

**32nd BLUE RIDGE HIGHLANDS REGIONAL SCIENCE FAIR
MARCH 3-4, 2023
RADFORD UNIVERSITY**

STUDENT WINNERS

- 101 Jonathan Distler
Observed Behavioral Differences Among White-Tailed Deer Populations on Private vs Public Lands
Blacksburg High School
Sponsor: Katharine Davis
Animal Sciences – Senior Division – First Place
American Society of Mammalogists Award
- 201 Laken Barnette
Evaluating Comfort Levels in Teenage Patients When Talking to a Physician
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Virginia State Science and Engineering Fair Delegate
Behavioral and Social Sciences – Senior Division – First Place
American Psychological Association Award
- 202 Benjamin Burnette
Classical vs Traditional Appalachian Music in Generating an Emotional Response
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Behavioral and Social Sciences – Senior Division – Honorable Mention
- 203 Caoilainn Christensen
Comparative Content Engagement Analysis of Credentialed and Non-Credentialed Nutrition Professionals on Instagram
Blacksburg High School
Sponsor: Katharine Davis
Virginia State Science and Engineering Fair Delegate
Behavioral and Social Sciences – Senior Division – Second Place
Wytheville Community College Scholarship
- 205 Neal Jones
Does Informing Teens on Eye Health Change How They Take Care of Their Eyes?
Southwest Virginia Governor's School
Sponsor: Sam Muriello
VCOM – Virginia Public Health and Healthcare Award – Senior Division – Third Place

- 208 Garreth Rudd
How Do Young Adults View the Value of Human Lives Using the Trolley Problem
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Behavioral and Social Sciences – Senior Division – Third Place
- 209 Jack Wilder
Testing the Public's Knowledge About Commonly Foraged Mushrooms
Southwest Virginia Governor's School
Sponsor: Sherry Pugh
*VCOM – Virginia Public Health and Healthcare Award – Senior Division –
Honorable Mention*
- 301 Mercy Akanmu
*Differences In the Physical and Structural Changes During Microglial Activation in
Pediatric and Adult Glioma Models*
Blacksburg High School
Sponsor: Katharine Davis
*Biomedical and Health Sciences; Cellular and Molecular Biology – Senior Division
– Third Place*
Biomedical Engineering Award - Virginia Tech
United States Air Force Award
Ferrum College Scholarship
New River Community College Scholarship
- 302 Hope Banks
*Overdose Mortality Rates and the Correlation with Poverty Levels and Populations
of Persons Drawing from SSDI or SSI in West Virginia*
Southwest Virginia Governor's School
Sponsor: Megan Arnold
*VCOM – Virginia Public Health and Healthcare Award – Senior Division – First
Place*
- 304 Havva Gasimova
Link Between Environment and Food Allergy
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
Virginia State Science and Engineering Fair Delegate
*Biomedical and Health Sciences; Cellular and Molecular Biology – Senior Division
– First Place*

- 307 Ariya Patel
A Novel Lateral Flow Immunoassay for the Detection of Parvovirus B19 Antigens in Urine
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
Biomedical and Health Sciences; Cellular and Molecular Biology – Senior Division – Honorable Mention
Office of Naval Research Awards Distinguished Achievement Award
Regeneron Biomedical Science Award
United States Air Force Award
- 308 Andy Tawney
Repeat Lengths of RS3 Alleles Associated with the Rate of Health-Related Risky Behavior in Young Adults
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
Virginia State Science and Engineering Fair Delegate
Biomedical and Health Sciences; Cellular and Molecular Biology – Senior Division – Second Place
Radford University Sigma Xi Chapter Distinguished Award in Science
VCOM – Virginia Public Health and Healthcare Award – Senior Division – Second Place
- 309 Eli Wiscarson
Comparing Giles to Other Counties by Location and Population
Southwest Virginia Governor's School
Sponsor: Sam Muriello
Radford University Scholarship
- 401 Sriya Sridhar
Utilizing Flow Cytometry to Evaluate the Sterilization of a 96 Well Plate Pipette Tips by the Openrons Liquid Handling Robot
Blacksburg High School
Sponsor: Katharine Davis
Grand Award Alternate
Virginia State Science and Engineering Fair Delegate
Biomedical Engineering – Senior Division – First Place
Office of Naval Research Awards Distinguished Achievement Award
Society for In Vitro Biology
Yale Science and Engineering Association Award

- 402 Adalynn Turner
Effectiveness of a Pressurized Bandage Opposed to Traditional Dressings
Southwest Virginia Governor's School
Sponsor: Matt Frazier
Biomedical Engineering – Senior Division – Second Place
American Red Cross Award – New River Valley; Science in Service to Our Communities
- 403 Abbie White
Does Caffeine Content Influence What Students Consume?
Southwest Virginia Governor's School
Sponsor: Megan Arnold
Biomedical Engineering – Senior Division – Third Place
- 501 David Bowman
HHO Generators
Dayspring Christian Academy
Sponsor: Doug Bowman
Virginia State Science and Engineering Fair Delegate
Chemistry – Senior Division – Second Place
American Chemical Society, North Eastern Tennessee Section Award – Third Place
United States Agency for International Development Award
- 502 Emma Ebel
Testing Hand Sanitizer Alcohol Levels with Gas Chromatography
Southwest Virginia Governor's School
Sponsor: Jared Brown
Virginia State Science and Engineering Fair Delegate
Chemistry – Senior Division – First Place
American Association of University Women Award
American Chemical Society, North Eastern Tennessee Section Award – First Place
- 503 Maggie Minton
The Effects of Different Substances on Wood Relating to Flammability Properties
Southwest Virginia Governor's School
Sponsor: Jared Brown
American Chemical Society, North Eastern Tennessee Section Award – Second Place
Mount Tabor Ruritan Club Award

- 505 Nyah Phipps
The Fuming of Cyanoacrylate to Identify Fingerprints
 Southwest Virginia Governor's School
 Sponsor: Jared Brown
Chemistry – Senior Division – Third Place
American Association of University Women Award
- 601 James Paine
Testing the Efficacy of an Aquatic Aerator
 Southwest Virginia Governor's School
 Sponsor: Jared Brown
Earth and Environmental Sciences, Plant Sciences – Senior Division – Third Place
Mount Tabor Ruritan Club Award
United States Environmental Protection Agency Letter
United States Stockholm Junior Water Prize
Virginia Lakes and Watersheds Award
Virginia Stockholm Junior Water Prize
- 602 Charlotte Phillips
Investigating Degradation of Polyhydroxyalkanoate Drinking Straws in Freshwater and Saltwater Systems
 George Wythe High School
 Sponsor: Lucas Phillips
Earth and Environmental Sciences, Plant Sciences – Senior Division – Second Place
American Chemical Society, Virginia Blue Ridge Section Award
Association of Women Geoscientists Award
Genius Olympiad
Mount Tabor Ruritan Club Award
National Geographic Society Award: That's Geography! – Cultivating Empathy for the Earth
Office of Naval Research Awards Distinguished Achievement Award
Ricoh Corporation Sustainable Development Award
United States Environmental Protection Agency Letter
United States Stockholm Junior Water Prize
Virginia Stockholm Junior Water Prize

- 603 Andrew Wang
Effects of Transcriptional Factor WUSCHEL on the Regeneration of Arabidopsis thaliana
Blacksburg High School
Sponsor: Katharine Davis
Virginia State Science and Engineering Fair Delegate
Earth and Environmental Sciences, Plant Sciences – Senior Division – First Place
Genius Olympiad
- 701 Aun Ali
GPUs vs. CPUs with Deep Neural Networks and Matrix Multiplication
Blacksburg High School
Sponsor: Katharine Davis
Embedded Systems; Systems Software – Senior Division – Third Place
- 702 Hunter Miller
The Learning Curve of Coding
Southwest Virginia Governor's School
Sponsor: Sam Muriello
Embedded Systems; Systems Software – Senior Division – Second Place
- 703 Asher Porter
Creating a Framework for Locating the Most Cost Effective and Environmentally Friendly Shipping Routes
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Embedded Systems; Systems Software – Senior Division – First Place
- 801 Tommie Bloomer
New Designs for a Universal Clarinet Lyre
Southwest Virginia Governor's School
Sponsor: Matt Frazier
Engineering Technology: Statics and Dynamics – Senior Division – Third Place
- 802 Zack Craighead
Comparing a DIY Lux Meter to Its Commercial Equivalent
Southwest Virginia Governor's School
Sponsor: Matt Frazier
Engineering Technology: Statics and Dynamics – Senior Division – Second Place
United States Metric Association Award

- 803 Jesse Dulaney
Anti-Lock Brakes Applied to a Bicycle
Southwest Virginia Governor's School
Sponsor: Matt Frazier
Grand Award Winner
Virginia State Science and Engineering Fair Delegate
Engineering Technology: Statics and Dynamics – Senior Division – First Place
United States Air Force Award
- 901 Aaron Bennett
Can Aerographite Be Used as an External Material in Rocketry?
Southwest Virginia Governor's School
Sponsor: Matt Frazier
Materials Science – Senior Division – Second Place
- 902 Shane Dunford
The Cathodic Corrosion Protection Capabilities of Sacrificial Anodes in Coastal Areas
Southwest Virginia Governor's School
Sponsor: Jared Brown
Materials Science – Senior Division – First Place
National Aeronautics and Space Administration Earth System Science Award
- 904 Kara Temple
Developing a Synthetic Blood
Southwest Virginia Governor's School
Sponsor: Jared Brown
Materials Science – Senior Division – Third Place
- 1001 Oscar Montgomery
Effects of School Size on Cross Country Runners' Speed
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Mathematics – Senior Division – Second Place
- 1002 Davis Reitzel
Exploring Collatz Conjecture
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Grand Award Winner
Virginia State Science and Engineering Fair Delegate
Mathematics – Senior Division – First Place
United States Air Force Award
Emory and Henry Scholarship

- 1101 Jessica Long
Ultrasonic Cleaning Versus FDA Approved Hand Washing Method on Cooking Equipment
Southwest Virginia Governor's School
Sponsor: Jared Brown
Microbiology – Senior Division – First Place
Radford University Scholarship
- 1102 Tristan Reichard
The Effects of the Placement of Hand Dryers on the Growth of Bacteria
Blacksburg High School
Sponsor: Katharine Davis
Microbiology – Senior Division – Second Place
- 1201 James Helmick
The Effect of Dimpling a Baseball Bat on Drag
Southwest Virginia Governor's School
Sponsor: Matt Frazier
Physics and Astronomy – Senior Division – First Place
Virginia State Science and Engineering Fair Delegate
- 1202 Lili Whitesell
The Difference of a Jig's Rate of Fall
Southwest Virginia Governor's School
Sponsor: Matt Frazier
Physics and Astronomy – Senior Division – Second Place
- 2101 Arabella Barton and Leah Wilson
What's Popping
Council Elementary School
Sponsor: Rita Breeding
Chemistry – Junior Division – Honorable Mention
- 2103 Jonas Gauge Cook and Eli McNiel
The Best Gum
Twin Valley Elementary and Middle School
Sponsor: Stephanie Cook
Chemistry – Junior Division – Honorable Mention
- 2104 Abigail Deel and Shay Stocks
Cooking Up Science
Council High School
Sponsor: Rita Breeding
Chemistry – Junior Division – Third Place

- 2105 Annelyse Farmer
What Makes Ice Melt Fastest
Homeschool
Sponsor: Chris Farmer
Chemistry – Junior Division – Second Place
VCOM – Virginia Public Health and Healthcare Award – Junior Division – Second Place
- 2106 Michael Motes
What Makes Ice Melt the Fastest
Twin Valley Elementary and Middle School
Sponsor: Sarah Motes
VCOM – Virginia Public Health and Healthcare Award – Junior Division – Third Place
- 2108 Jacelyn Peak
Will It Plastic
Twin Valley Elementary and Middle School
Sponsor: Felicia Peak
Chemistry – Junior Division – First Place
VCOM – Virginia Public Health and Healthcare Award – Junior Division – Honorable Mention
- 2201 Aviva Krum
Hay! The Quicker Picker Upper: Exploring Natural Methods of Cleaning Up Oil Spills
Krum Classical Academy
Sponsor: Marisa Krum
Earth & Environmental Sciences; Microbiology; Plant Sciences – Junior Division – First Place
Lemelson Early Inventor Prize
Mount Tabor Ruritan Club Award
National Oceanic and Atmospheric Administration Award
Thermo Fisher Scientific Junior Innovators Award
Virginia Lakes and Watersheds Award
- 2202 Rachel Peets
To Mold, or Not to Mold, That is the Question
Classical Christian Academy
Sponsor: Janet Peets
Earth & Environmental Sciences; Microbiology; Plant Sciences – Junior Division – Third Place
VCOM – Virginia Public Health and Healthcare Award – Junior Division – First Place

- 2204 Elizabeth Sarver
Stop That Dirt! (A Study of Erosion)
Classical Conversations
Sponsor: Judy Sarver
Earth & Environmental Sciences; Microbiology; Plant Sciences – Junior Division
– Second Place
Mount Tabor Ruritan Club Award
National Weather Service Award
Thermo Fisher Scientific Junior Innovators Award
- 2302 Grady English
Which Blade is Best?
Homeschool
Sponsor: Leslie English
Energy: Sustainable Materials and Design; Engineering Technology: Statics and Dynamics; Materials Science; Physics and Astronomy; Systems Software
– Junior Division – Honorable Mention
- 2303 Autumn Hibbits and Madison Mullins
Solar Food
Riverview Elementary & Middle School
Sponsor: Rochelle Deel
Energy: Sustainable Materials and Design; Engineering Technology: Statics and Dynamics; Materials Science; Physics and Astronomy; Systems Software
– Junior Division – Third Place
- 2304 Charlotte Ohanian
Virtually Un-hackable
Dawning Light Homeschool
Sponsor: John Ohanian
Energy: Sustainable Materials and Design; Engineering Technology: Statics and Dynamics; Materials Science; Physics and Astronomy; Systems Software
– Junior Division – First Place
Office of Naval Research Awards Distinguished Achievement Award
Radford University Sigma Xi Chapter Distinguished Award in Science
Thermo Fisher Scientific Junior Innovators Award
- 2306 Isaac Strom
Bro, Does Weight Even Matter?
Homeschool
Sponsor: Kyle Strom
Energy: Sustainable Materials and Design; Engineering Technology: Statics and Dynamics; Materials Science; Physics and Astronomy; Systems Software
– Junior Division – Second Place
Office of Naval Research Awards Distinguished Achievement Award
Thermo Fisher Scientific Junior Innovators Award