

**26th Annual Blue Ridge Highlands Regional Science Fair
March 3 - 4, 2017 – Radford University**

AWARDS BY PROJECT

- 101 Kadie Hudson
Genetic variants present in Haematobia irritans among high carrier and low carrier dairy cattle
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
**Animal Sciences – Second Place, Senior Division
American Society of Mammalogists Award**
- 102 Hunter Shelton
Comparison of Game Calling Techniques for Eastern Wild Turkey (Meleagris gallopavo silvestris) in Southwest Virginia
Richlands High School
Sponsor: Tiffany Stillwell
Animal Sciences – Honorable Mention, Senior Division
- 104 Senah Stephens
The Effect of Clipping Udder Hair on Somatic Cell Counts in Dairy Cattle
Southwest Virginia Governor's School
Sponsor: Krista Stith
**Animal Sciences – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
American Society of Mammalogists Award
Virginia Dental Award**
- 105 Ty Stephenson
Effects of coal mining related contaminants on a mussel, Lamsilis fasciola
Blacksburg High School
Sponsor: Katharine Davis
**Animal Sciences – Third Place, Senior Division
National Oceanic and Atmospheric Administration Award
Radford University Sigma Xi Chapter Distinguished Award in Science
Virginia Lakes and Watersheds Association Award**

- 203 Mary Brown
The Prototypes of Good and Bad in Children
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Behavioral and Social Sciences – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
American Psychological Association Award
Office of Naval Research Awards (U. S. Navy and U. S. Marine Corps)
Virginia Dental Award
- 204 Tara Call and Hunter Call
The Power of Suggestion: Testing the Reliability of Eyewitness Testimony
Richlands High School
Sponsor: Melissa Addison
Behavioral and Social Sciences – Third Place, Senior Division
- 205 Hunter Hall
How Politics and Generational Differences Affect a Person's Philosophy
Southwest Virginia Governor's School
Sponsor: Sherry Pugh
Behavioral and Social Sciences – Honorable Mention, Senior Division
- 207 Griffin McAvoy
An Analysis of the Predictability of Dance Music Chart Success Based on Specific Musical Parameters
Tazewell High School
Sponsor: Greg Deskins
Behavioral and Social Sciences – Second Place, Senior Division
- 301 Madison Brown
Liquid vs. Granular Pool Shock on Effectiveness of Algae Eradication
Southwest Virginia Governor's School
Sponsor: Krista Stith
Biochemistry; Computational Biology and Bioinformatics; Plant Sciences – Honorable Mention, Senior Division

- 302 Andrew Caudill
Constructing a Connectivity Map: Linking Genes Associated with Type 2 Diabetes Using Genome Databases
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
Biochemistry; Computational Biology and Bioinformatics; Plant Sciences – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
Virginia Dental Award
Virginia Dental Grand Award
Wytheville Community College Scholarship
- 303 Hollie Eggleston
Kale Plant Growth with the Addition of Different Amounts of Calcium
Southwest Virginia Governor's School
Sponsor: Krista Stith
Biochemistry; Computational Biology and Bioinformatics; Plant Sciences – Third Place, Senior Division
- 305 Saumya Sharman
Bioinformatics Analysis of Signaling Pathways in HER2+ Breast Cancer
Southwest Virginia Governor's School
Sponsor: Krista Stith
Biochemistry; Computational Biology and Bioinformatics; Plant Sciences – Second Place, Senior Division
American Red Cross Award
- 401 Xavia Arnold
Survey for Current and Prospective Parents on Genetically Modifying Children
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
Biomedical and Health Sciences; Cell and Molecular Biology – Honorable Mention, Senior Division
- 402 Morgan Fisher and Carly Porter
ACTN3, ACE, PPARD, and Outside Factors Influencing High School Male Athletes' Choice to Pursue a Sport
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
Grand Award Winner
Biomedical and Health Sciences; Cell and Molecular Biology – Second Place, Senior Division
Virginia State Science and Engineering Fair Delegate

- 403 Brittany Stiefel
An Investigation of Antibiotic Resistance Surrounding Veterinary Facilities
Southwest Virginia Governor's School
Sponsor: Krista Stith
**Biomedical and Health Sciences; Cell and Molecular Biology – Third Place,
Senior Division
American Association of University Women Award**
- 404 Audra White
***Variation in Lung Volumes of Non-Smokers, Smokers of Conventional
Cigarettes, and Smokers of Electronic Cigarettes***
Southwest Virginia Governor's School
Sponsor: Rebecca Phillips
**Grand Award Alternate
Biomedical and Health Sciences; Cell and Molecular Biology – First Place,
Senior Division
Virginia State Science and Engineering Fair Delegate
Virginia Dental Award
Emory and Henry Scholarship**
- 405 Lily Zhu and Aarati Pokharel
The Effects of Per2AS, a non-coding RNA gene, on Circadian Rhythmicity
Blacksburg High School
Sponsor: Katharine Davis
Biomedical Engineering Award – Virginia Tech
- 501 Cheyenne Bidlack
Identification of Metallic Ions in Various Tattoo Inks by Flame Test
Richlands High School
Sponsor: Tiffany Stillwell
**Chemistry – Third Place, Senior Division
American Chemical Society, Northeastern Tennessee Section Award –
Third Place**
- 502 Danielle Damron and Hailey Mullins
Growing Crystals
Richlands High School
Sponsor: Tiffany Stillwell
Chemistry – Honorable Mention, Senior Division

- 503 Dawson Michel Little
The Effect of Pure Vegetable Oils on the Quality of Biodiesel Fuel
 Southwest Virginia Governor's School
 Sponsor: Jared Brown
Chemistry – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
American Chemical Society, Northeastern Tennessee Section Award – First Place
American Chemical Society, Virginia Blue Ridge Section Award
Genius Olympiad Award
Regeneron Intel Science Talent Search
Ricoh Corporation Sustainable Development Award
Virginia Dental Award
- 504 Leslie Martin
Effect of Cooking Temperature on Caloric Value
 Southwest Virginia Governor's School
 Sponsor: Jared Brown
Chemistry – Second Place, Senior Division
American Chemical Society, Northeastern Tennessee Section Award – Second Place
- 601 Brittany Hess
Are There Dangerous Amounts of Lead Along the Clinch?
 Richlands High School
 Sponsor: Tiffany Stillwell
Earth and Environmental Science – Honorable Mention, Senior Division
- 602 Eleanor Ozer
The Bioremediation of Copper and Lead by Saccharomyces cerevisiae
 Southwest Virginia Governor's School
 Sponsor: Krista Stith
Earth and Environmental Science – Second Place, Senior Division
- 603 Olivia Smoot
Phytoremediation of Zinc Sulfate Using Hyperaccumulating Sunflowers in a Hydroponic System
 Southwest Virginia Governor's School
 Sponsor: Krista Stith
Earth and Environmental Science – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
Arizona State University Walton Sustainability Solutions Initiative
Association of Women Geoscientists Award
NASA Earth System Science Award
U. S. Stockholm Junior Water Prize
Virginia Dental Award

- 604 Grace Turner
The Effects of Acidified Simulated Seawater on Mollusk Shells
Blacksburg High School
Sponsor: Ben Turner
Earth and Environmental Science – Third Place, Senior Division
American Meteorological Society Award
Arizona State University Walton Sustainability Solutions Initiative
Genius Olympiad Award
I-SWEEEP Award
Regeneron Intel Science Talent Search
U. S. Stockholm Junior Water Prize
- 701 Collin Gray
The Effects of Different CPU Core Counts and Clock Speed on Performance
Southwest Virginia Governor's School
Sponsor: Richard Fisher
Embedded Systems, Robotics and Intelligent Machines, Systems Software
– Third Place, Senior Division
Regeneron Intel Science Talent Search
- 702 Joseph Nielson
Integration of data science and Google Sheets in Lemonade Stand Point-of-Sale web app
Southwest Virginia Governor's School
Sponsor: Richard Fisher
Embedded Systems, Robotics and Intelligent Machines, Systems Software
– First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
Intel Excellence in Computer Science Award
Virginia Dental Award
- 703 Patrick Thomas
Deciduous Tree Leaf Recognition with Artificial Neural Networks: Year 2
Southwest Virginia Governor's School
Sponsor: Richard Fisher
Embedded Systems, Robotics and Intelligent Machines, Systems Software
– Second Place, Senior Division
Office of Naval Research Awards (U. S. Navy and U. S. Marine Corps)
- 704 Nicholas Wyers
Making an educational VR recreation of history
Blacksburg High School
Sponsor: Katharine Davis
Embedded Systems, Robotics and Intelligent Machines, Systems Software
– Honorable Mention, Senior Division

- 801 Ross Brown
Engineering a Magnetic Projectile Launcher Prototype
George Wythe High School
Sponsor: Delores Craig
Engineering Mechanics; Environmental Engineering – Third Place, Senior Division
- 802 Owen Hall
Magnetic Torque Generator
Southwest Virginia Governor's School
Sponsor: Matthew Frazier
Engineering Mechanics; Environmental Engineering – Honorable Mention, Senior Division
U. S. Air Force Distinguished Achievement Award
Yale Science and Engineering Association Award
- 803 Kaelum Hasler
Post Consumer PET as Stock for Additive Manufacturing
Blacksburg High School
Sponsor: Katharine Davis
Grand Award Winner
Engineering Mechanics; Environmental Engineering – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
ASM Education Foundation Award
Manufacturing Technology Center Award
U. S. Air Force Distinguished Achievement Award
Virginia Dental Award
New River Community College Scholarship
- 805 Isaac Payne
Improved Aerodynamic Camper Device
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Engineering Mechanics; Environmental Engineering – Second Place, Senior Division
Mount Tabor Ruritan Club Award
U. S. Air Force Distinguished Achievement Award

- 901 Samuel Coulson
The Economic Situation of Radford, Virginia and Its Connectedness to Blacksburg, Virginia
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Mathematics – Third Place, Senior Division
Regeneron Intel Science Talent Search
- 903 William Mahaney
Using Kenken Puzzles to Strengthen RSA Encryption
Southwest Virginia Governor's School
Sponsor: Greg Riffe
Mathematics – Second Place, Senior Division
U. S. Air Force Distinguished Achievement Award
- 904 Alexander Tomiak
Determining the Accuracy of SIR Modeling to Predict Movie Popularity
Southwest Virginia Governor's School
Sponsor: Sherry Pugh
Mathematics – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
Mu Alpha Theta Award
Virginia Dental Award
- 1002 Joseph Carman
Pigs, potential transmitters? Clostridium difficile and pigs in southwest Virginia
Southwest Virginia Governor's School
Sponsor: Krista Stith
Microbiology – Second Place, Senior Division
Virginia State Science and Engineering Fair Delegate
- 1003 Madelena Eifert
The Effect of Cavitation Bubbles on Non-pathogenic E. coli on an Ice Cream Scoop
Southwest Virginia Governor's School
Sponsor: Krista Stith
Microbiology – Third Place, Senior Division
Society for In Vitro Biology Award
United States Metric Association Award

- 1005 Simonne Guenette
The Role of Trehalose in Heat Resistant Mycobacterium avium
Blacksburg High School
Sponsor: Katharine Davis
Microbiology – First Place, Senior Division
Virginia State Science and Engineering Fair Delegate
Regeneron Intel Science Talent Search
Virginia Dental Award
- 1006 Stevie Lowe
Comparisons of Antibacterial Activity of Skin Secretions of a Frog and Salamanders
Southwest Virginia Governor's School
Sponsor: Krista Stith
Microbiology – Honorable Mention, Senior Division
American Association of University Women Award
- 1008 Tristan Conner Williams
A Quantitative Analysis of Fecal Coliforms of Washed Eggs
Southwest Virginia Governor's School
Sponsor: Krista Stith
Mount Tabor Ruritan Club Award
- 1101 Hannah Hass
Come Chick This Out
Graham Middle School
Sponsor: Catherine Evans
Animal Sciences; Biomedical and Health Sciences – Honorable Mention, Junior Division
Mount Tabor Ruritan Club Award
- 1102 Chloe Vaughn
Dancers Defying Dizziness
Galax High School
Sponsor: Taylor Edwards
Animal Sciences; Biomedical and Health Sciences – First Place, Junior Division
American Society of Mammalogists Award
Broadcom Masters Award

- 1103 Darrah Young and Macy McBride
Can You See Me Now?
Graham Middle School
Sponsor: Catherine Evans
Animal Sciences; Biomedical and Health Sciences – Second Place, Junior Division
American Society of Mammalogists Award
- 1201 Tina Huang
Which type of paper helps produce the quickest writing?
Tazewell Middle School
Sponsor: Katherine Claytor
Behavioral and Social Sciences – Second Place, Junior Division
- 1202 Abigail Musick and Seth Scarbrough
Does Gender Influence Personality?
Wallace Middle School
Sponsor: Shannon Mutter
Behavioral and Social Sciences – Third Place, Junior Division
- 1203 Kailynn Roberts
Brain and Memory Mnemonics
Galax High School
Sponsor: Kathryn Pakkidis
Behavioral and Social Sciences – First Place, Junior Division
Broadcom Masters Award
- 1301 Jonathan Collier
The Bitter, the Sweet, and the Teeth
Tazewell Middle School
Sponsor: Katherine Claytor
Chemistry – Second Place, Junior Division
- 1302 Shraddha Patel
On Your Mark, Get Set, RUST!
Graham Middle School
Sponsor: Catherine Evans
Chemistry – Third Place, Junior Division
Radford University Sigma Xi Chapter Distinguished Award in Science
- 1303 Brooke Ramey
What's in Your Drinking Water?
Riverview Elementary/Middle School
Sponsor: Kay Ratliff
Chemistry – Honorable Mention, Junior Division

- 1304 Simran Rosborough
Disappearing Stains or Not?
Classical Conversations
Sponsor: Rani Rosborough
Chemistry – First Place, Junior Division
- 1306 Mary Ruth Williams
Disappearing Wax
Classical Conversations
Sponsor: David Williams
Chemistry – Honorable Mention, Junior Division
- 1401 Caleb Christian
A Battery That Makes “Cents”
Tazewell Middle School
Sponsor: Katherine Claytor
**Earth and Environmental Science; Energy: Chemical; Engineering
Materials; Materials Science – Second Place, Junior Division**
- 1403 Bryce Havens
I’m Having a Septic Breakdown
Graham Middle School
Sponsor: Catherine Evans
**Earth and Environmental Science; Energy: Chemical; Engineering
Materials; Materials Science – Third Place, Junior Division
Mount Tabor Ruritan Club Award
Virginia Lakes and Watersheds Association Award**
- 1404 Nathan Sexton
How Hydraulics Works
Tazewell Middle School
Sponsor: Katherine Claytor
**Earth and Environmental Science; Energy: Chemical; Engineering
Materials; Materials Science – Honorable Mention, Junior Division
Office of Naval Research Awards (U. S. Navy and U. S. Marine Corps)**
- 1405 Josh Tomiak
Warren Truss vs. Howe Truss – Which Bridge is Stronger?
Scott Memorial Middle School
Sponsor: April Schmidt
**Earth and Environmental Science; Energy: Chemical; Engineering
Materials; Materials Science – First Place, Junior Division
Broadcom Masters Award
Office of Naval Research Awards (U. S. Navy and U. S. Marine Corps)**

- 1406 Nicholas Ward and Donovan Nelson
Hovercrafts, are they doing it right?
Wallace Middle School
Sponsor: Shannon Mutter
**Earth and Environmental Science; Energy: Chemical; Engineering
Materials; Materials Science – Honorable Mention, Junior Division**
- 1501 Emily Espinoza
What Substances Affect Plant Growth?
Galax High School
Sponsor: Kathryn Pakkidis
Plant Sciences – Second Place, Junior Division
- 1502 Ryan Meade
To Angle or Not to Angle
Richlands Middle School
Sponsor: Kim Lawson
Plant Sciences – First Place, Junior Division