

# 2016 Blue Ridge Highlands Regional Science Fair March 4 - 5, 2016 – Radford University

## CATEGORY AWARDS

### Grand Award Winners

103

Emily Llaneras

*Slaying the Destructor Part II: Dosage Optimization and Effects of Oxalic Acid on Honeybee Hives*

Southwest Virginia Governor's School

Sponsor: Krista Stith

301

Julian Elmasry

*Revolutionary Blood Test Tube 2.0*

Southwest Virginia Governor's School

Sponsor: Jared Brown

### Grand Award Alternate

403

Morgan Fisher

*Effect of Water Source on Occurrence of Bacteria and Mycobacterium avium DNA in Shower Heads*

Southwest Virginia Governor's School

Giles High School

Sponsor: Krista Stith

### Senior Division

#### Animal Sciences

#### *First Place*

102

Kadie Hudson

*The Genetic Influence of Coagulation on Fly Control in Dairy Cattle*

Southwest Virginia Governor's School

Sponsor: Rebecca Phillips

#### *Second Place*

103

Emily Llaneras  
*Slaying the Destructor Part II: Dosage Optimization and Effects of Oxalic Acid on Honeybee Hives*  
Southwest Virginia Governor's School  
Sponsor: Krista Stith  
Sponsor: Rebecca Phillips

### **Behavioral and Social Sciences**

*First Place*  
206  
Griffin McAvoy  
*Making the Write Choice: A Notable Difference*  
Tazewell High School  
Sponsor: Greg Deskins

*Second Place*  
203  
Skylar Johnston  
*How Qualities of Urban Areas Affect Adoption Rates in Animal Shelters*  
Southwest Virginia Governor's School  
Sponsor: Sherry Pugh

*Third Place*  
205  
Elizabeth King  
*The Effects of Rearing Style on Negativism in Teenagers*  
Southwest Virginia Governor's School  
Sponsor: Krista Stith

*Honorable Mention*  
209  
Lucas White  
*Sodas: "To Drink or Not to Drink"*  
Richlands High School  
Sponsor: Melissa Addison

### **Biomedical and Health Sciences Biomedical Engineering Computational Biology and Bioinformatics**

*First Place*  
301  
Julian Elmasry  
*Revolutionary Blood Test Tube 2.0*  
Southwest Virginia Governor's School

Sponsor: Jared Brown

*Second Place*

306

Emma Stowe and Emma Strickland

*Can We Build a Bone? BMP-2 Delivery for Osteoblastic Differentiation*

Blacksburg High School

Sponsor: Katharine Davis

*Third Place*

303

Carly Porter

*Acceptance of Fecal Transplant Therapy*

Southwest Virginia Governor's School

Sponsor: Rebecca Phillips

**Cellular and Molecular Biology  
Microbiology  
Plant Sciences**

*First Place*

403

Morgan Fisher

*Effect of Water Source on Occurrence of Bacteria and Mycobacterium avium DNA in Shower Heads*

Southwest Virginia Governor's School

Giles High School

Sponsor: Krista Stith

*Second Place*

401

Leah Bianchi

*Metagenomics Analysis of Phosphate Accumulating Microbial Consortium*

Blacksburg High School

Sponsor: Katharine Davis

*Third Place*

402

Noah Dabney

*Sugar as Knowledge and Power: How Sugars Impact the Growth of Tree Roots*

Home School

Sponsor: Eric Beers

*Honorable Mention*

405

Sarah Turner and Courtney Stone

*The Effectiveness of PCR Testing to Identify Clavibacter Michigenesis*  
Southwest Virginia Governor's School  
Sponsor: Krista Stith

**Chemistry  
Materials Science**

*First Place*

501  
D. Jacob Clary and Wesley Meredith  
*Electronic Wristbands That Alarm When Separated*  
Southwest Virginia Governor's School  
Sponsor: Jerri England

*Second Place*

503  
Savanna Lumpkin  
*Swim Caps: Latex vs. Silicone*  
Galax High School  
Sponsor: Trace Lumpkin

*Third Place*

502  
Alexander E. Dunford  
*Detection of Nitrate and Nitrite in a Solution Through Electrochemical Cyclic Voltammetry*  
Southwest Virginia Governor's School  
Sponsor: Jared Brown

**Earth and Environmental Sciences  
Physics and Astronomy**

*First Place*

603  
Alex Tomiak  
*Gaussian Rifle: Relationship Between Distance and Magnetic Stages*  
George Wythe High School  
Sponsor: Delores Craig

*Second Place*

601  
Canaan Addison and Chace Collins  
*"Going Bananas With Coal!" A Fossil Fuel/Biofuel Energy*  
Richlands High School  
Sponsor: Melissa Addison

Third Place

602

Brayden Barnes

*The Emission of Particles 1.0, 5.0, and 10.0 Microns ( $\mu\text{m}$ ) in Diameter from Machines in a High School Machine Shop*

Southwest Virginia Governor's School

Sponsor: Matthew Frazier

**Embedded Systems  
Robotics and Intelligent Machines  
Systems Software**

*First Place*

704

Patrick Thomas

*Deciduous Tree Leaf Identification with Artificial Neural Networks*

Southwest Virginia Governor's School

Sponsor: Rick Fisher

*Second Place*

702

Joseph Nielson

*The Effects of Network Media on Congestion*

Southwest Virginia Governor's School

Sponsor: Rick Fisher

*Third Place*

703

Catherine Shaffer

*Usability of Mobile Applications to Control Interior Lighting*

Blacksburg High School

Sponsor: Katharine Davis

*Honorable Mention*

705

Nicholas Wyers

*3D Modeling of Historic Points in France*

Blacksburg High School

Sponsor: Katharine Davis

**Engineering Mechanics  
Environmental Engineering**

*First Place*

802

Isaac Payne

*Aerodynamic Camper Device*  
Southwest Virginia Governor's School  
Sponsor: Greg Riffe

*Second Place*  
801  
Jonathan Tyler Neeble  
*Hydroelectric Power Generator*  
Southwest Virginia Governor's School  
Sponsor: Matthew Frazier

*Third Place*  
804  
Grace Turner  
*Purifying Wastewater with Carbon Absorption*  
Blacksburg High School  
Sponsor: Benjamin Turner

## Junior Division

### Animal Sciences Plant Sciences

#### *First Place*

1101

Cassidy Boyles

*Plant Thirst*

Galax High School

Sponsor: Kathryn Pakkidis

### Behavioral and Social Sciences

#### *First Place*

1203

Madison Vanover

*Looks Can Be Deceiving- Continuation*

Tazewell Middle School

Sponsor: Katherine Claytor

#### *Second Place*

1201

Andrew Crowder and Julia Crowder

*Does Music Effect Short Term Memory?*

Wallace Middle School

Sponsor: Shannon Mutter

#### *Third Place*

1202

Evan Nuckolls

*Does Music Affect Memory?*

Galax High School

Sponsor: Kathryn Pakkidis

## Chemistry

#### *First Place*

1303

Christopher Lockhart

*I Scream for Ice Cream*

Richlands Middle School

Sponsor: Kim Lawson

#### *Second Place*

1302

Sarah Elmasry  
*The Effect of Cleaner on Graffiti*  
Galax High School  
Sponsor: Kathryn Pakkidis

*Third Place*  
1301  
Jonce Culbertson  
*The AA Battery Challenge*  
Richlands Middle School  
Sponsor: Kim Lawson

### **Earth and Environmental Sciences Mathematics**

*First Place*  
1401  
Ellie Currie  
*Human vs. Savings Catcher*  
Wallace Middle School  
Sponsor: Shannon Mutter

*Second Place*  
1402  
Caleigh Street  
*Meteorology vs. Almanac*  
Richlands Middle School  
Sponsor: Kim Lawson

### **Engineering Mechanics Physics and Astronomy**

*First Place*  
1501  
Nick Grande and Zach Smith  
*Deflate Gate- The Science Behind It*  
Wallace Middle School  
Sponsor: Shannon Mutter

*Second Place*  
1502  
Anna Haas  
*The Effects of Different Types of Flaps on Wing Lift*  
Auburn Middle School  
Sponsor: Carola Haas



## Materials Science

### *First Place*

1602

Aidan Sparling

*The Strength of Recycling*

Richlands Middle School

Sponsor: Kim Lawson

### *Second Place*

1601

Meredith Dabney

*A Burning Question: Which Friction-Based Fire Starter is the Most Effective?*

Classical Conversations

Sponsor: Phyllis Newbill

## Microbiology

### *First Place*

1701

Carson Noel

*Got Germs II*

Tazewell Middle School

Sponsor: Katherine Claytor