

First Place Winners Fairfax County Regional Science and Engineering Fair

March 29, 2009

Animal Sciences

Comparison of Canine Lyme Disease in Metro DC Dogs	Shahleen Z. Ahmed	Chantilly High School
The Effect of Pre-Birth Learning on Cuttlefish	Timothy J. Higgins, Eric D. Morris	South County Secondary School
The Effect of Whey Protein on O. Niloticus Growth	Huan Song, Jessica F. Szelc	Thomas Jefferson H S for Science and Technology
Resveratorol-Induced Regulation of Dauer State	Jonathan L. Hsu, Andrew Z. Lam	Thomas Jefferson H S for Science and Technology

Behavioral and Social Sciences

Spatial Memory Analysis After Hippocampal Lesion	Victoria M. Saadat	Thomas Jefferson H S for Science and Technology
Cognitive Enhancements: Misuse or Self-Treatment?	Alexander L. Peterkin	Oakton High School

Biochemistry

pVISIA: Vector for Surface Display of Immunogens	Vishwajith Sridharan	Thomas Jefferson H S for Science and Technology
Effect of Bitter Melon on Glucose Concentration	Mai S. Abdel-Ghani	Marshall High School
Novel Biosensor Quinone Monolayer Cyclic Voltammet	Joy E. Lee	Thomas Jefferson H S for Science and Technology
Digestion of Proteins in the Human Stomach	Luqman Chaudhry, Jonathan Forcht, Hamza Ijaz	Lee High School

Cellular and Molecular Biology

Mechanism of Cyclin D1 Downregulation by Rassfia	Jessica F. Liu	Thomas Jefferson H S for Science and Technology
The Role of S6Kinase in Stem Cell Cardiomyogenesis	LeeAnn K. Li	Thomas Jefferson H S for Science and Technology
Effect of Stress on Mitosis Cancer Cells	Ben Cobb, Conor Moran	Chantilly High School

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Chemistry

Electrolysis Efficiency	Steven J. Lyle	Lake Braddock Secondary School
Nutty Science	Kelly Martins	Langley High School
The Salt Effect	Thom B. Morgan	Fairfax High School
Effect of Natural Dyes on Color Intensity	Anna McKittrick	Centreville High School
In-situ Biodiesel Production From Coffee Grounds	Dennis Li	Langley High School
Nanoengineering Hydrogels to Harvest Biomarkers	Anirudh C. Mohan	Thomas Jefferson H S for Science and Technology
Synthesis Analysis of CAC03 with FTIR Spectroscopy	Anirudh Saraswathula	Thomas Jefferson H S for Science and Technology
Crown Ether-Based Hydrogen Storage Materials	Maneeshika M. Madduri	Thomas Jefferson H S for Science and Technology
The Effect of Tea Oxidation on Its Staining Power	Milgo A. Yonis, Samatar A. Yonis	Robinson Secondary
Removing Eyeliner with Different Makeup Removers	Alisha M. Bhambhani, Michaela A. Holliday Mikala T. Brunson, Courtney E. Lear, Jessica A. Musman	Hayfield Secondary
Sugar on the Density of a Liquid		Hayfield Secondary
At-Home Solar Cell Kit Means You Live In a Lab	Linda M. Kim, Meryem T. Ok	McLean High School
Effect of Magnetic Fields on Water's Heat Capacity	Christopher E. Hogan, Christophe Lejune, David Levonian	Robinson Secondary

Computer Science

Computer Simulated Drug Pharmacokinetics	Shriranjana Karthikeyan	Chantilly High School
Recognizing Spoken Vowels by Automated Lip Reading	Joseph K. Jachowski	Thomas Jefferson H S for Science and Technology
Prototype A 3D Intuitive Alternative to the Mouse	Jeff Cooper	Langley High School
A Heterogeneous Mixture Model for Classification	Aditya M. Palepu	Thomas Jefferson H S for Science and Technology
Computer Vision and the Eye	Peyman Pejman, Marco A. Segura, Soham K. Trivedi	Robinson Secondary
Text Summarization Using Multilayer Neural Network	Syed Hassan, Farhang Hooshmandnia, Arian Khorshid	Marshall High School

Earth and Planetary Science

Effect of Aerosol Diameter on Extinction at 500 NM	Akshar Wunnava	Thomas Jefferson H S for Science and Technology
A New Satellite Data-Based Global Drought Index	Varun Bansal	Thomas Jefferson H S for Science and Technology

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Engineering: Materials and Bioengineering

Solar Panel Efficiency Under Different Conditions	Ankit Gulati	Oakton High School
Structural Designs of a Crossbeam on its Strengths	Vina P. Nguyen	Hayfield Secondary
Exploring PBG Crystal-Optical Range Metamaterial	Yangbo Xu	Thomas Jefferson H S for Science and Technology
A Study of Two-Way Effect Degradation in Miti	Scott A. Skirlo	Thomas Jefferson H S for Science and Technology
Microbial Cell Fueled By Organic Waste Grown Algae	Sara W. Almousa, Noha A. Sherif	Islamic Saudi Academy

Engineering: Electrical and Mechanical

Switching Lifetime & Cost of CFL vs Incandescents	Elizabeth M. Mako	Woodson High School
Adaptive Tip Sails for Wing Induced Drag Reduction	Joseph A. Gerner	Marshall High School
Reducing Friction with Different Lubricants	Megan Harlow, Katherine Huffman	Hayfield Secondary
Body Changes to a Die-cast Car on Wind Resistance	Gavin Campbell, Michael E. Conway	Marshall High School
A Rotating Wing with a Variable Angle of Attack	Jack M. Bechert, Scott C. Mattocks	Fairfax High School

Energy and Transportation

Effect of Lights on Production of a Solar Module	William S. Mannon	Langley High School
Analysis of Metal Electrodes and Catalysts on DEFC	Abhinav R. Mohan	Chantilly High School
Novel Alternative Energy: Biological Solar Cell	Sumit Malik	Thomas Jefferson H S for Science and Technology
Design Implementation of a Speed Management Device	Molly Q. Patterson	Thomas Jefferson H S for Science and Technology
Capturing Energy from Asphalt	Atif M. Javed, Alex S. Kuck	Fairfax High School
How Green is Peanut Biodiesel Fuel?	Lindsey I. Davis, Loren D. Koch	Madison High School

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Environmental Analysis

Effect of Location on Difficult Run's Pollution	Simren K. Ajrawat	Oakton High School
The Effect of Greywater on Plants	Gabriel A. Ritter	Marshall High School
Accotink Creek Watershed Study Year Two	Amanda M. Harbison	Falls Church High School
Effect of Temperature on Oxidation Rate of Metal	Alexander A. Weinberg	Mount Vernon High School
The Inhibition of Convection Currents	Edward G. Hackett	Woodson High School
Does Composite Iron Matrix Rid Water of Viruses?	Deeksha Kola	Westfield High School
A Study of Salmon Toxicity Using Dinoflagellates	Stephanie A. Marris, Christine B. Pham	Thomas Jefferson H S for Science and Technology
The Effect of Bisphenol-A on Daphnia Magna	Anita Chitnis, Suzanne C. Estrada Bonnie D. Beckner,	Chantilly High School
The Effect of Urbanization of Stream Health	Aimee E. DeSoto, Kara M. Oyhenart	Robinson Secondary
Geomagnetic Pole Reversal Effects on Protists	Abigail K. Collins Nathan J. Collins	Westfield High School

Environmental Management

Decomposing Low-Grade Methane Using Ozone	Yohan A. Sumathipala	Thomas Jefferson H S for Science and Technology
Filtration By Mussels Of Nitrates And Phosphates	Pasha N. Mostaghim	Langley High School
The Suffocating Effect of Urban Trees	Edward Kim	McLean High School

Mathematical Sciences

Approximation of Size of Roughly Spherical Objects	Jun Sup Lee	Langley High School
A New Approach Encryption	Curtis A. Khol	Madison High School
Analysis of the 12+12 Complex Linear Multiplet	Jared D. Hallett	Thomas Jefferson H S for Science and Technology
Proof Regarding Isomorphisms and Automorphisms	Andrew P. Bardee	New School of Northern Virginia

Medicine and Health

Achilles Tendon Moment Arm and Running Economy	Angela M. Roller	Oakton High School
Facilitating the Differential Diganosis of a Tumor	Jayson S. Marwaha	Thomas Jefferson H S for Science and Technology
Garlic and Vitamin C as Potential Cancer Cures	Dennis Won	Langley High School
Decorin Reduces Fibrotic Activity in Vitro	Rishi Iyengar	Thomas Jefferson H S for Science and Technology

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Microbiology

Antibacterial Effects of Carbon Nanotubes	Devika Pateriya	Chantilly High School
Effect of Food on Physarum polycephalum Movement	Salma Nabi	South County Secondary School

Physics and Astronomy

Bounceability of a Soccer Ball on Two Fields	Matthew M. Chellaraj	Madison High School
Effect of Different Airplane Wing Design on Lift	Jonathan T. Springfield	South Lakes High School
How Different Guitar Strings Affect Tuning	John Lee	Langley High School
Asymmetrical Vortex Shedding of Rotating Airfoils	Robert W. Meyer	Robinson Secondary
Alpine Ski Length and Vibration Rate	Jamie M. Rees	McLean High School
Multithread Theory of Coronal Loops Using Stereo	David Kim	Thomas Jefferson H S for Science and Technology
Determining Dielectric Behavior From The Bottom Up	Narendra P. Tallapragada	Thomas Jefferson H S for Science and Technology
When Pigs Fly: A Study of Lift Without Drag	Alexander D. Kaplan, Noelle Viñas	Lake Braddock Secondary School
A Magnetic Levitation Presentation	Olivia K. Baskerville, Eian G. Burgess	Marshall High School

Plant Sciences

The Effect of Organic Compost Growth on Lettuce	Amir Noorbakhsh	Marshall High School
Why Radishes Shouldn't Smoke...	Kimberly M. Rowland	Fairfax High School
Different Types of Charcoal on Radish Growth	William L. Rogers	Falls Church High School
The Alleopathic Effect of Pigeon Peas on Tomatoes	Caroline Chen	Westfield High School
Increasing Germination and Ploidy in Seeds	Sandra L. Klimavicz	Madison High School
UVB Effect on O2 Production by Duckweed	Prianka Das	McLean High School
Effect of Lime on Grass Treated with Acid Rain	Ankita Dosaj, Abigail GuoJian Muller, Alamelu Udayappan	Robinson Secondary
Effect of Plant Growth Regulators on Vigna Radiata	Christine L. Grilliot, Ipsita Salim	Marshall High School
How Much Oxygen is Given Off by Different Algae	Kelsey Price, Allison Warth	Annandale High School
Acidity Affects Phototaxis in Volvox Globator	Kathleen M. Atkatsch, Manna Fujju, Sapir Nachum	Thomas Jefferson H S for Science and Technology
The Effect of Magnet Distance on Plant Growth	Neggim Assadi, Kanako Matsuda	Madison High School
Competition Among Lentils and Mung Beans	Silvia Cho, Yura Kim, Camille A. Lorenzana	Marshall High School
The Effect of Vitamin C on Pea Plants	Shannon L. Hoff, Daniel M. Santos	Stuart High School

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