

**27<sup>th</sup> Annual Blue Ridge Highlands Regional Science Fair  
March 2 - 3, 2018 – Radford University**

**VIRGINIA STATE SCIENCE AND ENGINEERING FAIR  
DELEGATES**

**ANIMAL SCIENCES**

- 102 Jeanette Reed  
***Paw-ness in Pure and Mixed Breed Canines***  
Southwest Virginia Governor's School  
Sponsor: Rebecca Phillips

**BEHAVIORAL AND SOCIAL SCIENCES**

- 205 Audra White  
***The Effect of an OXTR Gene Variant on Empathy In Female Adolescents***  
Southwest Virginia Governor's School  
Sponsor: Rebecca Phillips

**BIOMEDICAL AND HEALTH SCIENCES**

- 303 Shay Ladd  
***Astrocyte Response to Traumatic Brain Injury***  
Blacksburg High School  
Sponsor: Katharine Davis

**CELLULAR AND MOLECULAR BIOLOGY**

- 405 Raaga Unmesha Vullikanti  
***Peptide Nucleic Acids as Potential Designer Antimicrobials***  
Blacksburg High School  
Sponsor: Katharine Davis

**CHEMISTRY**

- 501 Drew Ayers  
***A Study on the Physical and Functional Properties of Surfactants and Their Incorporation into Biscuit Making***  
Southwest Virginia Governor's School  
Sponsor: Jared Brown

- 508 Kathleen Reuwer  
***Potential Hazardous Hexavalent Chromium Exposure From the Sharpening of Ice Skate Blades***  
Southwest Virginia Governor's School  
Sponsor: Jared Brown

#### **EARTH AND ENVIRONMENTAL SCIENCES**

- 602 Ainsley LaPlante  
***Effects of Gasoline on Pavona frondifera and Montipora capricornis Corals***  
Southwest Virginia Governor's School  
Sponsor: Rebecca Phillips

#### **EMBEDDED SYSTEMS**

- 703 Elijah Hodges, Liam Lawrence, and Siddharth Nathella  
***Genesis of an Isolated High Dynamic Range Video System***  
Blacksburg High School  
Sponsor: Katharine Davis

#### **ENGINEERING MECHANICS ENVIRONMENTAL ENGINEERING**

- 805 Alexander Tomiak  
***Comparing Methods of Glare Reduction from HID Headlights in External Rearview Mirrors***  
Southwest Virginia Governor's School  
Sponsor: Matthew Frazier

#### **MATHEMATICS**

- 902 Sam Coulson  
***The Influence of Budgeting on Financial Aid in Higher Institutions***  
Southwest Virginia Governor's School  
Sponsor: Greg Riffe

#### **MICROBIOLOGY**

- 1005 Brittany Stiefel  
***Prevalence of Antibiotic Resistance in the Gut Flora (Enterobacteriaceae) of Wild and Domesticated Horses***  
Southwest Governor's School  
Sponsor: Catherine Spachmann

## PHYSICS AND ASTRONOMY

- 1102 Reegal Shailesh Patel  
***The Effects of Introducing Non-Newtonian Fluids Into Football Helmet Padding On Impact Forces***  
Southwest Virginia Governor's School  
Sponsor: Matthew Frazier

## PLANT SCIENCES

- 1203 Sophia Link  
***The Role of Inositol Phosphates on Plant Development and Stress Response***  
Blacksburg High School  
Sponsor: Katharine Davis

## ROBOTICS AND INTELLIGENT MACHINES SYSTEMS SOFTWARE

- 1301 Brandon Fan  
***Using Deep Learning to Return Critical Documents for Clinical Decision Support Systems***  
Blacksburg High School  
Sponsor: Katharine Davis