2014 VSSEF Special Awards

American Meteorological Society:
Nidhi Kumar, Science, Math, and Technology Center at Mills E. Godwin High School, Richmond, *The Effect of an Elevated pCO2 Level on the Chlorophyll Light Absorbency, Fluorescence, and Mass Ratio of Tetraselmis Chuii and Chaetoceros Murelli*

American Psychological Association:
Natalie Slater, H-B Woodlawn, Arlington, *Thinking Green? The Effect of Economic Versus Environmental Priming on Decisions Made During a Common Pool Resources Game*

American Waterworks Association (3 awards):
Laura Gostel and Tatiana Venn, W T Woodson High School, Fairfax, *An Effective and Inexpensive Way to Remove Arsenic From Water*

Margaret Hale, Academy of Science, Sterling, *Utilizing the Antimicrobial Properties of Silver Nanoparticles on Resin Substrates to Create an Efficient Water Filtration System*

Sarah Lee and Stacy Oh, Centreville High School, Clifton, *Cleanliness of Water vs. Purification Methods*

ASM Materials Education Foundation:
Richard Oh, Thomas Jefferson High School for Science and Technology, Alexandria, *Transparent Polycrystalline Spinel by Pressure-Assisted Microwave Sintering*

Association for Women Geoscientist:
Leila Chang, Mountain View High School, Stafford, *Water Bears in Europa's Icy Ocean*

Intel Excellence in Computer Science:
Chloe Baker, Lake Braddock Secondary School, Burke, *Library Barcode Secure System*

Mu Alpha Theta:
Mihir Paithane, Science, Math, and Technology Center at Mills E. Godwin High School, Richmond, *The Effect of Cellular Interactions on Cancer Cell Growth Using Evolutionary Game Theory*

National Oceanic & Atmospheric Administration "Taking the Pulse of the Planet" Award:
Julia Hager, Southwest Virginia Governor's School, King George, *The Removal of Copper Sulfate from Water Using Saccaromyces Cervisiae*

Regional Ricoh Corporation Sustainable Development Award:
Tiffney Kathir, Simran Rohatgi, and Isabelle Walton, Thomas Jefferson High School for Science and Technology, Alexandria, *Synthesis of Gold Nanoparticles: Applications in Energy Conversion*

Society for In Vitro Biology:
Yanbang Lo, Classical Conversations of Christiansburg, Dublin, *Green Tea Extract as an Environmentally-Friendly Bactericide Against Pseudomonas Syringae on Plants*

Stockholm Jr. Water Prize (3 awards):
Taylor Courtney, King George High School, King George, *The Effect of Natural Filters on the pH of Runoff*

Abigail Johnson, Shenandoah Valley Governor's School, Fishersville, *Exploring the Impact of Herbicides on Aquatic Ecosystems*

Jack Lohman and Colin Fenster, Center for Leadership, Government and Global Economics at Freeman High School, Henrico, *Utilizing Methanol-Enhanced Denitrification and Macrophytic Pollutant Absorption in a Novel Multicore Nitrate Filtration System to Aid in Marine Denitrification Efforts*

U.S. Department of Health and Human Services Award:
Hira Mohyuddin, T C Williams High School, Alexandria, *Gender Differences in Seasonality Patterns of Mood and Behavior in the Old Order Amish*

U.S. Metric Association Award:
Olivia Carros and Madeleine Guyant, Governor's School @ Innovation Park, Manassas, *The Sludge Potential: Using Anaerobic Sediments to Power Microbial Fuel Cells*

VABio:
1st Place: Caitlin Dutta, Western Albemarle High School, Crozet, *The Effect of a New Long Non Coding Rna 2953 on Muscle Creation*

2nd Place: Andrea Li, Thomas Jefferson High School for Science and Technology, Alexandria, *Engineering a Novel Purification Approach for Stem Cell Therapies of Degenerative Eye Diseases through Surface Proteome Analysis*

3rd Place: Tina Ju, Thomas Jefferson High School for Science and Technology, Alexandria *Discovery and Engineering of Exceptionally Potent Biological Inhibitors of MERS-CoV and Influenza H7N9*

Yale Science and Engineering Award:
Nicholas Anselmo and Thomas Goulter, New Horizon's Governor's School for Science and Technology, Hampton, *Enhanced Performance of Airsoft Guns Utilizing Brushless Motor Technology*

U.S. Navy/Marine Corps Award, Office of Naval Research (4 awards):
Matthew Park, Thomas Jefferson High School for Science and Technology, Centreville, *Approaching Anti-Viral Therapeutics via Sequence Analysis of Nucleoprotein and Glycogen Precursor Proteins of Lassa Virus*

Rosa Somers, Paul VI Catholic High School, Fairfax, *Recycling Polystyrene with Limonene*

Emily Beatty, Academy of Science, Sterling, *Super Stretchy Hybrid Hydrogels for Tissue Regeneration*

Annika Kim, Thomas Jefferson High School for Science and Technology, Alexandria, *Curing Cancer without Chemotherapeutic Drugs*

Virginia Tech Undergraduate Statistics Club:

1st Place: Natalie Slater, H-B Woodlawn, Arlington, *Thinking Green? The Effect of Economic Versus Environmental Priming on Decisions Made During a Common Pool Resources Game*

2nd Place: Santiago Munevar, John Champe / Loudoun County Academy of Science, Aldie, *Divided States of America: Modeling Partisanship in Congress*

3rd Place: Anna Makarova, Southwest Virginia Governor's School, Pulaski, *Factors that Affect Singing*

Leidos Corporation:

Applied Sciences: Energy & National Security

1st Place: James Wang, Thomas Jefferson High School for Science and Technology, Alexandria, *Analyzing Functionalized Carbon Nanofibers with Inverse Gas Chromatography for Application in Polymer Nanocomposites*

2nd Place: Keithen Orson, Loudoun County Academy of Science, Sterling, *Graphene Composites as an Alternative Organic Fuel Cell Catalyst*

3rd Place: Christopher Jones, West Potomac High School, Alexandria, *The Effects of Initial Burn Area on the Instantaneous Thrust of a Rocket Motor*

Honorable Mentions:

Aaron Aguhob, George C. Marshall High School, Falls Church, *The Effect of Fractal Geometry on RF Shielding*

Rachel Zoll, Thomas Jefferson High School for Science and Technology, Alexandria, *Growth and Characterization of Periodically Oriented GaN for Non-Linear Optics*

Applied Science for Environmental and Life Sciences

1st Place: Annika Kim, Thomas Jefferson High School for Science & Technology, Alexandria, Curing Caner Without Chemotherapeutic Drugs

2nd Place: Elishama Michel, Loudoun County Academy of Science, Sterling, *Diet-Based Inhibition of Acetylcholinesterase as a Treatment for Myasthenia Gravis and Alzheimer's Disease*

3rd Place: Jack Lohman and Colin Fenster, Center for Leadership, Government, and Global Economics at Freeman High School, Richmond, *Utilizing Methanol-Enhanced Denitrification and Macrophytic Pollutant Absorption in a Novel Multicore Nitrate Filtration System to Aid in Marine Denitrification Efforts*

Honorable Mentions:
Mihir Paithane, Mills E. Godwin High School, Richmond, *The Effect of Cellular Interactions on Cancer Cell Growth Using Evolutionary Game Theory*

Anastasiya Vitko, Albemarle High School, Charlottesville, *Developing a Bathroom Floor Mat for Passive Monitoring of Weight, Pulse, and Blood Pressure*

Virginia Dental Association: Science Talent Awards Program:

Animal Science: Gauri Sharma, George C. Marshall High School, Falls Church, *The Effect of Different Voltage Levels on the Regeneration Rate of Triclad Turbellaria*

Behavioral and Social Science: Natalie Slater, H-B Woodlawn, Arlington, *Thinking Green? The Effect of Economic Versus Environmental Priming on Decisions Made During a Common Pool Resources Game*

Biochemistry: Elishama Michel, Loudoun County Academy of Science, Sterling, *Diet-Based Inhibition of Acetylcholinesterase as a Treatment for Myasthenia Gravis and Alzheimer's Disease*

Cellular and Molecular Biology: Manotri Chaubal, Thomas Jefferson High School for Science and Technology, Alexandria, *Reprogramming Hair Follicle Stem Cells into Cardiomyocytes*

Andrea Li, Thomas Jefferson High School for Science and Technology, Alexandria, *Engineering a Novel Purification Approach for Stem Cell Therapies of Degenerative Eye Diseases through Surface Proteome Analysis*

Chemistry: David Loftus, E.C. Glass High School, Lynchburg, *Testing the Anticancer Effects of Platinum Compounds*

Computer Science: Hannah Devinney, LCPS Academy of Science, Sterling, *Automated American Sign Language Translation*

Earth and Planetary Science: Joao Versos, Dominion High School, Sterling, *The Influence of Colloidal Silica Grout on Mitigating the Liquefaction Potential of Loose Soil*

Engineering: Electrical and Mechanical: Emily Beatty, Academy of Science, Sterling, *Super Stretchy Hybrid Hydrogels for Tissue Regeneration*

Engineering: Materials and Bioengineering: Xiaoran Zhu, Western Albemarle High School, Crozet, *A Portable Nasal Spirometer: Diagnosing and Monitoring Pulmonary Diseases*

Energy and Transportation: Jonathan Grow, Langley High School, McLean, *Wingtip Vortex Reduction with Winglets*

Environmental Sciences: Margaret Hale, Academy of Science, Sterling, *Utilizing the Antimicrobial Properties of Silver Nanoparticles on Resin Substrates to Create an Efficient Water Filtration System*

Environmental Management: Amy Luttges, Oakton High School, Vienna, *The Effect of Different Absorbents on Oil*

Mathematical Sciences: Mihir Paithane, Science, Math, and Technology Center at Mills E. Godwin High School, Richmond, *The Effect of Cellular Interactions on Cancer Cell Growth Using Evolutionary Game Theory*

Medicine and Health Sciences: Ramya Radhakrishnan, Thomas Jefferson High School for Science and Technology, Alexandria, *PMO Treatment: A Novel Cure for Muscular Dystrophy*

Microbiology: Matthew Park, Thomas Jefferson High School for Science and Technology, Centreville, *Approaching Anti-Viral Therapeutics via Sequence Analysis of Nucleoprotein and Glycogen Precursor Proteins of Lassa Virus*

Physics and Astronomy: Christopher Jones, West Potomac High School, Alexandria, *The Effects of Initial Burn Area on the Instantaneous Thrust of a Rocket Motor*

Plant Sciences: Tim Burnette, Central Virginia Governor's School, Lynchburg, *The Effect of Varying Photoperiods on Hypocotyl Lengths in Arabidopsis thaliana*

Grand Award: Amy Meng and Shi Yuan Meng, Wilbert Tucker Woodson High School, Fairfax, *A New and Improved Antibody in Targeted Cancer Therapy*