table>
<thead>
<tr>
<th>Winner</th>
<th>Name</th>
<th>Teo Huson</th>
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<tr>
<td></td>
<td>&quot;Kill or get Killed&quot; A Study On the Allelopathic Properties of the Nut Tree Family Native to Northern Virginia</td>
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<td>School</td>
<td>Washington-Liberty High School</td>
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SCHOLARSHIP AWARDS

BETHEL HIGH SCHOOL SCHOLARSHIP
Bethel High School Scholarship - This $1,000 Scholarship Award comes from the interest earned from a $10,000 endowment contributed by the students of Bethel High School, Hampton, Va., over a two year period. This award is based on both the student's presentation and paper.

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<tr>
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<tbody>
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<td></td>
<td>Claire Morton</td>
<td>The Division Decision: The Cdc13 Protein and Cell Size Control</td>
<td>Blacksburg High School</td>
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HENRY MACKENZIE ENVIRONMENTAL SCHOLARSHIP (VEE)
Henry MacKenzie Environmental Scholarship - This $5,000 scholarship will be awarded to the student whose paper evidences the most significant contribution in the field of Environmental Science dealing with the James River Basin and Chesapeake Bay. The Virginia Environmental Endowment and VJAS offer this scholarship in tribute to the outstanding and generous services of Judge Henry W. MacKenzie, Jr., one of the founding directors, who has a great interest in the James River and the Chesapeake Bay.

<table>
<thead>
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<tbody>
<tr>
<td></td>
<td>Grace Shen</td>
<td>The Effects of Storm Intensity on the Filtration of Microplastics from Sediment</td>
<td>Blacksburg High School</td>
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FRANCES AND SYDNEY LEWIS ENVIRONMENTAL SCHOLARSHIP (VEE)
Frances and Sydney Lewis Environmental Scholarship: A $5,000 scholarship for the best effort by a student in grades 9 to 12 in the field of environmental science. This scholarship is in the name of Frances and Sydney Lewis and is given by the Virginia Environmental Endowment.

<table>
<thead>
<tr>
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<tr>
<td></td>
<td>Brooke Eby</td>
<td>Evaluation of the Heavy Metal Remediation Capabilities of Agaricus bisporus</td>
<td>Central Virginia Governor’s School</td>
</tr>
</tbody>
</table>
BEST OVERALL PAPER AWARDS

DOROTHY KNOWLTON AWARD
This award is given to the Middle School student presenting the best paper in the life sciences. It is presented in honor of Dorothy Knowlton, the former Science Coordinator of Arlington County, who was instrumental in advancing experimental design within the science curriculum.

Winner
Name Cameron Joyce
Title The Effect of Radiofrequency Radiation on *Phaseolus Vulgaris* Seed Germination
School George H. Moody Middle School

Winner
Name Saniya Sangle
Title The Effect of Physical Activity on Human Memory in Different Age Groups
School George H. Moody Middle School

JOYCE K. PETERSON AWARD
This award is given to the Middle School student presenting the best paper in the physical sciences. It is presented in honor of Mrs. Joyce K. Peterson who has been an outstanding teacher in the Arlington County Schools.

Winner
Name Camelia Sharma
Title The Effect of Hull Cross Section on the Efficiency of a Watercraft
School George H. Moody Middle School

CATESBY JONES AWARD
This award is given to the 12th grade senior student whose paper evidences the most significant contribution to science.

Winner
Name Sarah Deloney
Title Microfossils in Mammoth and Mastodon Dental Plaques as an Indication of Diet
School Massanutten Regional Governor’s School for Integrated Science & Technology
THE VAS BEST OF SYMPOSIUM RESEARCH AWARDS

These awards are given by the Virginia Academy of Science to papers in grades 8-11, presenting the most outstanding papers and presentation at the Research Symposium. The winners will be invited to attend the annual meeting and present their papers as a powerpoint and poster presentation before the American Junior Academy of Science (AJAS), which meets concurrently with the American Association for the Advancement of Science (AAAS). For 2021, the AAAS/AJAS meeting will be a virtual meeting.

**Grand Winner**

**Name**
Benjamin Bankston

**Title**
Comparing Microplastic Presence in both Indoor and Outdoor Environments

**School**
Central Virginia Governor’s School

**Grand Winner**

**Name**
Chirayu Nimonkar

**Title**
The Effect of Magnetic Shielding Geometry on Focality for Transcranial Magnetic Stimulation

**School**
Todd Allen Phillips Center for Medical Sciences at Godwin High School

**Alternate Winner**

**Name**
Shrinidhi Kittur

**Title**
The Activation of Somatostatin Interneurons Adjacent to a Cortical School

**School**
Todd Allen Phillips Center for Medical Sciences at Godwin High School

**Alternate Winner**

**Name**
Caroline Klotz

**Title**
The Effect of Quicklime Concentration on the Swelling Potential of Expansive Soils

**School**
Clover Hill High School
OUTSTANDING SERVICE AWARDS

VJAS Distinguished Service Award
A special certificate is presented to a person for exceptionally outstanding service to the VJAS and public recognition is given at the Research Symposium. This is the most prestigious award that the VJAS Committee gives.

Winner  Name  Dr. Carolyn Conway

Student Officers, 2020-2021

Due to the coronavirus the election could not go on as normal. The president was maintained with the editor-in-chief becoming vice-president. The other officer applicants were invited to be student members of the committee working with the student president and vice-president.

Shan Lateef: President
Karuna (Karly) Ramnani: Vice-President

THANK YOU & MORE TO COME…

• Big changes next year. VJAS is going electronic!
• Watch for big updates in the Handbook (available late August).
• Though this year’s academy has been anything but normal, we hope that we will be able to provide an opportunity for the grand prize winners to share their presentations.

SPECIAL AWARDS & SCHOLARSHIP WINNERS DOCUMENT

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