

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Edward Wollack	Atholton High School	Environmental Factors that Influence Solar Cell Efficiency	<b>HIGH SCHOOL WINNER</b>	<b>Sweepstakes</b>
John Bialick	Atholton High School	Capturing Waste Heat	Honorable Mention (Invitation to Awards Dinner)	American Nuclear Society
Claire Kuang	Atholton High School	Optical Fiber Configurations in a Quantum System: How Coils and Radii Affect Accuracy	Award for Physics (Gift Card)	Armed Forces Communications Electronics Association
John Bialick	Atholton High School	Capturing Waste Heat	Gift Certificate for the Maryland Science Center	Johns Hopkins Society of Engineering Alumni
Anita Chandrasekaran	Atholton High School	Mitochondrial Metabolism: A Therapeutic Target for Diabetic Neuropathy	Gift Certificate for the Maryland Science Center	Johns Hopkins Society of Engineering Alumni
Asmi Panigrahi	Atholton High School	The Effect of Detergents with Enzymes vs. Detergents Without Enzymes on Stain Removal of Different Stains	Certificate and \$25 Gift Card	Society of Women Engineers
Anita Chandrasekaran	Atholton High School	Mitochondrial Metabolism: A Therapeutic Target for Diabetic Neuropathy	Award of Distinction	MST FAIR
Claire Kuang	Atholton High School	Optical Fiber Configurations in a Quantum System: How Coils and Radii Affect Accuracy	Award of Distinction	MST FAIR
Ethan Matz	Atholton High School	Correlation of Neurotrophins and Asthma Severity	Award of Distinction	MST FAIR

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Farah Askari	Atholton High School	The Effect of Slit Proteins on GBM Derived Cells	Award of Distinction	MST FAIR
Iowis Zhu	Atholton High School	The Effect of Green Fluorescent Protein Fusion on Protein Structure and Function	Award of Distinction	MST FAIR
Kelsey Meteyer	Atholton High School	A Vital Connection: Arctic Ground Squirrel Neural Stem Cells May Provide Clue to Stroke Treatment	Award of Distinction	MST FAIR
Lauren Butziger	Atholton High School	Drug-Eluting Stents	Award of Distinction	MST FAIR
Lisa Liu	Atholton High School	Nanotube Batteries: Using Electrochemical Deposition Techniques to Create a Paper-Thin Flexible Rechargeable Battery	Award of Distinction	MST FAIR
Melanie Johnson	Atholton High School	Faceblind: Prosopagnosia in the Context of Perception and Memory	Award of Distinction	MST FAIR
Mihir Patel	Atholton High School	Calculating Solar Radius by Examining Various Methods of Solar Eclipse Observation	Award of Distinction	MST FAIR
Raheed Khan	Atholton High School	Trace Elements in Seafood and its Health Benefits	Award of Distinction	MST FAIR
Sean Hagaman	Atholton High School	Infrared Spectroscopy: The Composition of Comets	Award of Distinction	MST FAIR
Victoria Wyler	Atholton High School	Lunar Topography and Crustal Thickness: Previously Unrecognized Lunar Basins	Award of Distinction	MST FAIR
John Bialick	Atholton High School	Capturing Waste Heat	Blue Ribbon of Excellence	MST FAIR

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Kathleen Hupfeld	Atholton High School	The Dangers of Acid Rain: A Farmer's Fear?	Blue Ribbon of Excellence	MST FAIR
Maureen Monk	Atholton High School	The Effect of the Amount of Light Received on the Amount of Chlorophyll Produced in a Plant	Blue Ribbon of Excellence	MST FAIR

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Laura Feinleib	Bonnie Branch Middle School	Sounds Tubular	Award of Excellence (\$25 Gift Card)	Society of Women Engineers
Kayla Britt	Bonnie Branch Middle School	Testing the Cleanliness of Pond Water in a Solar Still	Award of Excellence (\$25 Gift Card)	Society of Women Engineers
Colleen Miller	Bonnie Branch Middle School	Going Green With Colleen	Blue Ribbon of Excellence	MST FAIR
Finn Denhard	Bonnie Branch Middle School	UV Rays and Weather: Are They Related?	Blue Ribbon of Excellence	MST FAIR
Kaijaii Gomez Wick	Bonnie Branch Middle School	Sniff 'N' Sigh	Blue Ribbon of Excellence	MST FAIR
Kayla Britt	Bonnie Branch Middle School	Testing the Cleanliness of Pond Water in a Solar Still	Blue Ribbon of Excellence	MST FAIR
Matt Blaschak	Bonnie Branch Middle School	Whitey Bites	Blue Ribbon of Excellence	MST FAIR
Miriam Asmerom	Bonnie Branch Middle School	What Type of Toothpaste Affects Tooth Shade?	Blue Ribbon of Excellence	MST FAIR
Nathan Wagner	Bonnie Branch Middle School	Spotlight on Sunlight	Blue Ribbon of Excellence	MST FAIR
Samuel Choi	Bonnie Branch Middle School	UV Rays and Weather: Are They Related?	Blue Ribbon of Excellence	MST FAIR
Sean Higgins	Bonnie Branch Middle School	UV Rays and Weather: Are They Related?	Blue Ribbon of Excellence	MST FAIR
Shannon Kirby	Bonnie Branch Middle School	How Much Water Do Different Tree Branches Absorb?	Blue Ribbon of Excellence	MST FAIR
Sunny Xu	Bonnie Branch Middle School	Energy Conservators Collide	Blue Ribbon of Excellence	MST FAIR

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Andreas Seas	Burleigh Manor Middle School	Propeller Twist Angle and Its Contribution to Generated Thrust	MIDDLE SCHOOL WINNER	Engineering
Adele Fu	Burleigh Manor Middle School	Oil Absorption of Materials	MIDDLE SCHOOL RUNNER-UP	Environmental Science
David Yeh	Burleigh Manor Middle School	The Koch Snowflake: Fractals	MIDDLE SCHOOL RUNNER-UP	Mathematics
Vivian Wang	Burleigh Manor Middle School	Classifying Music by Instrument Type	MIDDLE SCHOOL RUNNER-UP	Physics: Light, Sound, & Thermodynamics
Justin Santos	Burleigh Manor Middle School	How Do You Spell Clean?	Award of Excellence (\$30 Gift Certificate)	Friends of Agricultural Research -- Beltsville
Andreas Seas	Burleigh Manor Middle School	Propeller Twist Angle and Its Contribution to Generated Thrust	Award of Excellence (\$20 Gift Certificate)	Friends of Agricultural Research -- Beltsville
Andre Chen	Burleigh Manor Middle School	Testing the Growth of a Chesapeake Bay Alga in Different Salinities	Blue Ribbon of Excellence	MST FAIR
Aneesh Agrawal	Burleigh Manor Middle School	Morning, Noon, and Evening Energy	Blue Ribbon of Excellence	MST FAIR
Daniel Chen	Burleigh Manor Middle School	Testing the Growth of a Chesapeake Bay Alga in Different Salinities	Blue Ribbon of Excellence	MST FAIR

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Gregory Richmond	Burleigh Manor Middle School	The Burleigh Manor Middle School Bioretention Site: Does It Really Work?	Blue Ribbon of Excellence	MST FAIR
Hugh Zhao	Burleigh Manor Middle School	The Effect of pH Levels in Liquids on the Effervescence of Alka-Seltzer Tablets	Blue Ribbon of Excellence	MST FAIR
Melanie Zheng	Burleigh Manor Middle School	Is It Clean?: The Effect of Soil on Produce	Blue Ribbon of Excellence	MST FAIR
Sunny Zhou	Burleigh Manor Middle School	A Second Sunrise Over Another Earth	Blue Ribbon of Excellence	MST FAIR
Tiffany Chen	Burleigh Manor Middle School	How Anti-bacterial Is Your Soap?	Blue Ribbon of Excellence	MST FAIR

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<b>Alex Wang</b>	<b>Centennial High School</b>	An Age Profile: mRNA 135 Expression During Hippocampal Neuron Development	<b>MENTORED WINNER</b>	<b>Sweepstakes</b>
<b>Henry Zheng</b>	<b>Centennial High School</b>	Application of Decision Fusion for Prosthetic Systems	<b>WINNER</b>	<b>Shimadzu Award for Excellence in Research</b>
Tessa Seale	Centennial High School	The Impact of Miracle Gro Concentration on the Growth of Algae, Dissolved Oxygen Levels, and pH Levels	HIGH SCHOOL WINNER	Environmental Science
Ruth Choa	Centennial High School	Fourier Analysis and its Application to Instrument Acoustics and Nano-scale Quantum Devices	HIGH SCHOOL WINNER	Mentored
Christina Wu	Centennial High School	Role of Pak1 in Regulating Vascular Smooth Muscle Cell Proliferation and Cell Viability	HIGH SCHOOL RUNNER-UP	Mentored
Ruth Choa	Centennial High School	Fourier Analysis and its Application to Instrument Acoustics and Nano-scale Quantum Devices	Honorable Mention (Invitation to Awards Dinner)	American Nuclear Society
Ryan Cherng Harsha Neerchal Adip Bhargav	Centennial High School	Searching for Polychlorinated Biphenols on PI	ASNE CEE Award	American Society of Naval Engineering
Alex Wang	Centennial High School	An Age Profile: mRNA 135 Expression During Hippocampal Neuron Development	Honorable Mention	FDA Chapter of Sigma Xi Research Honor Society

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Pranay Patel Srikar Kalvakolanu Joey Dichoso	Centennial High School	The Effect of Anti-Cancer Drugs on Cancer of Different Properties	Certificate of Recognition	Graduate Women in Science
Joseph Ayoub Cheri Wang	Centennial High School	The Effect of Alternative vs. Conventional Medicines on HT29 Colon and MCF-7 Breast Cancer Cells	Certificate of Recognition	Graduate Women in Science
Nika Nepali Rachel Dvornicky	Centennial High School	The Relationships Between Algae and Water Quality	Award for Excellence in Environmental Science (Book and certificate)	Howard County Conservancy
Tessa Seale	Centennial High School	The Impact of Miracle Gro Concentration on the Growth of Algae, Dissolved Oxygen Levels, and pH Levels	Runner-Up	ITT
Ryan Cherng Harsha Neerchal Adip Bhargav	Centennial High School	Searching for Polychlorinated Biphenols on PI	3rd Place ITT Vision Award (\$10 Gift Card)	ITT
Ruth Choa	Centennial High School	Fourier Analysis and its Application to Instrument Acoustics and Nano-scale Quantum Devices	1st Place ITT Vision Award (\$50 Gift Card)	ITT
Adam Rabb	Centennial High School	Evaluation of Different Memory Tests in an Autism Model	Award of Distinction	MST FAIR

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Alex Wang	Centennial High School	An Age Profile: mRNA 135 Expression During Hippocampal Neuron Development	Award of Distinction	MST FAIR
Alexander Tereshchenko	Centennial High School	Spatial and Object Working Memory in Multiple Sclerosis: A Diffusion Tensor Imaging	Award of Distinction	MST FAIR
Andreas Mitchell	Centennial High School	Examining Arthritis Through Narrow-based Walking: Biomechanics and Beyond	Award of Distinction	MST FAIR
Arthur Zhou	Centennial High School	Comparative Surface Distribution of NMDA Receptor Subtypes Using Transfected Constructs	Award of Distinction	MST FAIR
Christina Wu	Centennial High School	Role of Pak1 in Regulating Vascular Smooth Muscle Cell Proliferation and Cell Viability	Award of Distinction	MST FAIR
Dingxun Shao	Centennial High School	The Effect of Avastin Alone and When Used in Combination with BCNU or TMZ on F98 and 9L Glioma Cells in Vitro	Award of Distinction	MST FAIR
Emily Watts	Centennial High School	Blood Chemistry: The Link Between Severe Headache and Cardiovascular Risk	Award of Distinction	MST FAIR
Henry Zheng	Centennial High School	Application of Decision Fusion for Prosthetic Systems	Award of Distinction	MST FAIR
Melinda Wang	Centennial High School	Treatment of Cancer Patients Through Intensity Modulated Radiation Therapy	Award of Distinction	MST FAIR

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Peter Kamel	Centennial High School	Artificial Tissue Design: The Development of a Heat-Sensitive Tissue Mimicking Phantom for Use with Ablation	Award of Distinction	MST FAIR
Ruth Choa	Centennial High School	Fourier Analysis and its Application to Instrument Acoustics and Nano-scale Quantum Devices	Award of Distinction	MST FAIR
Samy Rabb	Centennial High School	Potential in the Effect of U Solution on Mitochondrial Membrane Liver and Kidney Cells	Award of Distinction	MST FAIR
Teresa Yeh	Centennial High School	Glutamate Transporter (GLT-1) Attenuates Glutamate Excitotoxicity	Award of Distinction	MST FAIR
Victoria Zhang	Centennial High School	Effect of Rosiglitazone on Human Adipocyte Metabolism and Gene Expression	Award of Distinction	MST FAIR
Katelyn Seale	Centennial High School	A Look at Folate Intakes of Adolescents	Blue Ribbon of Excellence	MST FAIR
Travis Dichoso	Centennial High School	Biological Science: Behavioral & Social	Blue Ribbon of Excellence	MST FAIR

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Neha Amin	Clarksville Middle School	The Effect of High Carbon Dioxide Levels and Climate Changes on the Brassica rapa	MIDDLE SCHOOL RUNNER-UP	Earth and Space Science
Jessie Hennacy	Clarksville Middle School	The Effect of Functional Variances on Computational Convergence	MIDDLE SCHOOL WINNER	Mathematics
Jai Thakor	Clarksville Middle School	A Stitch in Time Saves Life: The Effect of Various Suturing Techniques on Knot Security, Tissue Drag, and Time to Sew	Award of Excellence (\$50 Gift Certificate)	Friends of Agricultural Research -- Beltsville
Jessie Hennacy	Clarksville Middle School	The Effect of Functional Variances on Computational Convergence	Award of Excellence (\$25 Gift Card)	Society of Women Engineers
Daniela Lin	Clarksville Middle School	The Effect of Potassium Fertilizer on Marigold Growth	Blue Ribbon of Excellence	MST FAIR
Evangeline Chandran	Clarksville Middle School	The Effect of Medicinal Plant Extracts and Synthetic Antibiotics on the Growth of Staphylococcus aureus	Blue Ribbon of Excellence	MST FAIR
Grace Lin	Clarksville Middle School	The Effect of Diet Soda on Egg Shells	Blue Ribbon of Excellence	MST FAIR
Jai Thakor	Clarksville Middle School	A Stitch in Time Saves Life: The Effect of Various Suturing Techniques on Knot Security, Tissue Drag, and Time to Sew	Blue Ribbon of Excellence	MST FAIR
Joy Li	Clarksville Middle School	The Effect of Lens Diameter on the Standard Deviation of Luminosity of the Pixels in a Photo	Blue Ribbon of Excellence	MST FAIR

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Natalie Alper	Clarksville Middle School	The Effect of the Structure and Design of a House on its Stability	Blue Ribbon of Excellence	MST FAIR
Niranjan Lakhanpal	Clarksville Middle School	The Effect of Tire Pressure on Fuel Efficiency	Blue Ribbon of Excellence	MST FAIR

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Alexis Irby	Cradlerock School	The Effect of Various Materials on Radio Signal Strength	Techarina Award for Excellence in Technology or Engineering by a Middle School Student	Optemax, LLC.
Alexis Irby	Cradlerock School	The Effect of Various Materials on Radio Signal Strength	Award of Excellence (\$25 Gift Card)	Society of Women Engineers
Adam Watson	Cradlerock School	The Effect of Different Materials on Blocking Ultraviolet Rays	Blue Ribbon of Excellence	MST FAIR
Allison Cable	Cradlerock School	The Effect of Bridge Truss Design on the Bridge Efficiency	Blue Ribbon of Excellence	MST FAIR
Alyssa Anwar	Cradlerock School	The Effect of Various Paper Airplane Designs on Flight	Blue Ribbon of Excellence	MST FAIR
Kyle Madden-Stricker	Cradlerock School	The Effect of Different Wood Species on the Height of a Bouncing Baseball	Blue Ribbon of Excellence	MST FAIR
Maya Thakar	Cradlerock School	The Effect of Indian Spices on the Growth of E. Coli Bacteria	Blue Ribbon of Excellence	MST FAIR

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Brian Dowd	Dunloggin Middle School	How Does Runoff Affect a Stream	MIDDLE SCHOOL WINNER	Earth and Space Science
Sauradeep Sinha	Dunloggin Middle School	Thermoelectric Materials for Power Generation and Their Practical Applications	MIDDLE SCHOOL WINNER	Physics: Light, Sound, & Thermodynamics
Nathaniel Frank	Dunloggin Middle School	Speed Vs. Fuel Efficiency	MIDDLE SCHOOL WINNER	Physics: Mechanics
Sauradeep Sinha	Dunloggin Middle School	Thermoelectric Materials for Power Generation and Their Practical Applications	Energy Award	AREVA Transnuclear
Adam Sachs	Dunloggin Middle School	Biological vs. Mechanical Filter	Blue Ribbon of Excellence	MST FAIR
James Shearman	Dunloggin Middle School	The Effect of Ultraviolet Radiation on Cancer Cells Resistant to Cisplatin vs. Cancer Cells Sensitive to Cisplatin	Blue Ribbon of Excellence	MST FAIR
John Lund	Dunloggin Middle School	The Effect of Vigoro Fertilizer on Organisms in Nearby Lakes and Ponds	Blue Ribbon of Excellence	MST FAIR
Justin Detweiler	Dunloggin Middle School	Rust Busters	Blue Ribbon of Excellence	MST FAIR
Matthew Keimig	Dunloggin Middle School	Bisphenol A: Its Effect on Living Organisms	Blue Ribbon of Excellence	MST FAIR
Michael Smith	Dunloggin Middle School	Removing Microorganisms from Plant Soil	Blue Ribbon of Excellence	MST FAIR

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Patrick Rasmussen	Dunloggin Middle School	Green Vs. Brown Vs. Blue	Blue Ribbon of Excellence	MST FAIR
Sean Manning	Dunloggin Middle School	The Leyden Jars	Blue Ribbon of Excellence	MST FAIR
Simon Fines	Dunloggin Middle School	The Blades' Influence on the Wind Turbine	Blue Ribbon of Excellence	MST FAIR
Stephen Latona	Dunloggin Middle School	Magnetic Regeneration in Planaria	Blue Ribbon of Excellence	MST FAIR

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Amy Figaroa	Elkridge Landing Middle School	The 5 Second Rule	Blue Ribbon of Excellence	MST FAIR
Cooper Gerus	Elkridge Landing Middle School	Save the Bay From Your Own Backyard	Blue Ribbon of Excellence	MST FAIR
Marianna Stepniak	Elkridge Landing Middle School	Breathe in the Light	Blue Ribbon of Excellence	MST FAIR

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<b>Lavanya Garnepudi</b>	<b>Ellicott Mills Middle School</b>	The Effect of Turmeric Extracts on Bacterial Cell Culture Growth	<b>MIDDLE SCHOOL WINNER</b>	<b>Sweepstakes</b>
Jennifer Baik	Ellicott Mills Middle School	The Effect of Different SPF Levels on the Protection of UV Rays	MIDDLE SCHOOL RUNNER-UP	Chemistry: Applied
Agastya Parikh	Ellicott Mills Middle School	The Effect of Wing Design on the Distance Flown by an Airbus A330- 200	MIDDLE SCHOOL RUNNER-UP	Engineering
Omar Abdelkader	Ellicott Mills Middle School	The Effect of Windmill Blade Shape and Angle on Generated Power	Middle School Award	AREVA Transnuclear
Lavanya Garnepudi	Ellicott Mills Middle School	The Effect of Turmeric Extracts on Bacterial Cell Culture Growth	Award of Excellence (\$20 Gift Certificate)	Friends of Agricultural Research -- Beltsville
Allie Peck	Ellicott Mills Middle School	The Effect of Angle on the Distance an Arrow Flies	Blue Ribbon of Excellence	MST FAIR
Allison Barnabe	Ellicott Mills Middle School	The Effect of Inflated Material on Sound Transmitted	Blue Ribbon of Excellence	MST FAIR
Andrew Wang	Ellicott Mills Middle School	The Effect of Various Best Management Practices (BMPs) on Fertilizer Runoff	Blue Ribbon of Excellence	MST FAIR
Corinne Barnabe	Ellicott Mills Middle School	The Effect of Fruit Type on Volts Generated	Blue Ribbon of Excellence	MST FAIR
Eric Campbell	Ellicott Mills Middle School	The Effect of Surface and Time on How Much Bacteria Colonies Are Acquired	Blue Ribbon of Excellence	MST FAIR
Joey Kader	Ellicott Mills Middle School	Effect of Soil Composition on Seed Germination	Blue Ribbon of Excellence	MST FAIR

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Karli Funk	Ellicott Mills Middle School	The Effect of Gelatin on the Increase in Size of the Hair Shaft	Blue Ribbon of Excellence	MST FAIR
Kevin Reid	Ellicott Mills Middle School	The Effect of Golf Ball Compression Rating on the Accuracy of a Golf Shot	Blue Ribbon of Excellence	MST FAIR
Omar Abdelkader	Ellicott Mills Middle School	The Effect of Windmill Blade Shape and Angle on Generated Power	Blue Ribbon of Excellence	MST FAIR
Pete Turner	Ellicott Mills Middle School	The Effect of Different Types of Baseball Bats on the Distance the Ball Travels	Blue Ribbon of Excellence	MST FAIR

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<b>Brennan Marsh-Armstrong</b>	<b>Folly Quarter Middle School</b>	What Tadpoles See Best	<b>MIDDLE SCHOOL WINNER</b>	<b>Lee Summerville Award</b>
Hang Hang Zhang	Folly Quarter Middle School	Gaming Life Plugging into Real Life	MIDDLE SCHOOL WINNER	Computer science
Jared Chamberlain	Folly Quarter Middle School	High Hopes for Green Roofs	MIDDLE SCHOOL WINNER	Environmental Science
Jared Chamberlain	Folly Quarter Middle School	High Hopes for Green Roofs	ASNE CEE Award	American Society for Naval Engineering
Dylan Cincotta	Folly Quarter Middle School	BB Ballistics	Award of Excellence (\$50 Gift Certificate)	Friends of Agricultural Research -- Beltsville
Bryce Reynolds	Folly Quarter Middle School	Do Ipods Affect Memory	Blue Ribbon of Excellence	MST FAIR
Danielle Fallon	Folly Quarter Middle School	The Musical Mind	Blue Ribbon of Excellence	MST FAIR
Dylan Cincotta	Folly Quarter Middle School	BB Ballistics	Blue Ribbon of Excellence	MST FAIR
Grace Suh	Folly Quarter Middle School	Going Green	Blue Ribbon of Excellence	MST FAIR
Greta Mercy	Folly Quarter Middle School	Do Boys or Girls Have a Better Memory?	Blue Ribbon of Excellence	MST FAIR
Jack Chen	Folly Quarter Middle School	The Effect of the Amount of Mordant on the Color of the Cloth Before and After Washing	Blue Ribbon of Excellence	MST FAIR

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Maribeth Blonchek	Folly Quarter Middle School	Burn Baby Burn	Blue Ribbon of Excellence	MST FAIR
Mitchel Kanter	Folly Quarter Middle School	Effect of pH on Free Chlorine	Blue Ribbon of Excellence	MST FAIR
Zach Snyder	Folly Quarter Middle School	Are Your Vital Organs Safe? The Truth About the Most Dangerous Sport of All, Archery	Blue Ribbon of Excellence	MST FAIR

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Elisabeth McClure, Gloria So	Glenelg High School	Sound Using Light	HIGH SCHOOL WINNER	Behavioral and Social Science
Connor Hart	Glenelg High School	The Effect of Positive and Negative Pressure on Radon Levels in a Home	HIGH SCHOOL RUNNER-UP	Earth and Space Science
Emily Schultheis	Glenelg High School	Optical Feedback Improves Accuracy of an Autonomous Robotic Arm that Will Pick Ripe Tomatoes	HIGH SCHOOL RUNNER-UP	Engineering
Robert Mullinix	Glenelg High School	The Effect of Biofilms on Flow Rate	HIGH SCHOOL RUNNER-UP	Microbiology
Christopher Swetz	Glenelg High School	The Gauss Linear Accelerator: Momentum vs. Magnetism	HIGH SCHOOL RUNNER-UP	Physics
Emily Schultheis	Glenelg High School	Optical Feedback Improves Accuracy of an Autonomous Robotic Arm that Will Pick Ripe Tomatoes	2nd Prize (\$50 Check and invitation to Awards Dinner)	American Nuclear Society
Christopher Swetz	Glenelg High School	The Gauss Linear Accelerator: Momentum vs. Magnetism	1st Prize (\$100 check and invitation to Awards Dinner)	American Nuclear Society
Emily Schultheis	Glenelg High School	Optical Feedback Improves Accuracy of an Autonomous Robotic Arm that Will Pick Ripe Tomatoes	Award for Technology (Gift Card)	Armed Forces Communications Electronics Association

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Emily Schultheis	Glenelg High School	Optical Feedback Improves Accuracy of an Autonomous Robotic Arm that Will Pick Ripe Tomatoes	\$25 Check	Capital PC Users' Group
Emily Schweich	Glenelg High School	What's in Your Wardrobe: How Does Percentage of Polyester in Fabric Affect the Fabric's Wear Ability?	Certificate of Recognition	Graduate Women in Science
Emily Schultheis	Glenelg High School	Optical Feedback Improves Accuracy of an Autonomous Robotic Arm that Will Pick Ripe Tomatoes	2nd Place ITT Vision Award (\$25 Gift Card)	ITT
Emily Schultheis	Glenelg High School	Optical Feedback Improves Accuracy of an Autonomous Robotic Arm that Will Pick Ripe Tomatoes	Certificate and \$25 Gift Card	Society of Women Engineers
Eliza Fletcher	Glenelg High School	Infiltration of Motor Oil in Different Soil Types on a Slope	Certificate and \$25 Gift Card	Society of Women Engineers
Hunter McDonough	Glenelg High School	Going Ballistic with the Old Trebuchet: A Test to Find the Perfect Combination	Certificate and \$10 Gift Card	Society of Women Engineers
Mitchell Baker	Glenelg High School	The Effect of Common Antiseptic Activity on the Development of Co-Resistance Between Biocides and Antibiotics	Award of Distinction	MST FAIR
Eliza Fletcher	Glenelg High School	Infiltration of Motor Oil in Different Soil Types on a Slope	Blue Ribbon of Excellence	MST FAIR

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Emily Schweich	Glenelg High School	What's in Your Wardrobe: How Does Percentage of Polyester in Fabric Affect the Fabric's Wear Ability?	Blue Ribbon of Excellence	MST FAIR
Hannah Athey	Glenelg High School	The Effect of Cooking Method and Type of Potato on Vitamin C Content of Potatoes	Blue Ribbon of Excellence	MST FAIR
Hunter McDonough	Glenelg High School	Going Ballistic with the Old Trebuchet: A Test to Find the Perfect Combination	Blue Ribbon of Excellence	MST FAIR
Ian Howard	Glenelg High School	Catapult Calibrations	Blue Ribbon of Excellence	MST FAIR
Jessica Shoenenberger	Glenelg High School	The Effect of Different Color Light on Resolution	Blue Ribbon of Excellence	MST FAIR
Kelly Devlin	Glenelg High School	The Effect of Cooking Method and Type of Potato on Vitamin C Content of Potatoes	Blue Ribbon of Excellence	MST FAIR

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Robert Mason	Glenwood Middle School	Solve It: The Rubik's Cube	MIDDLE SCHOOL RUNNER-UP	Computer science
Grant Whitman	Glenwood Middle School	The Effect of Vampire Devices on Energy Consumption in a Household	Award of Excellence (\$30 Gift Certificate)	Friends of Agricultural Research -- Beltsville
Amy Bodine	Glenwood Middle School	The Effect of Different Types of Compost Materials on the Quality of the Compost After One Month	Blue Ribbon of Excellence	MST FAIR
Andrew Desrochers	Glenwood Middle School	The Effect of Standing Water on Bacteria Growth	Blue Ribbon of Excellence	MST FAIR
Conor McDonald	Glenwood Middle School	The Effect of Wind Turbine Design on the Amount of Energy Generated	Blue Ribbon of Excellence	MST FAIR
Evan Folsom	Glenwood Middle School	The Effect of Type of Wood and the Presence of Sealant on the Ability to Absorb Water	Blue Ribbon of Excellence	MST FAIR
Grant Whitman	Glenwood Middle School	The Effect of Vampire Devices on Energy Consumption in a Household	Blue Ribbon of Excellence	MST FAIR
Patrick Faustino	Glenwood Middle School	The Effect of Physical Characteristics of Cantaloupe on Natural Sugar Content	Blue Ribbon of Excellence	MST FAIR
Thomas Reynolds	Glenwood Middle School	The Effect of Wingspan on Hang Time	Blue Ribbon of Excellence	MST FAIR
Zach Bailey	Glenwood Middle School	The Effect of Different Angles of a Solar Panel on the Speed of a Car	Blue Ribbon of Excellence	MST FAIR

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Anna Yang	Hammond Middle School	Using Paper Chromatography to Discover the Retention Factors Found in Candy Dyes	MIDDLE SCHOOL RUNNER-UP	Chemistry: Theoretical
Ian Duffy	Hammond Middle School	Which Mouthwash Works Best?	2nd Place, \$50 Gift Card and Certificate	FDA Chapter of Sigma Xi Research Honor Society
Anna Yang	Hammond Middle School	Using Paper Chromatography to Discover the Retention Factors Found in Candy Dyes	Award for Excellence (certificate to be mailed)	J. Craig Venter Institute
Audrey Simmons	Hammond Middle School	The Effects of Lighting on Photograph Quality	Blue Ribbon of Excellence	MST FAIR
Ian Duffy	Hammond Middle School	Which Mouthwash Works Best?	Blue Ribbon of Excellence	MST FAIR
Jake Weber	Hammond Middle School	The Effect of Vessel Characteristics on the Efficiency of Desalination	Blue Ribbon of Excellence	MST FAIR
Molly Albano	Hammond Middle School	The Effects of Acid Rain on Building Materials	Blue Ribbon of Excellence	MST FAIR
Tracy Kamen	Hammond Middle School	The Effect of Dissolution on Different Forms of Ibuprofen	Blue Ribbon of Excellence	MST FAIR
Valerie Kamen	Hammond Middle School	The Effect of pH on Antioxidant Power	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

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Jeremy Kass	Harper's Choice Middle School	5 Second Rule - It's All in What You Drop!	MIDDLE SCHOOL WINNER	Microbiology
David Smart	Harper's Choice Middle School	What's In Your Dirt?	Blue Ribbon of Excellence	MST FAIR
Maya Glover	Harper's Choice Middle School	Kitchen vs. Bathroom Bacteria	Blue Ribbon of Excellence	MST FAIR
Michaela Tummings	Harper's Choice Middle School	pH Levels- the Difference between pH Levels of Water in Different States	Blue Ribbon of Excellence	MST FAIR
Vivian Yang	Harper's Choice Middle School	Green Works	Blue Ribbon of Excellence	MST FAIR

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<b>Arielle Kazlow</b>	<b>Howard High School</b>	The Effect of Hydroponic Growth on Tomato Plants	<b>HIGH SCHOOL WINNER</b>	<b>Lee Summerville Award</b>
Kirsten Arterburn	Howard High School	Is Natural (Organic) Shampoo More Effective than Regular Shampoo?	HIGH SCHOOL WINNER	Chemistry
Jessica Manzione	Howard High School	The Effect of Blade Pitch on the Amount of Electricity Produced by a Wind Turbine	HIGH SCHOOL WINNER	Engineering
Jessica Manzione	Howard High School	The Effect of Blade Pitch on the Amount of Electricity Produced by a Wind Turbine	High School Prize	AREVA Transnuclear
Jessica Manzione	Howard High School	The Effect of Blade Pitch on the Amount of Electricity Produced by a Wind Turbine	Honorable Mention	FDA Chapter of Sigma Xi Research Honor Society
Jessica Manzione	Howard High School	The Effect of Blade Pitch on the Amount of Electricity Produced by a Wind Turbine	Certificate and \$25 Gift Card	Society of Women Engineers

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Christina Darwish	Lime Kiln Middle School	The Effect of Music and Flashing Lights on Heart Rate and Blood Pressure	MIDDLE SCHOOL WINNER	Behavioral and Social Science
Thomas Bagley	Lime Kiln Middle School	The Effect of Changing the Music During a Game of Dance, Dance Revolution on Game Score and Heart Rate	MIDDLE SCHOOL RUNNER-UP	Behavioral and Social Science
Kate Kamischke	Lime Kiln Middle School	The Effects of Temperature and pH on Identified Proteolytic Enzymes in Various Fruits	MIDDLE SCHOOL WINNER	Chemistry: Theoretical
Deep Singh	Lime Kiln Middle School	Have You Washed Your Hands Today?	MIDDLE SCHOOL RUNNER-UP	Microbiology
Jack Siglin	Lime Kiln Middle School	The Effect of Bioretention on Water Chemistry	Award for Excellence in Environmental Science (Book and certificate)	Howard County Conservancy
Albert Liu	Lime Kiln Middle School	The Effect of Fumagillin and Its Derivatives on the Inhibition of MetAP-2	Blue Ribbon of Excellence	MST FAIR
Garrett Wallace	Lime Kiln Middle School	The Effect of Bird Feeder Habitat on Bird Species Feeding	Blue Ribbon of Excellence	MST FAIR
Jack Siglin	Lime Kiln Middle School	The Effect of Bioretention on Water Chemistry	Blue Ribbon of Excellence	MST FAIR
James Tuo	Lime Kiln Middle School	The Effect of Temperature on Tone, Intonation, and Sound Quality	Blue Ribbon of Excellence	MST FAIR

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Kyle Drumheller	Lime Kiln Middle School	The Effect of Temperature and Wind Speed on the Energy Used in the House	Blue Ribbon of Excellence	MST FAIR
Nicole Moy	Lime Kiln Middle School	The Effect of Temperature on Seahorse Breeding	Blue Ribbon of Excellence	MST FAIR

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Mitchell White	Marriotts Ridge High School	The Effect of Repellents on Animal Feeding Behavior	HIGH SCHOOL WINNER	Earth and Space Science
Brian Kim	Marriotts Ridge High School	A Polynomial Analogue of the Collatz Sequence and its Fractal Behavior	HIGH SCHOOL WINNER	Mathematics
Nathan Lingafelter	Marriotts Ridge High School	Effect of Iron on Phytoplankton Growth	HIGH SCHOOL WINNER	Plant Biology
Linda Barron	Marriotts Ridge High School	Which Type of Medium Can Radio Waves Propagate Through Best?	\$25 Check	Capital PC Users' Group
Kevin Yu	Marriotts Ridge High School	The Effect of Berbamine on the Degradation of the BCR-ABL Oncoprotein in Chronic Myelogenous Leukemia	Award of Distinction	MST FAIR
Wendy Zhang	Marriotts Ridge High School	Miracle Worms	Award of Distinction	MST FAIR
Brendan McMurtray	Marriotts Ridge High School	The Effect of Energy Drinks on the Heart Rate of Daphnia	Blue Ribbon of Excellence	MST FAIR
Jake Vogel	Marriotts Ridge High School	The Effect of Retaining Wall Design on Its Performance in Various Soil Types	Blue Ribbon of Excellence	MST FAIR
Ji Hong	Marriotts Ridge High School	The Effect of Vitamin A on the Color of Flower Petals	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Monica Katzen	Mayfield Woods Middle School	Absorbent Apparel	MIDDLE SCHOOL WINNER	Chemistry: Applied
Rhea Malik	Mayfield Woods Middle School	Purification Put To The Test	Award of Excellence (\$25 Gift Card)	Society of Women Engineers
Marissa Zechinato	Mayfield Woods Middle School	Mineral Power	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Greg Carmean	Mount Hebron High School	The Effect of pH on the Digestion of Gelatin by Papain	HIGH SCHOOL RUNNER-UP	Chemistry
Andrew Risinger	Mount Hebron High School	The Effect of F-Number on Depth of Field	HIGH SCHOOL WINNER	Physics
Grace Choi	Mount Hebron High School	What Is the Effect of Climate on the Number of Pigments Present in Flowers?	HIGH SCHOOL RUNNER-UP	Plant Biology
Sarah Niezelski Nick Cortina	Mount Hebron High School	The Effect of Shoe Sole Material on the Amount of Static Electricity Generated While Walking	3rd Prize (Book on radiation invitation to Awards Dinner)	American Nuclear Society
Victoria Yun	Mount Hebron High School	Do Ultrasound Insect Repellents Really Work?	Certificate of Recognition	Graduate Women in Science
Abby Smith	Mount Hebron High School	Will Demineralized Teeth Increase in Mass When Placed in Products Known to Remineralize?	Certificate of Recognition	Graduate Women in Science
Lawrence Giron Sai Ghanta	Mount Hebron High School	Can Brine Shrimp ( <i>Artemia salina</i> ) Reduce Algae in the Chesapeake Bay?	Runner-Up	ITT
Andrew Risinger	Mount Hebron High School	The Effect of F-Number on Depth of Field	Gift Certificate for the Maryland Science Center	Johns Hopkins Society of Engineering Alumni
Katarina Stim	Mount Hebron High School	The Effect of Voltage on the Corrosion Rate of Carbon Steel	Certificate and \$25 Gift Card	Society of Women Engineers
Kiran Prabhakar	Mount Hebron High School	Exercise Induced Asthma	Award of Distinction	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Pranav Laksmirayan	Mount Hebron High School	The Effect of Light Angle on the Electricity Produced by a Photovoltaic Cell	Blue Ribbon of Excellence	MST FAIR
Tracy Sebastian	Mount Hebron High School	The Effect of Turmeric Application on Facial Bacteria	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Zoe Stukenberg	Mount View Middle School	The Effect of Golf Ball Core on Distance Traveled	MIDDLE SCHOOL RUNNER-UP	Physics: Electricity, Magnetism, & other
Breanna LaTondre	Mount View Middle School	The Effect of an Oranges Temperature or Age on the Amount of Vitamin C It Contains	MIDDLE SCHOOL RUNNER-UP	Plant Biology
Allison Kim	Mount View Middle School	The Effect of a Magnetic Field on Bean Plant Growth	Blue Ribbon of Excellence	MST FAIR
Andrew Gradone	Mount View Middle School	The Effect of a Females Age on Short-Term Memory	Blue Ribbon of Excellence	MST FAIR
James Sheehan	Mount View Middle School	The Effect of Rocket Fin Size on Maximum Flight Altitude	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Christina Kawata	Murray Hill Middle School	Water Pollution: Patapsco and Patuxent Rivers	Award of Excellence (\$30 Gift Certificate)	Friends of Agricultural Research -- Beltsville
Paulina Rapavi	Murray Hill Middle School	Temperature Effects on Pond Plant Growth	Award of Excellence (\$20 Gift Certificate)	Friends of Agricultural Research -- Beltsville
James Allen	Murray Hill Middle School	The Efficacy of Hand Sanitizers at Killing Bacteria	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Emily Wagner	Oakland Mills Middle School	The Effect of Leaf Damage on Plant Growth	Blue Ribbon of Excellence	MST FAIR
Lara Celtnicks	Oakland Mills Middle School	The Effect of Various Fertilizers on Plant Growth	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Monica Koepper	Patapsco Middle School	The Effect of Different Bend Radiuses on the Optical Power of Attenuation of Fiber Optic Cables	Award of Excellence (\$25 Gift Card)	Society of Women Engineers
Alan Zhang	Patapsco Middle School	The Effect of Phosphate on Bacterial Persisters	Blue Ribbon of Excellence	MST FAIR
Chris Park	Patapsco Middle School	The Effect of Oil Temperature on How Fast it Can Be Cleaned Up	Blue Ribbon of Excellence	MST FAIR
Julia Sergent	Patapsco Middle School	The Effect of Temperature on the Strength of Glass Rods	Blue Ribbon of Excellence	MST FAIR
Kevin Joo	Patapsco Middle School	The Effect of Salt Concentrations on Catalase Efficiency	Blue Ribbon of Excellence	MST FAIR
Monica Koepper	Patapsco Middle School	The Effect of Different Bend Radiuses on the Optical Power of Attenuation of Fiber Optic Cables	Blue Ribbon of Excellence	MST FAIR
Spencer Jefferson	Patapsco Middle School	The Effect of Sound on School Classrooms	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Advait Chauhan	Patuxent Valley Middle School	The Effect of Temperature on Photovoltaic Cell Power Output	MIDDLE SCHOOL WINNER	Physics: Electricity, Magnetism, & other
Gaurav Luthria	Patuxent Valley Middle School	Are We Trashing Bioactive Nutrients by Peeling Fruits and Vegetables? Correlation Between Two Antioxidant Assays	MIDDLE SCHOOL WINNER	Plant Biology
Gaurav Luthria	Patuxent Valley Middle School	Are We Trashing Bioactive Nutrients by Peeling Fruits and Vegetables? Correlation Between Two Antioxidant Assays	Award of Excellence (\$50 Gift Certificate)	Friends of Agricultural Research -- Beltsville

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Emma Bowen	Reservoir High School	The Effect of Microwave Radiation on Lima Bean Growth	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Maya Aggarwhal	River Hill High School	An Innovative Approach to the Lingering Problem of Summing Infinite Series of Negative Odd Powers of Natural Numbers	HIGH SCHOOL RUNNER-UP	Mathematics
Richard Li	River Hill High School	Novel Applications of Herbal Therapeutics for Inflammatory Bowel Disease: An In Vitro Study with T-Lymphocytes	1st Place, \$100 Gift Card and Tickets to Banquet	FDA Chapter of Sigma Xi Research Honor Society
Irene Chen	River Hill High School	Characterizing Interface Roughness of Organic Semiconductors to Improve Photovoltaic Cells	Gift Certificate for the Maryland Science Center	Johns Hopkins Society of Engineering Alumni
Irene Chen	River Hill High School	Characterizing Interface Roughness of Organic Semiconductors to Improve Photovoltaic Cells	Award of Distinction	MST FAIR
Richard Li	River Hill High School	Novel Applications of Herbal Therapeutics for Inflammatory Bowel Disease: An In Vitro Study with T-Lymphocytes	Award of Distinction	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Matt Boulton	Wilde Lake High School	Creatures From the Black Lagoon: The Effect of Ultra Violet Exposure on Fecal Colif	HIGH SCHOOL WINNER	Microbiology
Julia Singleton	Wilde Lake High School	The Good, the Bad, and the Ugly	HIGH SCHOOL RUNNER-UP	Environmental Science
Natalie Collins	Wilde Lake High School	The Good, the Bad, and the Ugly	HIGH SCHOOL RUNNER-UP	Environmental Science
Erika Klatt Darcy Costello	Wilde Lake High School	Killer Metals	Certificate of Recognition	Graduate Women in Science
Emma Boone	Wilde Lake High School	What's in Your Water?	Award of Distinction	MST FAIR
Gillian Sawyer	Wilde Lake High School	What's in Your Water?	Award of Distinction	MST FAIR
Christi Schnorf	Wilde Lake High School	The Effect of Temperature on Local Bodies of Water	Blue Ribbon of Excellence	MST FAIR
Natalie Fioretto	Wilde Lake High School	The Effect of Temperature on Local Bodies of Water	Blue Ribbon of Excellence	MST FAIR

## HCPSS MST FAIR 2009 Category Winners and Runners-up

Students	School	Project	Award	Category
Rachel Knobel	Wilde Lake Middle School	The Step-In Side Kick vs. the Standing Side-Kick	MIDDLE SCHOOL RUNNER-UP	Physics: Mechanics
Hanah Tanenholtz	Wilde Lake Middle School	How Does Air Temperature Affect How Far a Rubber Ball Will Fly?	Blue Ribbon of Excellence	MST FAIR
Jonathon Cohen	Wilde Lake Middle School	Effects of Sugared Drinks on Teeth	Blue Ribbon of Excellence	MST FAIR
Maddie Jones	Wilde Lake Middle School	What Is the Best Source of Ethanol?	Blue Ribbon of Excellence	MST FAIR