

**2013 Blue Ridge Highlands Regional Science Fair  
March 8 - 9, 2013 – Radford University**

**SPECIAL AWARDS WINNERS**

**AMERICAN ASSOCIATION FOR UNIVERSITY WOMEN**

- 301 Duncan, Taylor  
***Effects of Autoclaving on Suture Material***  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Gregory Riffe
- 704 Wnorowski, Maria  
***The Effects of Gender on Bone Fusion***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Krista Stith

**AMERICAN CHEMICAL SOCIETY -- NORTHEASTERN TENNESSEE  
SECTION**

*First Place:*

- 304 Pauli, Joseph  
***Calorie Content in Public School Food vs. Fast Food***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Jared Brown

*Second Place:*

- 301 Duncan, Taylor  
***Effects of Autoclaving on Suture Material***  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Gregory Riffe

*Third Place:*

- 302 Massaro, Briana  
***Determination of Polyphenols by Making Modified Carbon Paste Electrodes***  
Southwest Virginia Governor's School/Giles County High School  
Adult Sponsor: Jared Brown

## AMERICAN CHEMICAL SOCIETY -- VIRGINIA BLUE RIDGE SECTION

- 301 Duncan, Taylor  
***Effects of Autoclaving on Suture Material***  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Gregory Riffe

## AMERICAN METEOROLOGICAL SOCIETY AWARD

- 503 Vaccaro, Andrew  
***Correlation Between Artic Sea Ice Thickness and Surface Temperature***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Daniel Blake
- 501 Dennis, Kara  
***The Effects of Education on the Belief of Global Warming Impact***  
Southwest Virginia Governor's School/George Wythe High School  
Adult Sponsor: Rebecca Phillips

## AMERICAN PSYCHOLOGICAL ASSOCIATION

- 205 Makarova, Anna  
***How Breathing Affects Singing***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Sherry Pugh

## AMERICAN RED CROSS -- NEW RIVER VALLEY SCIENCE IN SERVICE TO OUR COMMUNITIES

- 1805 Hill, Casey  
***Making the Ocean Water Drinkable***  
Twin Valley High School  
Adult Sponsor: Harold Wimmer

## AMERICAN SOCIETY OF MAMMALOGISTS

- 1101 Hall, Blake  
***Effectively Training Lambs***  
Classical Conversations  
Adult Sponsor: Scott Greiner
- 704 Wnorowski, Maria  
***The Effects of Gender on Bone Fusion***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Krista Stith
- 103 Smith, Mary  
***Dairy Cattle Breed Effect on Yogurt Quality***  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Rebecca Phillips
- 101 Kennedy, Treasure, Josh Moore, and Startia Rife  
***Icky Mouse***  
Richlands High School  
Adult Sponsor: Tiffany Stillwell

## ASM INTERNATIONAL FOUNDATION

- 703 Quesenberry, Thomas  
***Electrostatic Layer-By-Layer Self-Assembly of Antimicrobial Films***  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Jared Brown

## ASSOCIATION FOR WOMEN GEOSCIENTISTS

- 501 Dennis, Kara  
***The Effects of Education on the Belief of Global Warming Impact***  
Southwest Virginia Governor's School/George Wythe High School  
Adult Sponsor: Rebecca Phillips

## BROADCOM MASTERS AWARDS

- 1906 Thurston, Alexis  
***Love Those Eyes***  
Tazewell Middle School  
Adult Sponsor: Katherine Claytor
- 1802 Empson, Anthea  
***From Deadly to Drinkable: Killing Bacteria with the Sun***  
Classical Conversations  
Adult Sponsor: Yvonne Empson
- 1205 Storms, Abby  
***Distracting Devices***  
Scott Memorial Middle School  
Adult Sponsor: April Schmidt
- 1602 Kimbler, Brennon  
***Residential Light Bulb Effects on Home Heating and Cooling Costs***  
Wallace Middle School  
Adult Sponsor: Will Kimbler
- 1703 Dillon, Maxwell  
***Gripping Golf Geometry***  
Scott Memorial Middle School  
Adult Sponsor: April Schmidt
- 2105 Robbins, Anya  
***Know Your Bow***  
Auburn Middle school  
Adult Sponsor: Debbie Sharp
- 1404 Dabney, Noah  
***Cool It... Finding the Quickest and Most Efficient Way for Cooling a Liquid***  
Classical Conversations  
Adult Sponsor: Button Hall

## GENIUS OLYMPIAD

- 602 Hay, Tanner  
***Improving UPS Delivery Truck Drag Using Pre-existing Devices***  
Southwest Virginia Governors School/George Wythe High School  
Adult Sponsor: Kenneth Abel

## INTEL EXCELLENCE IN COMPUTER SCIENCE AWARD

- 402 Kabaria, Kevin  
***Computer Vision: Creating an Adaptable Environment Based Recognition System***  
Richlands High School  
Adult Sponsor: Melissa Addison

## ISWEEEP

- 502 Feng, Jeff  
***Alkylphenols in Liquid Laundry Detergents***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Jared Brown

## MANUFACTURING TECHNOLOGY CENTER AWARD

- 703 Quesenberry, Thomas  
***Electrostatic Layer-By-Layer Self-Assembly of Antimicrobial Films***  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Jared Brown

## MOUNT TABOR RURITAN AWARDS

### *Junior Division*

- 2002 Grepiotis, Hunter  
***Hand Hygiene***  
Tazewell Middle School  
Adult Sponsor: Katherine Claytor
- 1807 McAvoy, Griffin  
***Mean Cleaners vs. Green Cleaners: Part Two***  
Tazewell Middle School  
Adult Sponsor: Katherine Claytor

Senior Division

205 Makarova, Anna  
***How Breathing Affects Singing***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Sherry Pugh

602 Hay, Tanner  
***Improving UPS Delivery Truck Drag Using Pre-existing Devices***  
Southwest Virginia Governors School/George Wythe High School  
Adult Sponsor: Kenneth Abel

**MU ALPHA THETA**

405 Zheng, Ziqi  
***Power 10: A New Scoring System for Bowling***  
Blacksburg High School  
Adult Sponsor: Sandra Moore

**NATIONAL OCEANIC AND ATMOSPHERIC ASSOCIATION**

503 Vaccaro, Andrew  
***Correlation Between Artic Sea Ice Thickness and Surface Temperature***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Daniel Blake

**NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**

602 Hay, Tanner  
***Improving UPS Delivery Truck Drag Using Pre-existing Devices***  
Southwest Virginia Governors School/George Wythe High School  
Adult Sponsor: Kenneth Abel

**NATIONAL WEATHER SERVICE AWARD**

503 Vaccaro, Andrew  
***Correlation Between Artic Sea Ice Thickness and Surface Temperature***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Daniel Blake

**RICOH CORPORATION  
FOR THE REGIONAL RICOH SUSTAINABLE DEVELOPMENT AWARD**

- 603 Kuhn, Jordan and Eric Chang  
***Designing, Prototyping, and Testing Agricultural Drones***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Kenneth Abel

**SOCIETY FOR IN VITRO BIOLOGY**

- 701 Fain, Sydney  
***Interaction of Ferrous Sulfate and Alternative Sweetening Agents in the Perception of Sweetness and Presence of Dysgeusia***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Rebecca Phillips

**TODD CASSELL AWARD**

**Animal Science**

*First Place*

- 1101 Hall, Blake  
***Effectively Training Lambs***  
Classical Conversations  
Adult Sponsor: Scott Greiner

*Second Place*

- 1102 Mitchell, Asia  
***Toys and Dogs***  
Classical Conversations  
Adult Sponsor: Susan Mitchell

**Plant Science**

*First Place*

- 2203 Day, Jennifer  
***No Leftovers, Please!***  
Graham Middle School  
Adult Sponsor: Catherine Evans

*Second Place*

- 2202 Culbertson, Nelia  
***How Different Liquids React to House Plants***  
Richlands Middle School  
Adult Sponsor: Kim Lawson

## U.S. AIR FORCE DISTINGUISHED ACHIEVEMENT AWARDS

- 805 Zuchowski, Taylor  
***Soccer Shin Guard Impact Study***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Daniel Blake
- 403 Keaton, Matt  
***Correlation Between Corneal Thickness and Astigmatism***  
Southwest Virginia Governor's School/Giles High School  
Adult Sponsor: Rebecca Phillips
- 804 Wright, Sara  
***Leading with your Face or Your Feet***  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Daniel Blake
- 402 Kabaria, Kevin  
***Computer Vision: Creating an Adaptable Environment Based Recognition System***  
Richlands High School  
Adult Sponsor: Melissa Addison
- 602 Hay, Tanner  
***Improving UPS Delivery Truck Drag Using Pre-existing Devices***  
Southwest Virginia Governors School/George Wythe High School  
Adult Sponsor: Kenneth Abel
- 606 Squibb, Carson  
***REM Sleep Clock***  
Southwest Virginia Governor's School/Giles County High School  
Adult Sponsor: Daniel Blake
- 803 Thompson, Alexander  
***Rocket Power***  
Council High School  
Adult Sponsor: Amanda Dorton

## U. S. ARMY

### Grand Award:

603 Kuhn, Jordan and Eric Chang  
***Designing, Prototyping, and Testing Agricultural Drones***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Kenneth Abel

***Engineering (Engineering: Electrical and Mechanical or Engineering: Materials and Bioengineering)***  
***1<sup>st</sup> place***

601 Hall, Leah  
***Who's Hungry? A Novel System to Assist Farmers in Mixing Milk of Calves***  
Classical Conversions  
Adult Sponsor: Button Hall

***2<sup>nd</sup> place***

605 Sexton, Nathan  
***Tow Dolly***  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Daniel Blake

***Environmental Sciences (including Earth and Planetary Sciences or Environmental Sciences)***  
***1<sup>st</sup> place***

502 Feng, Jeff  
***Alkylphenols in Liquid Laundry Detergents***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Jared Brown

***2<sup>nd</sup> place***

503 Vaccaro, Andrew  
***Correlation Between Artic Sea Ice Thickness and Surface Temperature***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Daniel Blake

**Mathematical Sciences and Computer Science**  
**1<sup>st</sup> place**

- 402 Kabaria, Kevin  
**Computer Vision: Creating an Adaptable Environment Based Recognition System**  
Richlands High School  
Adult Sponsor: Melissa Addison

**2<sup>nd</sup> place**

- 405 Zheng, Ziqi  
**Power 10: A New Scoring System for Bowling**  
Blacksburg High School  
Adult Sponsor: Sandra Moore

**Life Sciences (including in Behavioral and Social Sciences, Medicine and Health, Microbiology, Animal Sciences, and Plant Sciences)**  
**1<sup>st</sup> place**

- 703 Quesenberry, Thomas  
**Electrostatic Layer-By-Layer Self-Assembly of Antimicrobial Films**  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Jared Brown

**Physical Sciences (including projects in Biochemistry, Chemistry or Physics)**  
**1<sup>st</sup> place**

- 301 Duncan, Taylor  
**Effects of Autoclaving on Suture Material**  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Gregory Riffe

**2<sup>nd</sup> place**

- 804 Wright, Sara  
**Leading with your Face or Your Feet**  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Daniel Blake

## U. S. METRIC ASSOCIATION

- 604 Ratliff, Taylor and Canaan Addison  
***Biofuels vs. Fossil Fuels***  
Richlands High School  
Adult Sponsor: Melissa Addison

## U. S. NAVY AND MARINE CORPS DISTINGUISHED ACHIEVEMENT AWARDS

### *Junior Division*

- 1705 Sparling, Connor  
***The Evolution of Dams***  
Richlands Middle School  
Adult Sponsor: Kim Lawson
- 1404 Dabney, Noah  
***Cool It... Finding the Quickest and Most Efficient Way for Cooling a Liquid***  
Classical Conversations  
Adult Sponsor: Button Hall

### *Senior Division:*

- 803 Thompson, Alexander  
***Rocket Power***  
Council High School  
Adult Sponsor: Amanda Dorton
- 801 Kumar, Karan  
***Analyzing Samples With the STM/AFM***  
Southwest Virginia Governor's School/Galax High School  
Adult Sponsor: Daniel Blake

## U. S. PUBLIC HEALTH U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

- 302 Massaro, Briana  
***Determination of Polyphenols by Making Modified Carbon Paste Electrodes***  
Southwest Virginia Governor's School/Giles County High School  
Adult Sponsor: Jared Brown

## U. S. STOCKHOLM JUNIOR WATER PRIZE

- 502 Feng, Jeff  
***Alkylphenols in Liquid Laundry Detergents***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Jared Brown

## VIRGINIA DENTAL AWARDS

### Grand Award:

- 703 Quesenberry, Thomas  
***Electrostatic Layer-By-Layer Self-Assembly of Antimicrobial Films***  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Jared Brown

### **Winners:**

- 103 Smith, Mary  
***Dairy Cattle Breed Effect on Yogurt Quality***  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Rebecca Phillips
- 205 Makarova, Anna  
***How Breathing Affects Singing***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Sherry Pugh
- 301 Duncan, Taylor  
***Effects of Autoclaving on Suture Material***  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Gregory Riffe
- 402 Kabaria, Kevin  
***Computer Vision: Creating an Adaptable Environment Based Recognition System***  
Richlands High School  
Adult Sponsor: Melissa Addison
- 502 Feng, Jeff  
***Alkylphenols in Liquid Laundry Detergents***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Jared Brown

- 603 Kuhn, Jordan and Eric Chang  
***Designing, Prototyping, and Testing Agricultural Drones***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Kenneth Abel
- 703 Quesenberry, Thomas  
***Electrostatic Layer-By-Layer Self-Assembly of Antimicrobial Films***  
Southwest Virginia Governor's School/Pulaski Country High School  
Adult Sponsor: Jared Brown
- 805 Zuchowski, Taylor  
***Soccer Shin Guard Impact Study***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Daniel Blake
- 903 Williams, Tyler  
***Comparison of Different Extraction Methods of Oligomeric Proanthocyanidins in Yeast Inhibition***  
Southwest Virginia Governor's School/George Wythe High School  
Adult Sponsor: Rebecca Phillips

## **VIRGINIA LAKES AND WATERSHEDS**

### ***Junior***

- 1705 Sparling, Connor  
***The Evolution of Dams***  
Richlands Middle School  
Adult Sponsor: Kim Lawson

### ***Senior***

- 502 Feng, Jeff  
***Alkylphenols in Liquid Laundry Detergents***  
Southwest Virginia Governor's School/Radford High School  
Adult Sponsor: Jared Brown

## VIRGINIA TECH STATISTIC CLUB AWARD

*Best project in physical sciences*

- 405 Zheng, Ziqi  
***Power 10: A New Scoring System for Bowling***  
Blacksburg High School  
Adult Sponsor: Sandra Moore

*Best project in life sciences*

- 701 Fain, Sydney  
***Interaction of Ferrous Sulfate and Alternative Sweetening Agents in the Perception of Sweetness and Presence of Dysgeusia***  
Southwest Virginia Governor's School/Christiansburg High School  
Adult Sponsor: Rebecca Phillips

## YALE SCIENCE AND ENGINEERING ASSOCIATION AWARD

- 605 Sexton, Nathan  
***Tow Dolly***  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Daniel Blake

## NEW RIVER COMMUNITY COLLEGE SCHOLARSHIP

- 401 Guthrie, Julie  
***Assessing Virginia Cattle Producers' Knowledge and Opinions of the Beef Checkoff***  
Southwest Virginia Governor's School/Pulaski County High School  
Adult Sponsor: Rebecca Phillips

## WYTHEVILLE COMMUNITY COLLEGE SCHOLARSHIP

- 305 Sarver, Joseph  
***Electrochemical Biosensor for the Detection of Riboflavin Using 0.5 mm Graphite Pencil Lead***  
Southwest Virginia Governors School/George Wythe High School  
Adult Sponsor: Jared Brown