

# **2009 St. Mary's County Science and Engineering Fair Winners List**

## **Category Awards**

### **Animal Science**

Senior First Place, Ally Rogers, Oysters vs. Flatworms  
Junior First Place, Sara Moore, Feathered Flight Simulator  
Junior Second Place, Joseph Cavanaugh, Will Bugs Go Green?

### **Behavioral and Social Sciences**

Senior First Place, Nazat Ud Dowla, The Best Things in Life are Free!  
Junior First Place, Molly McGowan, Can You Spot It?  
Junior Second Place, Lovell Rose, The Eyes Have It  
Junior Honorable Mention, Sarah Schachterle Color Coded

### **Biochemistry**

Senior Honorable Mention, Matthew Colon, Burning Peanut = Calories/Energy

### **Cellular and Molecular Biology**

Senior First Place, Aparna Sajja, Apoptosis and the Adhesion Factor of RBC's  
Senior Second Place, Jessica D'Ambrosio, The Effect of Water on Photosynthesis

### **Chemistry**

Senior First Place, Bryan Daly, How to Know Which Way to Go to Purify Your H<sub>2</sub>O?  
Senior Second Place, William Harris, A Better Copper Nickel  
Senior Honorable Mention, Emily Rawlinson, Substituting Sugar Substitutes  
Senior Honorable Mention, Eric Dudley, Blood Splatter  
Junior First Place, Gabriel Sarlo, Sugar Power  
Junior Second Place, Alexandra Ye, How Fat Affects Milk's Freezing Point  
Junior Honorable Mention, Victoria Lusk, Flamin' Fabrics  
Junior Honorable Mention, Michael Mills, The Pajama Flame

### **Computer Science**

Junior First Place, Andrew Herbig, Is Your Computer Wasting Your Time?  
Junior Second Place, Jeffrey Henkel, Pick a Card, Any Card  
Junior Honorable Mention, Mikayla Graham, Goin' Phishin'

### **Earth and Planetary Science**

Junior First Place, Alex Ragland, International Plant Station  
Junior Second Place, Connor Alsheimer, Solar Flare – Beware!  
Junior Honorable Mention, Kiley Beall, Which Foot Surface Material Cools Faster?

### **Engineering: Electrical and Mechanical**

Senior First Place, Mark Ragland, Submerged Laser Communication  
Senior Second Place, Emma Frank, The Albatross Alternative  
Senior Honorable Mention, Alex Klapka, Tennis Enhancements: Hype of Substance  
Junior First Place, Todd Roberts, 4 Wings, 1 Challenge  
Junior Second Place, Douglas Post, Wonderful Water Turbines  
Junior Honorable Mention, Hailey Dodges, Build a Better Level

### **Engineering: Materials and Bioengineering**

Senior First Place, Julie Walker, Look at the MES: Mars Environmental Simulator  
Senior Second Place, Megan Triplett, Investigation Melted Granite  
Junior First Place, Lance Casimir, Magnets and Temperature

Junior Second Place, Logan Dudley, Manipulated Foil: Deflector of Heat  
Junior Honorable Mention, Stephen Henkel, But... But the Line Broke

### **Energy and Transportation**

Senior First Place, Kristina Dronenburg, Make Some Noise!  
Senior Second Place, Molly Tracy, Wind Works!  
Senior Honorable Mention, Rachel Husted, Staying in Your Comfort Zone  
Junior First Place, Robert Vandegrift, Rocket Fin Aerodynamics  
Junior Second Place, Courtney Springer, Now You're Cooking  
Junior Honorable Mention, Nicholas Wilson, Up In Flames  
Junior Honorable Mention, Carlee Joseph, Color Energy

### **Environmental Management**

Senior First Place, Nicki Yochim, Which Polypedon Most Absorbs Pollutions?  
Senior First Place, Robert Bishop, Effects of Energy Drinks on Worms  
Senior Honorable Mention, Kate Farran, Reducing Our Carbon Footprint  
Junior First Place, Matthew Miller, Best Natural Fibers to Protect the Bay  
Junior Second Place, Maeve Coughlin, Free Heat! A Passive Solar Heater Meltdown  
Junior Honorable Mention, Michael Mattingly, Shedding Light on Lighting Alternatives

### **Environmental Science**

Senior First Place, Shefali Shah, The Big, the Bad, the Small – Part II  
Senior Second Place, Alexa Cohen, Breton Bay – Charming or Alarming?  
Senior Honorable Mention, Kelles Gordge, Global Meltdown! Phase II  
Mollie Wagoner, Decomposition of Different Paper Plates  
Junior First Place, Christina Labows, Super – Steam!  
Junior Second Place, Ken Gill, Sandy Filtration  
Junior Honorable Mention, Clair Reining, Filtering the Bay  
Junior Honorable Mention, Nick Stellway, Effects of pH on Plant and Worm Health

### **Mathematics**

Senior First Place, Peter Offenbacher, Pick a Lane – Any Lane?  
Junior First Place, Mary Williams, Can You Guess?

### **Medicine and Health Science**

Senior First Place, Danielle Rodriguez, 2, 4, 6, 8... What's Your CO<sub>2</sub> Rate?  
Senior Second Place, Melissa Boughton, Fluid Frenzy  
Junior First Place, Matthew Johnson, Homework: Helpful or Harmful?  
Junior Second Place, Aidan Dollins, The Sugar Project  
Junior Honorable Mention, Madeleine Taylor, Radiation Germination  
Jennifer Burn, Liquid Enemies

### **Microbiology**

Junior First Place, Sarah Bolesworth, The Amazing Molding Fruit

### **Physics and Astronomy**

Senior First Place, Ben Godwin, Overtones in Musical Instruments  
Senior Second Place, Danielle Wilkin, The Sound of Music  
Junior First Place, Mary Sullivan, Sound: Does Air Pressure Affect It?  
Junior Second Place, Madison Taylor, Meltdown!  
Junior Honorable Mention, Robert Schaidt, Measuring Surface tension of Water with a Penny  
Victoria Murray, The Amazing Levitating Train

## **Plant Science**

Senior First Place, Markisha Allen, Wanted: Dead or Alive – Ivy and Vitamin A  
Senior Second Place, Conor Smith, Nitrogen Fixation  
Junior First Place, William Frech, Do Tomatoes See Red?  
Junior Second Place, Samantha Reinhart, Do You Like Your Acids Hot or Cold?

## **Team Awards**

Senior First Place, Chris Egan and Robert Binger, Storage and Rate of Decay in Produce  
Senior Second Place, Courtney Reese and Ashlynn Anderson, Painkillers

## **Enrichment Awards**

Best Use of Inexpensive Materials, Matthew Colon, Burning Peanut = Calories/Energy  
Best Presentation, Sara Moore, Feathered Flight Simulator  
Best Correlation of Data, Gabriel Sarlo, Sugar Power  
Mike Moses Award for Best Teaching Aide, Joaquin Torello, Stress Analysis with a Polarmeter

## **Special Awards**

### **Discovery Education – Young Scientist Challenge**

Junior Winner, Sara Moore, Feathered Flight Simulator  
Junior Winner, Molly McGowan, Can You Spot It?  
Junior Winner, Victoria Lusk, Flamin' Fabrics  
Junior Winner, Gabriel Sarlo, Sugar Power  
Junior Winner, Connor Alsheimer, Solar Flare – Beware!  
Junior Winner, Alex Ragland, International Plant Station  
Junior Winner, Lindsay Hanf, Phantom Energy Usage  
Junior Winner, Robert Vandegrift, Rocket Fin Aerodynamics  
Junior Winner, Christina Labows, Super Steam!  
Junior Winner, Matthew Johnson, Homework: Helpful or Harmful?  
Junior Winner, Sarah Bolesworth, The Amazing Molding Fruit

## **INCOSE**

Senior First Place, Julie Walker, Look at this M.E.S.: Mars Environmental Simulator  
Senior Second Place, Mark Ragland, Submerged Laser Communication  
Senior Awards, Brendan Tomasic, Engine Powered by Air  
Senior Awards, Rachel Husted, Staying in Your Comfort Zone  
Senior Awards, Kelles Gordge, Global Meltdown! – Phase II  
Junior First Place, Todd Roberts, 4 Wings, 1 Challenge  
Junior First Place, Michael Lopez, Solar vs. Wind  
Junior Second Place, Laura Pagliarula, Capturing the Wind's Energy  
Junior Awards, Kathryn Jahn, Thing Big, Go Small: Alternative Energy

## **The Patuxent Partnership**

Best Aeronautics/Aerospace Project Award, Sara Moore, Feathered Flight Simulator  
Best Electrical/Electronics Project Award, Kristina Dronenburg, Make Some Noise!  
Best Environmental/Biological Project Award, Emmeline Jones, Squirrels Drink What?  
Best Physical/Life-Sciences Project Award, Connor Alsheimer, Solar Flare – Beware!

## **Society of Women Engineers**

Senior Awards, Amie Gilligan, The Search for Propeller Efficiency  
Senior Awards, Emma Frank, The Albatross Alternative  
Senior Awards, Megan Triplett, Investigating Melted Granite

Junior Awards, Lindsay Hanf, Phantom Energy Usage  
Junior Awards, Hailey Dodges, Build A Better Level  
Junior Awards, Lexi Glockner, How Magnets Affect the Force of a Projectile

### **Southern Maryland Audubon Society**

Senior First Place, Shefali Shah, The Big, the Bad, and the Small – Part II  
Junior First Place, Kathryn Jahn, Think Big, Go Small: Alternative Energy

### **Southern Maryland Resource Conservation and Development Board, Inc.**

Senior First Place, Shefali Shah, The Big, the Bad, and the Small – Part II  
Senior Second Place, Alexa Cohen, Breton Bay: Charming or Alarming?  
Junior First Place, Rachel Eckley, How Gray Water Affects Plants  
Junior Second Place, Nick Stellway, Effects of pH on Plant and Worm Health

### **St. Mary's Soil Conservation District**

Senior First Place, Shefali Shah, The Big, the Bad, and the Small – Part II  
Junior First Place, Matthew Miller, Best Natural Fibers to Protect the Bay

### **Town Creek Garden Club**

Senior First Place, Alexa Cohen, Breton Bay: Charming or Alarming?  
Junior First Place, Alex Ragland, International Plant Station

### **Women's Club of St. Mary's**

Senior First Place, Aparna Sajja, Apoptosis and the Adhesions Factor on RBC's  
Junior First Place, Rachel Eckley, How Gray Water Affects Plants

### **Wyle Laboratories**

Senior First Place, Joseph Vandegrift, Leading and Trailing Edge Devices and Airfoils  
Senior Second Place, Amie Gilligan, The Search for Propeller Efficiency  
Junior First Place, Connor Alsheimer, Solar Flare – Beware!  
Junior Second Place, Sara Moore, Feathered Flight Simulator

### **College of Southern Maryland, Sparkle Awards**

Senior Winner, Courtney Maines, Efficiency of Wind Generator Blades  
Senior Winner, Ally Rodgers, Oysters vs. Flatworms  
Senior Winner, Robert Bishop, Effects of Energy Drinks on Worms  
Senior Winner, Bryan Smith, Watch Out Below  
Senior Winner, Robert Lewis, A Look at Salinity, Turbidity, and Temperature  
Senior Winner, Ami D'Ambrosio, How Clean is Your Water?  
Senior Winner, Mark Ragland, Submerged Laser Communication  
Senior Winner, Markisha Allen, Wanted Dead or Alive: Ivy and Vitamin A  
Senior Winner, Megan Triplett, Investigating Melted Granite  
Junior Winner, Robert Vandegrift, Rocket Fin Aerodynamics  
Junior Winner, Natalie Krissoff, Lemon Lightbulb  
Junior Winner, Michael Lopez, Solar vs. Wind  
Junior Winner, Lexi Glockner, How Magnets Affect the Force of a Projectile  
Junior Winner, Zachary Smedley, Let's Rock: to Acidity and Beyond  
Junior Winner, Madison Taylor, Meltdown!  
Junior Winner, Kathryn Jahn, Think Big, GO Small: Alternative Energy  
Junior Winner, Sara Moore, Feathered Flight Simulator  
Junior Winner, Mayokun Ojo, Earthly Energy

**St. Mary's Hospital**

Senior Medicine and Health, Danielle Rodriguez, 2, 4, 6, 8... What's Your CO<sub>2</sub> Rate?

Junior Medicine and Health, Matt Johnson, Homework: Helpful or Harmful?

Junior Microbiology, Sarah Bolesworth, The Amazing Molding Fruit

Senior Cellular and Molecular Biology, Aparna Sajja, Apoptosis and the Adhesion Factor of RBC's

Senior Chemistry, Bryan Daly, How to Know Which Way to Go to Purify Your H<sub>2</sub>O?

Junior Chemistry, Gabriel Sarlo, Sugar Power

**Southern Maryland Association of Realtors**

Scholarship Award, Julie Walker, Look at this M.E.S.: Mars Environmental Simulator

**St. Mary's College of Maryland**

Scholarship Award, Kristina Dronenburg, Make Some Noise!

**Senior Grand Prize**

Shefali Shah, The Big, the Bad, and the Small – Part II

Mark Ragland, Submerged Laser Communication

**Junior Grand Prize**

Alex Ragland, International Plant Station

Sara Moore, Feathered Flight Simulator

**The following St. Mary's County Science and Engineering Fair participants have been invited to compete at the Regional Prince George's Area Science and Engineering Fair in March 2009.**

### **Senior Division Participants**

Ally Rogers, Oysters vs. Flatworms  
Nazat Ud Dowla, The Best Things in Life are Free!  
Aparna Sajja, Apoptosis and the Adhesion Factor of RBC's  
Bryan Daly, How to Know Which Way to Go to Purify Your H<sub>2</sub>O?  
Julie Walker, Look at the MES: Mars Environmental Simulator  
Mark Ragland, Submerged Laser Communication  
Kristina Dronenburg, Make Some Noise!  
Shefali Shah, The Big, the Bad, the Small – Part II  
Nicki Yochim, Which Polypedon Most Absorbs Pollutions?  
Robert Bishop, Effects of Energy Drinks on Worms  
Peter Offenbacher, Pick a Lane – Any Lane?  
Danielle Rodriguez, 2, 4, 6, 8... What's Your CO<sub>2</sub> Rate?  
Ben Godwin, Overtones in Musical Instruments  
Markisha Allen, Wanted: Dead or Alive – Ivy and Vitamin A  
Chris Egan and Robert Binger, Storage and Rate of Decay in Produce  
William Harris, A Better Copper Nickel  
Emma Frank, The Albatross Alternative  
Alex Klapka, Tennis Enhancements: Hype of a Substance  
Megan Triplett, Investigating Melted Granite  
Alexa Cohen, Breton Bay: Charming or Alarming?  
Kelles Gordge, Global Meltdown! Phase II  
Molly Wagoner, Decomposition of Different Paper Plates

### **Junior Division Participants**

Sara Moore, Feathered Flight Simulator  
Molly McGowan, Can You Spot It?  
Gabriel Sarlo, Sugar Power  
Andrew Herbig, Is Your Computer Wasting Your Time?  
Alex Ragland, International Plant Station  
Lance Casimir, Magnets and Temperature  
Todd Roberts, 4 Wings, 1 Challenge  
Robert Vandegrift, Rocket Fin Aerodynamics  
Mary Williams, Can You Guess?  
Matthew Miller, Best Natural Fibers to Protect the Bay  
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Sarah Bolesworth, The Amazing Molding Fruit  
Mary Sullivan, Sound: Does Air Pressure Affect It?  
William Frech, Do Tomatoes See Red?  
Lovell Rose, The Eyes Have It  
Douglas Post, Wonderful Water Turbines  
Hailey Dodges, Build a Better Level  
Ken Gill, Sandy Filtration  
Madison Taylor, Meltdown!  
Robert Schaidt, Measuring Surface Tension of Water with a Penny

