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**SCIENCE
TALENT
SEARCH**

**For Use Tuesday, January 10, 1995
The 54th Annual Science Talent Search**

1995 Semifinalists
Westinghouse Science Scholarships

Administered by
Science Service Inc.
1719 N Street, N.W.
Washington, D.C. 20036
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Science Talent Search

The Science Talent Search was the pioneering endeavor to discover and encourage high school seniors with the ability to be tomorrow's outstanding scientists and engineers. It has succeeded far beyond the hopes of its founders.

Aided over the years by millions of dollars in Westinghouse scholarships and similar aid from educational institutions eager to have such talented students, many of those discovered by the Search have gone on to distinguished careers. Many have received major recognition, including five who have won Nobel prizes.

The Search itself has become an institution, a prestigious tradition widely approved and supported by the academic community.

Westinghouse Electric Corporation has made a notable contribution to the advancement of science in America by financing the Science Talent Search through the 54 years of its existence.

Science Service Inc., dedicated to advancing the public understanding of science on a broad front, is proud to administer the annual Science Talent Search. Educators, scientists, engineers and journalists across America have enthusiastically cooperated in this annual activity which is the pinnacle event for high school seniors interested in science and engineering.

1995 Semifinalists

The achieving of semifinalist status in the Science Talent Search is evidence of ability and interest in science and engineering which is taken into consideration by colleges and universities in admissions and granting of scholarships. For this reason, this semifinalist list is distributed to all universities and colleges in the United States. Each of those selected as a semifinalist is being furnished with multiple certifications intended to accompany applications for college admissions and for scholarships, but a listing in this pamphlet should be accepted as an equivalent certificate. Listed are 136 females (one deceased) and 165 males.

From this group of 300 semifinalists, 40 students are chosen as finalists for the Washington trip (March 8-13, 1995) where \$205,000 in scholarships will be announced. The finalists are announced after the distribution of this list and their names will be published in *Science News* of January 28, 1995. A copy will be sent upon request.

This listing is organized by the high school the semifinalist attends. The student's name, age, home address and project title follow. If the student's home town differs from that of her/his school, it will be noted in the home address.

ALABAMA

Florence

Bradshaw High School

Flannery, Michael Darragh (17) 403 Laurel Oak Drive, Muscle Shoals 35661

Effects of Estrogen on Barley Seed Germination

Murray, Robert Andrew (17) 433 Nottingham Road 35630

Stream Channelization and its Effects on Population of Fish of Economic Importance

Kinston

Kinston High School

Davis, Joshua Adam (17) Route 4, Box 287, Opp 36467

Partial Purification of Mitochondrial DNA Topoisomerase from Saccharomyces cerevisiae

ALASKA

Fairbanks West Valley High School
Hills, Karen Marie (17) 455 Elbert Road 99709
Color Genetics in the Mini Lop Rabbit

ARIZONA

Chandler Chandler High School
Ong, Melanie Michelle (17) 3729 E. Cherokee Court, Phoenix 85044
Cytogenetic and Molecular Cytogenetic Analysis of BCNU-Drug Resistant Glioma Clonal Populations

Phoenix Central High School
Wong, Sandra (18) 2909 N. 21st Drive 85015
Study of Intrinsic Cellular Resistance to BCNU in a Primary/Recurrent Human Glioma

Scottsdale Scottsdale Saguaro High School
Haynes, Christy Lynn (17) 3338 North 81st Street 85251-6646
Preliminary and Post Hardness Analysis of Phoenix/Metropolitan Water Utilizing Ethylenediaminetetraacetic Acid as Reagent for Analysis and Ion Exchange Softening

ARKANSAS

Greenwood Greenwood High School
Plymale, Ruth Christine (17) 4308 Southridge, Ft. Smith 72916
Insects as Water Quality Indicators

CALIFORNIA

Alhambra Alhambra High School
Wang, Tracy Tsu-Ya (17) 1805 S. Third Street 91803
Characterization of Tooth Specific cDNA Clones: Three-Year Study

Atherton Menlo School
Dunn, Walter Seton (17) 19721 Auburn Ct., Cupertino 95014
Use of Cationic Liposomes as a Carrying System in Gene Therapy

Chula Vista Chula Vista Senior High School
Franke, Ethan Ira (17) 122 Third Avenue, Apt. 213 91910-1852
7 α -Hydroxylase Alleviates Oxysterol Repression of HMG-CoA Reductase in Chinese Hamster Ovary Cell Transfected with a Luciferase Reporter

Danville Monte Vista High School
Chapline, Michael George (16) 2504 Round Hill Drive, Alamo 94507
Using Neural Networks to Prove Geometry Theorems: A Model for How the Brain Solves Mathematical Problems

La Habra La Habra High School
Rollins, Meghan Jan (17) 1100 N. Circle Drive 90631
*Diets of the Elegant Tern (*Sterna elegans*) and the Forster's Tern (*Sterna forsteri*) at the Bolsa Chica Ecological Preserve*

La Jolla La Jolla High School
Boas, Franz Edward (17) 4975 Via Lapiz, San Diego 92122-3910
Properties of Branch Prediction Schemes
Chen, Irene Ann (17) 3345 Villanova Avenue, San Diego 92122
*Expression and Function of Two Novel Genes (*PEM* and *MCAT-2*): Implications for Metastasis and Arginine Transport*
Fung, Vivian Shunye (17) 4483 42nd Street, San Diego 92116
Respiratory Burst Oxidase: A Structural Investigation of Polypeptide 47-phox
Yu, Elaine Wei-Yin (17) 8480 La Jolla Shores Drive 92037
Novel Suppressor for Inflammatory Responses

Lakewood St. Joseph High School
Howarth, Samantha Lea (18) 3125 Shadypark Drive, Long Beach 90808
Effect of Spermine and Polyamine Analogs on Regulation of Branched Chain Alpha-Keto Acid Dehydrogenase (BCKDH) Kinase

Los Angeles Alexander Hamilton High School Complex
Lee, Herbert Kai Yiu (17) 1025 S. Norton Avenue, Apt. #4 90019
Effect of Calcium, Aluminum and pH Misting on the Growth of Red Spruce Trees

Riverside John W. North High School
Lin, Lewis C. (17) 2722 Don Goodwin Drive 92507
*Plasmid-Activated Copper Resistance in Newly Discovered Strains of *Pseudomonas syringae* and *Xanthomonas campestris**

Sacramento Mira Loma High School
Jang, Joanne Wei-Un (17) 2211 Rockwood Drive 95864-1656
*Linkage Mapping of the *Xa21* Locus in Rice*

COLORADO

Englewood Cherry Creek High School
Gregory, Kimberly Lynn (18) 5790 E. Geddes Circle 80112
Radioactivity of Chimney Soot

CONNECTICUT

Cheshire Cheshire High School
Shankar, Umesh (16) 2 Mulberry Court 06410
Restricting Search Spaces for Translational Containment Using Linear Programming

Darien Darien High School
Wallace, Julie Ann (17) 26 Georgian Lane 06820
Is Heat Shock Protein Function Central to Molecular Pathology of Alzheimer's Disease

Greenwich Greenwich High School
Garner, Natalie Thai (17) Quaker Lane 06831-2910
Analysis of Prisoner's Dilemma from a Legal Perspective

DISTRICT OF COLUMBIA

Washington St. Anselm's Abbey School
Matuszeski, Adam Joseph (17) 324 G Street, S.E. 20003
Morphology and Mechanism of Ferrite Plate Evolution in an Fe-0.12%C-3.28%Ni Alloy

FLORIDA

Daytona Beach Mainland Senior High School
Haney, Mark Nicholas (17) 525 Tarragona Way 32114
Miniaturization of the Ion Trap Mass Spectrometer

Ft. Lauderdale Western High School
Droller, Jessica Ninette (17) 2675 Hunter Court 33331
Benefits and Risks of Municipal Solid Waste Compost on a Forest System

Ft. Myers Canterbury School
Haverfield, Eden Vetter (17) 3627 Heritage Lane 33908
E. coli - An Alternative Source of HEME

Miami Mast Academy
Wendsuch, Michael Victor (18) 10700 S.W. 98 Court 33176
Dynamics of Sedimentary Processes on a Mesotidal Barrier Island: An Analysis of Human Impact on the Littoral System of Key Biscayne, Florida

Miami Coral Park Senior High School
Grover, Shivani (16) 211 West Park Drive, Apt. 206 33172
Development of a New Sun Protectant Utilizing Microfined Zinc Oxide and Titanium Dioxide

Our Lady Of Lourdes Academy
Gonzalez, Roxana Maria (17) 13071 S.W. 80th Street 33183
Identification of a New Mutation for Laron Syndrome in a Bahamian Population and its Relationship to 17th Century Ancestral Remains

Southwest Miami High School
Rivas, Santiago (17) 4520 S.W. 97th Avenue 33165
Use of Digital Particle Image Velocimeter and Finite Element Method for Determining the Fluid Dynamics of Asymmetrical Arterial Flow

North Miami Beach Hillel Community Day School
Weinstein, Moshe (17) 3545 Pinetree Drive, Miami Beach 33140
Costimulation Through CD28 On T-Lymphocytes Augments Xenogeneic Proliferative and Cytotoxic Responses

North Palm Beach The Benjamin School
Miller, Christian Basil (17) 1 Leaman Lane, Palm Beach 33480
Solutions to Human Induced Problems that Affect the Loggerhead Sea Turtle, Caretta caretta

Orange Park St. Johns Country Day School
Holler, Stephanie Anne (17) 995 Ravin Road North, Switzerland 32259
Effects of Fire on Various Ecosystems

Pensacola Pensacola High School
Galla, Melanie Beth (18) 20 Pleasant Avenue 32505
Use of Computer Assisted Cognitive Rehabilitation in Treatment of People with Traumatic Head Injuries: Three-Year Study

Port Orange Spruce Creek High School
Hawkins, David Emmett (17) 8 Elizabeth Lane, Daytona Beach 32118-5202
Effects of Hypoxia and Reperfusion on Vascular Tone

Riviera Beach Suncoast High School
Hwa, Theodore Haw-Yun (17) 1738 Lindsey Court, West Palm Beach 33414
Postage Stamp Problem: Expressing Positive Integers as Nonnegative Linear Combinations of Given Positive Integers

St. Petersburg St. Petersburg Senior High School
Kannan, Geoffrey Sumithran (17) 8599 Ridge Road, Seminole 34642
Molecular Mechanisms of Interleukin-1 β Regulation of Nitric Oxide Production in Renal Cells
Nelson, Jr., Christopher Grant (17) 1969 Arrowhead Drive, N.E. 33703
Optimizing Sunscreens: Five-Year Multiphase Study Designed to Enhance the Photoprotection of Traditionally Formulated Products

Springfield Rutherford High School
LeVine, Kara Jane (18) 7560 Coleridge Road, Panama City 32404
Using Tall Oil Fatty Esters to Replace Petroleum Oil in Newspaper Printing Inks

Winter Park Winter Park High School
Hattangadi, Neil Ashok (17) 4703 Warrington Drive, Orlando 32826-4027
No More Fertilizers? - Nitrogen Fixation with Non-Legumes

GEORGIA

Athens Cedar Shoals High School
Huang, Tzu-chuan Jane (18) 155 Whippoorwill Circle 30605-3439
Chemical, Color and Aroma Profile of the Silkie Fowl: Two-Year Study

Morrow Morrow High School
Ordyna, Andrew Thomas (18) 3720 Charlotte Drive, Rex 30273-1211
Detection of Deleterious Hydrocarbons by Oligochaeta Using Chromatographic and Macroscale Organic Experimentation Processes

HAWAII

Honolulu McKinley High School
Kim, Chin Hee (18) 91-1074 Apuu Street, Ewa Beach 96706
Natural Products in Chemotherapy

Waialua Waialua High School
Sakamoto, Greg Kaina (17) 68-136 Akule Street 96791
Effects of Sedimentation on Lace Coral Pocillopora damicornis: Two-Year Study

ILLINOIS

Aurora Illinois Math & Science Academy
Zaromb, Earl Isaac (16) 1500 W. Sullivan Road 60506
Theoretical Determination of the Geometries of Ammonia Clusters

Evanston Evanston Township High School
Gewurz, Elizabeth Suzanne (17) 713 Ingleside Place 60201-1709
Mapping Impulses of Collisions of a Tennis Ball with a Racket in Order to Determine Sweetspot
Greene, Michael Adam (17) 15 Martha Lane 60201
Evolving a Neural Network for Controlling Locomotion
Rohn, Graeme (17) 2722 Thayer 60201
Complex Collisions Involving Three Disks

INDIANA

Bloomington Bloomington High School North
Biss, Daniel Kalman (17) 4685 Heritage Woods Road 47401
On the Symmetry Groups of Hypergraphs of Perfect Cwatsets

IOWA

Davenport Davenport West High School
Holmes, Nathan Daniel (18) 600 South Downey Street, Walcott 52773-0405
Taking a Byte Out of Inefficiency: Study in Improving the Efficiency of Radiant Hydronic Heating Systems Using PC-Based Interfacing

Ft. Madison Ft. Madison Senior High School
White, Amy Rosemary (17) 2092 Pin Oak Drive 52627
Mobility vs. Availability: Lithic Organization at the Evie Site

KANSAS

Hill City Hill City High School
Robinson, Melissa Ann (17) Box 193, Bogue 67625
Fighting a Salt Spill -- Salt Tolerance of Grasses

Shawnee Mission Shawnee Mission South High School
Stiaszny, Martin Tibor (17) 10734 Walmer, Overland Park 66211
Characterization and Comparison Study of Micelles and Dendrimers

LOUISIANA

Baton Rouge Baton Rouge Senior High School
Das, Shamik (17) 17523 W. Muirfield Drive 70810
Effects of External Gravitational Fields on the Evolution of Geosynchronous Orbits

Marrero L. W. Higgins High School
Bui, Hung Van (17) 124 Noel Drive, Avondale 70094
Survey of Chromosomal Variation in a Louisiana Population of Sagittaria latifolia

Ruston Ruston High School
Sharma, Saurabh (17) 601 Zephyr Lane 71270
Redox Properties and Langmuir-Blodgett Films of Chlorophyll A and B

MARYLAND

Bel Air Bel Air High School
Adler, Karen Aruna (17) 2902 Auden Court, Abingdon 21009
Cyanide Toxicity is Mediated by the NMDA Receptor in Cerebral Cortical Neurons

Bethesda Walt Whitman High School
Rich, Shayna Eliana (17) 6901 Granby Street 20817
Expression of Trk Receptors in Tumor Tissues and Tumor Cell Lines

Frederick Governor Thomas Johnson High School
Do, Linh D.H. (18) 997-M Heather Ridge Drive 21702
Effects of Potential Chemopreventive Diet-Derived Compounds on Human Breast Cancer Cells

Gaithersburg Watkins Mill High School
Huber, Samuel John (17) 19807 Greenside Terrace 20879
Characterization of an Upstream E-Box Element in an MHC Class I Gene

Glenelg Glenelg High School
Bradbury, William Boyd (18) 13287 Hunt Ridge, Ellicott City 21042
Analysis of Stable Periods in a Nonlinear Dynamical System Exhibiting On-Off Intermittency

Middletown Middletown Senior High School
Hanshaw, Brian Timothy (17) 7209 Ridge Road, Frederick 21702
Restriction Enzyme Mapping of Mitochondrial DNA of Tilletia controversa and T. caries

Rockville Thomas S. Wootton High School
Chen, Julie Tahli (17) 14932 Joshua Tree Road, North Potomac 20878
Potential Antiretroviral Agents Targeting Human Immunodeficiency Virus Type 1 Integrase
Lum, Mimi Man-Yee (17) 13 Grove Point Court, Potomac 20854
Biochemical Characterization of an Inhibitor of Bacterial and Fungus Growth from Wintermelon

Silver Spring Montgomery Blair High School
Dasgupta, Samit (16) 1916 Autumn Ridge Circle 20906
On the Schinzel Hypothesis for Polynomials

Everett, Darcie Lyn (17) 415 Windsor Street 20910
Effects of Staurosporine on Cornification in Normal and Neoplastic Human Keratinocytes
 Gould, Daniel Lawrence (17) 8613 Bells Mill Road, Rockville 20854
Comparison of the Fast Calcium Reactions to $1\alpha,25$ -Dihydroxyvitamin D_3 and BODIPY- $1\alpha,25$ -Dihydroxyvitamin D_3 in Rat Osteoblastic Sarcoma 17/2.8 Cells
 Knepper, Ross Alan (18) 4415 Westbrook Lane, Kensington 20895
Identification of Membrane-Spanning Domains of Integral Membrane Proteins Using a Neural Network
 Nelson, Brooke Hayward (17) 5805 Johnson Ct., Bethesda 20817
N-Dimensional Generalization of Pick's Theorem
 Schwab, Joshua David (17) 504 Dartmouth Avenue 20910
Effect of Subsidies on Regional Growth in Models with Increasing Returns

MASSACHUSETTS

East Boston East Boston High School
 Tang, Hong C. (18) 97 Crest Avenue, Revere 02151
Study of Levamisole on Murine Osteosarcoma

Lexington Lexington High School
 Bobrow, Johanna Nickerson (17) 20 Draper Avenue, Arlington 02174
Effects of Sex and Handedness on Spatial Ability in Adolescent and Pre-Adolescent Subjects
 Mukherjee, Rupa (17) 40 Winter Street 02173
*Finding a Natural Fertilizer--Examination of *Rhizobium meliloti* Mutations: Two-Year Study*

North Attleboro North Attleboro High School
 Shukla, Pooja (17) 40 Sumac Lane 02760
*Repression of Plant Cancer Induced by *Agrobacterium tumefaciens**

North Dartmouth Dartmouth High School
 Kim, Stephen H. (17) 15 Fox Run Terrace 02747-1329
Video Densitometry to Quantitatively Characterize DNA Fragments Separated by Agarose Gel Electrophoresis

Orange Ralph C. Mahar Regional High School
 Silver, Rebecca Berkovitz (17) 257 West Street, New Salem 01355
Effects of Auditory Interfering Stimuli, Gender, and Age on Short-Term Auditory and Visual Memory

MICHIGAN

Battle Creek Pennfield High School
 Duncan, Katherine Ann (17) 6310 White Rabbit Road 49017
*Cheetah (*Acinonyx jubatus*) Behavioral Observation Study and Analysis of Management Techniques at Binder Park Zoo*

Beverly Hills Detroit Country Day School
 Mishra, Prashant (17) 5074 Cardinal Drive, Troy 48098
Non-Empirical Study of the Charge Distribution and Effective Nuclear Charge of the Atoms H to Ar

Bloomfield Hills Cranbrook Kingswood School
 Sharma, Mani Rai (16) 5260 Hollow Drive, Bloomfield Hills 48302
Original Study of the Hydridic Hydrogen as the Negative Portion of a Hydrogen Bond
 Chang, Andrew Sehoon (17) 6098 Winged Foot Drive, Grand Blanc 48439
Adaptive Quantization for Optimized DCT Compression of Digitized Fingerprint Data

Okemos Okemos High School
 Wolfe, Daniel Brandon (17) 6177 Beachwood Drive, West Bloomfield 48324
Synthesis and Stretch-Alignment of Polydiacetylene Thin Films

Portage Portage Northern High School
 Bartley, Aryn Elisabeth W. (17) 1527 River Terrace Drive, East Lansing 48823
Cluster Analysis of Late Woodland Sites Containing Mississippian Pottery Along the Lower Illinois River Valley
 Bedi, Asheesh (16) 6303 Highpointe Circle 49002
*Enhancement of *in vitro* T-cell Responses by Agents which Elevate Intracellular Cycli-Adenosine Monophosphate (cAMP) Levels: Preferential Induction of Pluripotent Memory Helper T-cells by Sub-toxic Doses of Cholera Toxin*

MINNESOTA

Bemidji Bemidji High School
 Morrison, Joseph James (18) Route 1, Box 5135, Solway 56678
Analysis of Low Dissolved Oxygen Levels in the Upper Mississippi River in Late Summer to Early Fall

Bloomington Thomas Jefferson Senior High School
 McDonald, Robert James (17) 6981 Kenmare Drive 55438
Lesser Green Broadbill Behavioral Patterns Based Upon Social Groupings

Burnsville Burnsville Senior High School
 Hassett, John Edward (17) 3813 Country Creek Way, Eagan 55122
Avian Evolution: Cranial Analysis of Smaller Theropods Using Resistant-Fit Theta-Rho-Analysis

Minneapolis Breck School
 Regelman, Adam Gustave (17) 3 Sandpiper Lane, North Oaks 55127-6310
Elastin Degrading Activity in Cystic Fibrosis Bronchoalveolar Lavage Fluid is Partly Inhibited by Secretory Leukoprotease Inhibitor and is Related to Lung Structure and Nutrition

Rochester John Marshall High School
 Dewan, Misha (17) 2031 42nd Street, N.W. 55901
Loss of Heterozygosity in Human Epithelial Ovarian Carcinoma on 7q31
Mayo High School
 Shen, Peter H. (17) 5445 Connemara Drive N.E. 55906
Development of a Computerized Mental Stressor

St. Paul St. Paul Academy & Summit School
Menon, Anil Samoilenko (18) 4206 Longfellow Avenue S., Minneapolis 55407
Interspecific Aggression in a Minnesota Bird Aviary

MISSISSIPPI

Ridgeland St. Andrew's Episcopal School
Barron, Leah Katherine (18) 400 Northpointe Parkway, Jackson 39211
Closing the Gap: Study of Effect of Reinforcement, Accuracy, and Fluency on Young Children for Varying SES Groups
Ford, Eric Burkett (17) 100 N. Audubon Court, Brandon 39042-6437
Application of Neural Networks in Long Range Navigation Systems for Planetary Rovers

MISSOURI

Florissant McCluer North High School
Collins, Christina Marie (18) 2580 Cheshire Drive 63033
Cellular Effects of Alternating Current Electromagnetic Fields on Brassica rapa

St. Louis Ladue Horton Watkins High School
Daniels, Lauren Cecelia (17) 16 Clayton Terrace 63131
Gene Expression in High-Fat-Fed Rats: The Appearance of Ten Genes Expressed in Obese Rats and Not in Normal Rats
Popelka, Rachel Sarah (17) 21 Berkley Lane 63124
Relationships of Physical and Chemical Characteristics of Modern and Historic Ceramics

St. Joseph Central High School
Shah, Neelay Narendra (17) 4502 North Lakewood Drive 64506
Two-Year Study into Effects of Polarity on Nonlinear Dynamics of a Dripping Faucet
Skoch, Craig Ryan (17) 1725 Ashland Avenue 64506
Novel Biopolymers Produced from Lignin and Methyl Methacrylate

MONTANA

Cascade Cascade High School
Rhoades, Sarah Jane (18) 224 Russell Drive 59421
Agrobacterium tumefaciens- and Particle Gun Bombardment-mediated Transformation of Safflower (Carthamus tinctorius L.) cv. Centennial

Helena Helena High School
Holt, Benjamin Jack (17) 1580 Ohio Avenue 59601
Method of Coal Filtration for Improving Water Quality

NEW HAMPSHIRE

Exeter Phillips Exeter Academy
Ishii, Yoshihide (17) 45 Pleasant View Lane, Pittsburgh PA 15238
Study of the Cortex and Septo-Hippocampal System Responding to Two Visual Stimuli in the Functions Attention and Perception: Mathematical Modeling in Oscillatory Neural Networks and Computer Simulation
Yim, Angela M. (17) 15 Columbia Road, Rockville Centre, NY 11570
Assessment of Parameters for Prediction of Fungicide Metalaxyl Degradation in Three Cenoses of Gray Forest Soil

NEW JERSEY

Glen Rock Glen Rock High School
Wei, Nicholas Hong-Ming (17) 279 Dunham Place 07452
Scatterometers in Our Future: An Algorithm for Displaying Satellite Based Winds on Real Time Basis

Hightstown Hightstown High School
Meulener, Marc Christopher (17) 9 Oak Branch Road, Cranbury 08512
Linkage Study of Febrile Seizure Disorder

Iselin John F. Kennedy Memorial High School
Lee, Monica Sum Yee (17) 33 Hancock Place 08830
Effects of Food Quality on Feeding and Growth Rates of Abarenicola pacifica

Livingston Livingston High School
Cummins, Jordan Matthew (18) 69 Shrewsbury Drive 07039
Unprecedented Aromatic Intramolecular 1,5-Hydrogen Migration in Benzophenones -- New Free Radical Rearrangement Missed by a Century of Organic Chemists

Martinsville Pingry School
Biswas, Subarna (17) 1295 Poplar Avenue, Mountainside 07092
Reduction Waves in an Oscillating Chemical System

Paramus Frisch School
Goldberg, Shlomit Avigayil (17) 41 Brayton Street, Englewood 07631
Red Blood Cell Hemolysis Test as a Screening and Predictive Tool for Antioxidant Therapy

Rockaway Morris Knolls High School
Vaidyanathan, Surya (17) 3 Cambridge Avenue, Denville 07834
Tyrosine-O-Sulfated Proteins in Salivary Mucin: Identification and Characterization

NEW MEXICO

Albuquerque Albuquerque Academy
Ameko, Agbeli Kwaku (19) 307 Recodo Pl., Belen 87002
Applying an Energy Balance Climate Model to Study the Milankovitch Theory and Glacier Formation

Eldorado High School

Levine, Laura Patricia (17) 12529 Indian Trail 87112
What are the Effects of Gas Mercaptan Odorant's Adsorption and Absorption Capabilities in an Underground Gas Storage Water Aquifer?

Highland High School

Klauschie, Jennifer Lynn (17) 1004 Wilmoore Drive, S.E. 87106-4115
Growth in Children with Hydrocephalus - Phase II

Los Alamos

Los Alamos High School

Petrovic, Michelle Antonieta (18) 418 Connie Avenue 87544
Effects of Chemotherapy on Physical and Chemical Characteristics of Human Hair

Montezuma

Armand Hammer United World College

Lubowicz, Katarzyna (18) P.O. Box 413 87731
Consumer Demand in Poland's Bread Industry: Case Study of Two Warsaw Bakeries: "Jan Piekarz" Bakery and "SPC" Bakery

NEW YORK

Amherst

Amherst Central High School

Snyder, Scott Alan (18) 15 Bondcroft Drive 14226
Gap Junctional Transfer of Lucifer Yellow Dye Between Paired Xenopus Oocytes Expressing Rat Connexins Cx32 and Cx26

Armonk

Byram Hills High School

Bongaarts, Paul P. (17) 28 Elizabeth Place 10504
Pseudo-Etalon Holography
Crikelair, Matthew Avery (18) 43 North Greenwich Road 10504
Environmental Problems and Natural Solutions
Lee, Kevin (17) 17 Byram Lake Road 10504
Sibling Dynamics and Moral Reasoning: Application of a Newly-Developed Objective Care and Justice Measure

Bayside

Benjamin Cardozo High School

Ng, Anna (17) 58-23 207 Street 11364
"It's Not Easy Being Green:" To What Extent Do Friendship and Social Integration Impact upon the Self-Esteem of Biracial Adolescents?
Ng, David Lee (17) 210-12 53 Avenue 11364
Hepatocyte Growth Factor/Scatter Factor is Inversely Related to Thrombospondin 1 in vitro
Wang, Yi-Wen (18) 151-16 25th Drive, Flushing 11354
Attitudes of Teachers Toward Inclusion

Bellmore

John F. Kennedy High School

Levine, Reed Loring (17) 2565 Glenn Drive 11710
Ski Injuries and Knowledge of Fatalities: Two-Part Study
Sims, Daniel Billy (17) 3006 Lee Place 11710
Feeding Mechanisms and Species Differentiation of Bear Gulch Paleoniscoids

Bohemia

Connetquot High School

Grieco, Tara Kristin (17) 57 Hawthorne Avenue, Ronkonkoma 11779
Nutritional Effects on Elodea canadensis

Brentwood

Brentwood High School

Moss, William King (17) 115 Studley Street 11717-7618
Glycosylation of Nuclear and Cytoplasmic Proteins: Is Oxygen Linked N-Acetylglucosamine Elongated?

Bronx

Bronx High School of Science

Brown, Jr., Errol Lloyd Douglas (18) 3538 Tryon Avenue 10467
Investigating Effects of Volcanic Activity on Earth's Troposphere: Using Observed Satellite and Simulated Data
Chan, Serena (17) 4611 5th Avenue Brooklyn 11220
Determining the Probability of Correct NMR Assignments of Amino Acid Sequences in Proteins
Damus, Robert S. (17) 25-31 West Drive, Douglaston 11363
Developmental Expression of Colony Stimulating Factor-1 (CSF-1) in the Mammalian Embryo
Holder, Jenelle Cassia (16) 1116 Nostrand Avenue, Brooklyn 11225
Thermodynamic Stability of DNA Oligomers Containing Human Centromere Sequences
Hussain, Mustafa (16) 964 N. 7th Street, New Hyde Park 11040
Analysis of mRNA of the HLA-A2 Gene from Neoplastic Tissue
Lai, Katherine (17) 11-04 125th Street, College Point 11356
Dibutryl-cAMP Stimulates Adipocyte Retinyl Ester Hydrolysis and Retinol Efflux
Lee, Kyoung Rim (18) 174-03 67th Avenue, Fresh Meadows 11365
Adolescent Interracial Dating: Ethnic and Generational Comparison
Liu, Annie (17) 165 Henry Street #501, New York 10002
Effect of Dexamethasone on the Growth of Bacillus-Calmette-Guerin (BCG) Infected Intravenously in BALB/c Mice
Lubin, Benjamin (17) 5621 Sylvan Avenue 10471
Design and Construction of a Prototype Data Acquisition System for the Noble Gas Calorimetry in the ATLAS Experiment of the LHC Collider at CERN
Lyubovitskaya, Rachel Raisa (19) 3130 Irwin Avenue, Riverdale 10463
Influence of Astrocytes on ZO-1 Protein Expression by Bascular Endothelial Cells in the Human Brain
Manfield, Laura (17) 102-30 66th Road, Apt. 26D, Forest Hills 11375
Nitric Oxide-Cyclooxygenase Interactions in Chondrocytes: Implications for Management of Arthritis
Pinlac, Iris Loria (17) 90-20 187th Street, Hollis 11423
Segregation of a Polymorphic Alu Element of the HLA DQA2 Gene in Families with Insulin-Dependent Diabetes Mellitus
Reddi, Jyoti (17) 140 Carver Loop Apt. #18E 10475
Suppression of Neurotoxic Nitric Oxide Production by Tyrosine Kinase I Inhibitors
Rusinova, Radda (17) 196 Pinehurst Avenue #2F, New York 10033
In vivo Expression and Analysis of Spectrally Enhanced Soluble Tissue Factor
Saksonov, Serge (18) 3871 Sedgwick Avenue Apt. 4I 10463
Glutathione-Caused DNA Adduct Detection Representative of Oxidative Damage as Measured by 32P DNA Radiolabeling and Two-Dimensional Thin-Layer Chromatography (2D-TLC)
Silverman, Elliott Lewis (18) 1385 York Avenue, Apt. #14F, New York 10021
Human Leukocyte Elastase is Inhibited by Lipoproteins and Activated by Phosphatidylcholine in vitro: A New Mechanism for Arteriosclerotic Plaque Rupture
Spektor, Anna (18) 140-21F Carver Loop 10475
Generation and Analysis of Phosphorylation of Recombinant Gap Junction Protein Cx43 Expressed in Baculovirus-Infected Insect Cells
Stieglitz, Daniel Egon (17) 40 Deepdene Road, Forest Hills 11375
Mutation and Analysis of Ligands Which Bind to SH3 Domain of c-SRC by Computer Simulation

Yakren, Sofia (17) 81-28 189th Street, Jamaica Estates 11423
Acid Induction of MDR Protein in Liver and Adrenal Carcinoma

Horace Mann School

Eliashvili, Elliot (17) 155 West 68th Street, #211, New York 10023
Immunohistochemical Characterization of Type II-5-alpha-Reductase Expression in the Human Male Reproductive Tract

Brooklyn

Brooklyn Technical High School

Cheung, Arnold (17) 3061 Brighton 11235
K-Expressible Gaussian Integers

Wong, Andrew (17) 101 Madison Street, New York 10002
Molecular Characterization of Exoproteins in Streptococcus pyogenes by Transposon Mutagenesis

Brooklyn

Edward R. Murrow High School

Petrocelli, Gina (17) 1750 Coleman Street 11234
Effect of Smoking Behavior, Self-Esteem and Locus of Control on Registered Nurses' Perceptions of Consequences of Smoking and on Registered Nurses' Recognition of their Role Model Status

Punyasena, Wasana (17) 550 East 16 Street 11226
Effects of Ethnic Identity on the Extent of Structural, Cultural and Receptional Assimilation and Stereotypical Behavior in Teenagers

Midwood High School at Brooklyn College

Broidy, Adam Robert (17) 1925 Quentin Road, Apt. #2B 11229
Relative Predictive Validity of High School Grade Point Average, High School Rank, and the Scholastic Assessment Test (SAT) Score on College Freshman Grade Point Average

Cepriano, Cherilyn Therese (16) 57-26 225th Street, Bayside 11364-2043
Identification and Spatial Distribution of Mammalian-Like Neuropeptides in Nervous System of the Fruit Fly, Drosophila melanogaster

Chiu, Lois (17) 2888 W. 25th Street 11224
Involvement of Metals in the Pathogenesis of Drug-Induced Lupus

Cohen, Anav (17) 1826 East 17th Street 11229
Effects of Color vs. Black/White Presentations on Short-Term Memory and Mood in Children

Law, Anne Mei (17) 7109 Third Avenue, Apt. 4A 11209
Leaching Through Soil of the Insecticidal Proteins From Bacillus thuringiensis Subsp. kurstaki

Meraj, Perwaiz M. (17) 2111 Bragg Street 11229-5118
Novel Reporter Gene System for Quantitatively Assaying Interferon Gamma

Naison-Phillips, Sara (17) 575 A 6th Street 11215
Involvement in Gun Culture and Attitudes Towards Women: A Correlational Study of Teenage Boys

Nurse, Leslie Adinah (17) 5303 Beverly Road 11203
Novel in vitro Model of Pancreatic Acinus Using the Acinar Cell Line, BMRPA.430

Oscar, Sweene Colleen (17) 490 East 51 Street 11203
Ethnic and Gender Differences in Perception of the Ideal Female Body Type

Savarese, Marissa Grace (17) 611 11 Street 11215
Comparison of Affective Variables as Predictors of Academic Competence in Early Education

Sterling, Rachel Iris (17) 2248 E. 27 Street 11229
Dinosaur Walking and Running Speeds Estimated from Fossil Trackways

Trogan, Eugene (17) 2371 East 27 Street 11229
Atherosclerotic Lesion Morphology and Progression in Transgenic Apolipoprotein E-Deficient and Congenital Osteopetrotic Mice

Wolfe, Joshua Howard (17) 2935 W. 5th Street 11224
Urokinase Dysregulation and Progression of HIV Infection Into Full Blown AIDS in Children

Wong, Mary Ada (17) 664 East 84th Street 11236
Potential of Subventricular Zone Cells to Migrate and Differentiate in Organotypic Cerebellar Explants and the Functional Analysis of These Cells

Wu, Lily (17) 2062 East 26 Street 11229
Direct Quantification of Total mRNA Concentration Using Rt-PCR Assay with Linear Regression

Zeng, Dilong (18) 1426 East 16th Street 11230
Discovery of a Novel Enzymatic System (Termed Ecto-Protein Kinase C) on the Surface of Human Platelets

Yeshivah of Flatbush

Wichs, David (17) 1716 East 18th Street 11229
Oblique Heronian Lattice Triangles

Cedarhurst

Lawrence High School

Rao, Kiran Sreepada (17) 525 Bunker Ct., North Woodmere 11581
Predicting the Differences in Blood Components Among AIDS, HIV Positive, and HIV Negative Patients Undergoing Dialysis

Schwartz, Robert Edward (17) 395 Summit Avenue 11516
Isolation of Magnetotactic Bacteria and Fractal Formation

Wollman, Joel David (18) 653 Park Lane 11516
Facial Configurations as Inducers of Yawning Behavior and Effect of Yawning on Stretching in Arthritis Patients

Chappaqua

Horace Greeley High School

Chow, Dennis I-Chung (17) 49 Tanglewild Road 10514
C₆₀: Electronic and Structural Properties of Embedded Atoms, UV/Visible and Fluorescence Spectroscopy

Commack

Commack High School

Liu, Jenny Yung (18) 71 Tamarack Street, East Northport 11731
Effect of Aminopterin and Methotrexate on the Development of Wild Type Dictyostelium discoideum Strain DdB and the Growth of Dictyostelium discoideum Strain Ax-3

Dix Hills

Half Hollow Hills High School East

Gupta, Vinay Naresh (16) 6 Etna Lane 11746
Analysis of Transdominant Inhibition of HIV-1 Gene Expression: A Model for Treatment of HIV Infected Individuals

Hoffman, Ellen Joy (16) 12 Faulkner Lane 11746
Identification of Extrajunctional Octopamine Receptors in the Lantern Tissue of Larval Photuris versicolor Fireflies

Half Hollow Hills High School West

Coe, Seth Alexander (17) 39 Talisman Drive 11746
Synthesis and Structure Determination of the Series of Oxalyl Derivatives of Amino Acids

Elmhurst

Newtown High School

Dabydeen, Donnette Aletha (17) 133-27 124 Street 1F1, South Ozone Park 11420
Mitochondrial Function and Cell Death in Drosophila melanogaster

Flushing Townsend Harris High School at Queens College
Tom, Veronica Jean (16) 85 Ascan Avenue, Forest Hills 11375
Protein Synthesis During Programmed Cell Death

Forest Hills Forest Hills High School
Dimitrov, Ivo Kolev (18) 41-30 46th Street, #2J, Sunnyside 11104
*Effects of Controlled Atmospheres on Regulation of Membrane Sterol and Sterol Ester Levels During Chilling Exposure in the Mesocarp of 'Hass' Avocado (*Persea americana*) Fruit*
Patel, Yatin (17) 66-09 111th Street, Apt. #1B 11375
Multielectron Photochemistry on the Excited $^1(\delta\delta^)$ Fluorescent State of a Quadruply Bonded Metal-Metal Dimolybdenum Complex*
Woo, Hyung Chul (17) 33-19 72 Street, Jackson Heights 11372
Wild Type p53 Synthesis in Colon Cancer Cells Treated with 5-Fluorouracil in Combination with Other Drugs

Fresh Meadows Francis Lewis High School
Cha, Hye Won (17) 51-60 Van Kleeck Street, #4P, Elmhurst 11373
Development of a Quantitative Surface Wipe Method for Detection of Hazardous Chemical Spills Using Fluorescein

Garden City Garden City Senior High School
Lee, Caleb (17) 149 Brook Street 11530
Isolating Mutations in Pseudogenes to Shed Light on Human Evolution

Hewlett George W. Hewlett High School
Schlaff, Robert Ira (17) 811 Barberry Lane, Woodmere 11598
Self Organization and Critical Point Analysis of Two Dimensional Traffic Simulations

Jericho Jericho Senior High School
*Kim, Soo Yeun (17) 15-80 Old Cedar Swamp Road, Brookville 11545
Taphonomy of a Neanderthal Cave: Comparative Analysis of Bone Breakage Patterns to Discern Hominid Behavior: Two-Year Study

Kings Park Kings Park High School
Antoniou, Michael (17) 1186 Street Johnland Road 11754
Identification of the Characteristic K-Series X-Rays of Thorium and Rutherfordium Produced in Fusion Reactions

Long Beach Long Beach Senior High School
Phillips, Tracy Caroline (17) 25 Curley Street 11561
"Money Talks:" Wallet-Sized Currency Vocalizer for the Blind

Long Island City William C. Bryant High School
Satram, Lilowtie (17) 35-13 100 Street, Flushing 11368
*Study of Possible Resistance to Chlorine Developed by *Eschericia coli* Under Low-Nutrient Growth Conditions*

Manhasset Manhasset Senior High School
Vlacich, Gregory Riccardo (17) 120 Shore Road 11030
Examining the N Intermediate of the Bacteriorhodopsin Photocycle: Attenuated Total Reflection-Fourier Transform Infrared Difference Spectroscopy

*deceased

New Rochelle New Rochelle High School #2
Frenz, Christopher Michael (17) 25 Whitewood Avenue 10805
Matrix-Driven Translocation: New Insights into the Role for the Amino-Terminal Heperin-Binding Domain of Fibronectin

New York Marsha Stern Talmudical Academy/Yeshiva University High School for Boys
Bander, Jeff Abraham (18) 1527 River Road, Teaneck 07666
Interaction Between Signal Transduction Pathways and Regulation of Breast Cancer

Stuyvesant High School
Barbee, John (17) 90-22 54 Avenue, Elmhurst 11373
Effects of Language Administration on Individualism and Collectivism Among Bilingual Participants
Chan, Wendy (17) 16 Monroe Street #JC-1 10002
Control of Attachment, Proliferation, and Differentiation of Skin Cells on Biocol Dressing Materials for Treatment of Skin Disease
Chanda, Parthapratim (17) 111-29 66th Avenue, Apt. #2A, Forest Hills 11375
*Octane Degradation by Indigenous *Pseudomonas aeruginosa* Carrying Introduced CAM-OCT plasmid*
Chin, Joanna Yee King (17) 1323 Foster Avenue, Brooklyn 11230
Handedness and Sex as Factors in Risk for Depression
Dastodar, Joyeeta Ghosh (17) 80-56 251st Street, Bellerose 11426-2608
Induction of SM-20, a Growth Factor-Responsive Gene in Vascular Smooth Muscle Cells, During Skeletal Myoblast Differentiation
Guirguis, Peter (16) 21 Oak Lane, Douglaston 11363
Expression of p15, Antimicrobial Proteins in Human Embryonic Kidney Cells
Huen, Karen (17) 33-21 149 Place, Flushing 11354
Behavioral Process Approach to Student College Choice
Ip, James Edmund (17) 2-08 148th Street, Whitestone 11357
Genetic Characterization of the HIV-1 Long Terminal Repeat (LTR) Region of Long-Term Survivors
Jawed, Tarique (17) 43-37 165th Street, Flushing 11358
Generation of Strand Specific Probes for Detecting Sense and Anti-Sense in Transfected LimpII mRNA Carcinoma Cells
Katsoulakis, Evangelia (17) 92 Pinehurst Avenue Apt. #3E 10033
Spoptosis Induced by Caffeic Acid Phenethyl Ester (CAPE) on Transformed wt3A Cells
Katz, Jeffrey Alan (17) 1441 East 99th Street, Brooklyn 11236
Morphological Analysis of Cerebral Specimens Obtained with a Novel Biopsy Needle
Khazanov, Aleksandr Leonidovich (15) 679 Ocean Parkway, Brooklyn 11230
Conjugacy Problem for Families of Matrices, with Applications to Fermat's Equation in Matrices and Theory of Symmetries on Affine Varieties
Kramer, Rachel Esther (17) 166 Bank Street #1B 10014
New High-Speed Photometry of the Cataclysmic Variable FO Aquarii
Lee, Pin I. (16) 84-41 85 Avenue, Woodhaven 11421
Defining the Minimal DNA Sequences Required for Stable Replication of Human Papillomavirus Type 11
Leung, Paul (17) 50-06 - 190th Street, Fresh Meadows 11365-1210
Effects of Varying the Levels of Contextual Information in Dispositional Judgment Processes
Levina, Inna (17) 8831 20th Avenue, Apt. 4E, Brooklyn 11214
Relationship Between the Development of Moral Reasoning and Cognitive Abilities in Adolescents
Lin, Chit-Kwan (17) 280 Rector Place, Apt. 7E 10280-1140
*Effects of Replication-Defective Adenovirus Infection on Cellular Morphology and Monolayer Integrity of MDCK cells *in vitro**

Lindermayer, Kirstin Tasia (17) 70-18 Fleet Street, Forest Hills 11375
Social Identity Change of Deaf Adults Raised in Hearing Environments

Ozden, Cagla M. (17) 21-43 28th Street, Long Island City 11105
Expression and Purification of the Subdomains of the Recombinant TAF100 Protein, an Integral Component of the Human Transcription Factor TFIID Complex

Petitt, Victoria Margaret (18) 207 West 86th Street 10024
Variables Affecting the Judgment of Attractiveness: Power, Sexism, Self-Esteem and Social Dominance

Pham, Duong T. (17) 71-13 52nd Avenue, Maspeth 11378
Phosphorylation and Dephosphorylation of the Red Blood Cell Membrane in Patients with Blood Disorders

Quach, Tony N. (17) 153-50 77th Road, Flushing 11367
Purification of the Heterodimeric Components that Interact with a Transcription Fractor Termed CP2

Rosen, Sarah Jessie (17) 328 East 30 Street 10016
Does Exposure to Visual Media Stimuli Promote Aggressive Inferences in Children and Adolescents?

Ryklin, Edward (17) 710 Avenue S, Apt. B2, Brooklyn 11223
Inducing Agents Associated with Perception of Illusory Figures

Shmukler, Elliot (17) 2631 West 2nd Street, Apt. #6J, Brooklyn 11223-6305
Image Processing Algorithms for the Identification of Cellular Clusters on Pap Smears

Song, Jamie (17) 240-14 Oak Park Drive, Douglaston 11362
Replication Enhancing Elements in Two Closely Related Bacterial Plasmids

Srivatsa, Anand (16) 66-25 103rd Street, Apt. 1T, Forest Hills 11375
New Morphologic Evidence for Mechanisms in the Development of Fibrosis Caused by Bleomycin Injury and its Abatement by Taurine

Vaval, Valerie Ferrie (17) 127-09 97th Avenue, Richmond Hills 11419
Effects of Epidermal Growth Factor, Insulin Growth Factor and Pituitary Growth Factor on Bromo-Deoxyuridine Incorporation Into Normal Epithelial, SCC-1, and HPV Infected Laryngeal and Tracheal Cells

Yu, James Chung-Hyun (17) 55 Gaynor Street, Staten Island 10309-2722
*Evolution of Male Tail Tip Morphology in Two New Species of Rhabditid Nematodes: *Oscheius heikei* and *Rhabditis brooklynensis**

Plainview

Plainview-Old Bethpage High School

Simon, Selina Beth (17) 5 Lucille Lane, Old Bethpage 11804
Binding of Biotinylated-gClq-R to Proteins of the Coagulation Cascade and Complement Clq

Plattsburgh

Beekmantown Central School

Landry, Aaron Leigh (17) 1187 Rand Hill Road, Morrisonville 12962
*Analysis and Isolation of the it148 Mutation in the Nematode, *Caenorhabditis elegans**

Port Washington

Paul D. Schreiber Senior High School

Bunyavanich, Supinda (17) 22 Birchdale Lane 11050
Efficacy of Chitosan and Bentonite in Enhanced Municipal Wastewater Treatment

Engel, Matthew Stuart (17) 25 Schooner Lane 11050
Investigation of the Efficiency of Carbon Transfer in Germinating Seeds

Esguia, Joshua Sayah (17) 41 South Bayles Avenue 11050
Development of an Agonist-Specific Muscle Stimulator for Hemiplegic Patients Based on Electromyographic Sampling

Goldstein, Lori Mackson (17) 197 Hemlock Road, Manhasset 11030
Screening for DNA-Based Genetic Markers in Crop Plants: Identification of L01+L09-600, a RAPD Marker for Linolenic Acid Content in Rapeseed

Longiaru, Minsu De Bortoli (17) 20 Pepperday Avenue 11050
Low Cost Epitaxy: Growth and Characterization of Cu(100) Films on Hydrogen Terminated Si(100) Surfaces

Schiff, Robin Lori (17) Cedar Lane Sands Point 11050
Antigen Uptake and Trafficking in Intestinal Epithelial Cell Lines

Rochester

Joseph C. Wilson Magnet High School

Schnittman, Jeremy David (17) 1732 Highland Avenue 14618
Computer Simulations of Indirect Drive Laser Fusion Uniformity

Roslyn Heights

Roslyn High School

Skolnick, Adam Harris (17) 65 Heather Drive, East Hills 11576
*Three Distinct Systems of Olfactory Receptions in *Antheraea pernyi**

Tantleff, Aaron Kent (17) 57 Starling Court, East Hills 11576-2712
Endothelial Cell Population as the Primary Target for Late Radiation Damage

Setauket

Ward Melville High School

Blechman, Keith Michael (17) 30 Setalcott Place, East Setauket 11733
Role of the Conserved Carboxy-Terminal WRPY Motif in Transcriptional Regulation by Runt-Domain Proteins

Frank, Miriam Beth (17) 1 Nathan Hale Drive, East Setauket 11733-1206
Examination of Aging Memory on a Variety of Novel Memory Tasks

Kurtz, Andrea Susan (17) 7 Villett Drive, East Setauket 11733-2619
Lobe Theory in Correlation with the Late Wisconsinan Glaciation of Long Island, New York

Landes, Josh Scott (17) 5 Sandstone Lane, Stony Brook 11790
Using an MgF₂ Window on a UV-Sensitive Wire Chamber to Amplify Detection of Cerenkov Radiation

Lee, Jonathan Harris (18) 1 Mill River Road 11733
Determination of Importance of the Na⁺, K⁺ Pump in the Purkinje Fiber of the Canine Cardiac Ventricular Conducting System at Normothermia and Hypothermia

Mandell, Matthew Adam (17) 14 Millbury Lane, South Setauket 11720
Effect of Parental Style on Adolescent Educational Aspirations

Prudente, Jennifer Lynn (18) 6 Abbey Lane, East Setauket 11733
Strategy Acquisition and Transfer: Role of Cognitive Load

Rosofsky, Alec Stuart (18) 9 Palfrey Street, Stony Brook 11790-2611
Relationship Between State and Trait Anxiety on Test Performance in Honors Physics Students

Schrier, Karen Lori (17) 5 The Overlook, Poquott 11733
Role of Glyceraldehyde-3-Phosphate Dehydrogenase in the Control of RNA-Protein Interaction

Sengupta, Debleena (17) 7 Arbor Ridge Lane, South Setauket 11720
Applications of Bioadsorbents in Removal of Heavy Metal Contaminants

Shankin, Myra Leah (17) 1 Ledgewood Circle 11733
Ciliated Protozoa and Their Prey in the Peconics Bay System

Srivastava, Neil Castillo (17) 8 Penelope Drive 11733
Role of Nitric Oxide in Combination with Growth Factors on Cell Motility: Implications for Wound Healing

Staten Island

Curtis High School

Abraham, Mathew John (17) 101 Nixon Avenue 10304
Effect of Antisense and Sense Oligonucleotides on the Production of the Alzheimer Amyloid Peptide Precursor in COS-7 Cells and COS-7 Cells Bearing the B APP-141 Hammerhead Ribozyme

Staten Island Technical High School

Keegan, Patrick Joseph (17) 28 Lyman Avenue 10305
Investigation of Impact of Divorce on Adolescents with Analysis of Post-Divorce Environment

Susan E. Wagner High School

Davis, Adam Michael (17) 215 Woodbine Avenue 10314
Discovery of New Mechanisms by which Alzheimer's Amyloid Peptides Cause Neuronal Degeneration
Wegiel, Jaroslaw (18) 324 Castleton Avenue 10301
Microglial Cells in the Brain of Mouse with Severe Deficit of Macrophages (op/op Mice)

Tottenville High School

Cho, Young Ji (Cindy) (17) 142 Lorraine Loop 10309
Characterization of Psammoma Body Protein in the Choroid Plexus of Aging/Alzheimer's Diseased Brains
Loeb, Marc Yonathan (17) 157 Shotwell Avenue 10312-1966
Water Quality Analysis of Staten Island Waterways: Its Relationship to the Fresh Kills Landfill and the Water Pollution Problem

Syosset

Syosset High School

Burstein, Michael Jay (17) 14 Center Drive 11791
Isolation of Human and Yeast cDNAs Encoding DH Domain-Binding Peptides
Rosenberg, Joel Michael (17) 6 Dale Avenue 11791
Design and Construction of a Superconducting Optical Switch
Venkatachalam, Sivakami (17) 4 Pond Ridge, Woodbury 11797
Biohydrometallurgical Wastewater Treatment and Metal Recovery Technology

NORTH CAROLINA

Charlotte

East Mecklenburg High School

Thornton, Jennifer Elaine (17) 6604 Summer Darby Lane 28270
Control of Dreissena polymorpha on Freestanding Objects: Four-Year Study

Durham

Durham Academy Upper School

Kasson, Peter Matthews (17) 206 Hillcrest Circle, Chapel Hill 27514
Simulation of Cross Reactivity of Immunogenic Peptides Derived from HIV

Franklin

Franklin High School

Mount, Beau Madison (18) 115-43 Riverbend Road 28734
Equilibrium Constant Determination for Reactions Between Thiosulfate Ions and Iodine

North Carolina School of Science & Math

Sutherland, Ronald Worth (18) 1202 Gray Owl Garth, Cary 27511
Temporal Fluctuations of Plant Diversity During Old Field Succession

OHIO

Centerville

Centerville High School

Goel, Ajay (17) 5275 Burning Bush Lane 45429
Study of Polymer Dispersed Liquid Crystal Films

Cincinnati

Walnut Hills High School

Hedeen, David Leo (17) 3777 Ault Park Avenue 45208
Influences of Habitat and Growing Season Temperature on 1990-1994 Winter Bird Communities in Cincinnati, Ohio

Gates Mills

Hawken School

Gnepp, Andrei C. (16) 3968 East Ash Lane, Orange Village 44122
Vicinity: It's a Small World After All

St. Henry

St. Henry High School

Schlater, Lisa Susan (17) 4833 Mercer Darke Road 45883
Bioremediation of the Herbicide Atrazine

Sylvania

Southview High School

Damrauer, Scott Michael (18) 4332 Candlewood Lane 43560
Reduction of Proteus mirabilis Adherence through Fimbrial Modulation Caused by Exposure to Quinolone Antibiotics

Upper Arlington

Upper Arlington High School

Willmann, Matthew Ronald (18) 2283 Nottingham Road, Columbus 43221
Search for a White Flower in Rapid Cycling Brassica rapa Using Two Methods

OKLAHOMA

Oklahoma City

Oklahoma School of Science & Math

Das, Rhiju (16) 1807 Rolling Hills Place, Bartlesville 74006
Plasma Electron Streaming Induced by a Few Waves

OREGON

Eagle Point

Eagle Point High School

Hayes, Robin Lynn (17) 1440 Bigham Road 97524
Correlation Analysis of Time Series Data

Eugene

South Eugene High School

Conrad, Jacinta Carmel (17) 3960 Dillard Road 97405
Search for New Physics of the Left-Handed Quark Doublet (t,b)

Portland

Oregon Episcopal School

Voelker, Courtney Christine Joan (17) 1441 S.W. Clay Street, Apt. #204 97201
Transfer of Taxol from Yew Tree Cuttings into a Culture Medium Over Time

PENNSYLVANIA

Doylestown

Central Bucks High School West

Plummer, Amy Elizabeth (17) 103 Limekiln Pike, Chalfont 18914
Determination of Levels of Insulin-Like Growth Factor-1 in Milk, Colostrum, and Replacers of Mammalian Species Using a Self-Designed ELISA

- Jenkintown Abington Friends School
Martin, Benjamin Louis (17) 334 Leona Avenue, Huntingdon Valley 19006
Extraction and Testing of Natural Pesticides
- Philadelphia Central High School
Levins, Christopher Gerard (17) 1241 Disston Street 19111
Relationship Between Detoxification Enzymes and Clefting Disorders
- Pittsburgh North Hills High School
Ting, David Tsai (18) 318 Holiday Drive 15237-2025
Temperature Measurement Using a Laser Induced Fluorescence System
- Taylor Allderdice High School
Miller, Aaron Thomas (17) 2308 Shady Avenue 15217
Silica Particle Packing and Flow Field Transport in Colloidal Suspension Systems
- Woodland Hills High School
Raghavan, Sridharan (16) 524 Allenby Avenue 15218
Crytallization of GroEL, a Bacterial Chaperonin
- State College State College Area High School
Thiel, Diana Lynne (17) 105 Fairfield Drive 16801
Bryozoan Nodules in the Latest Silurian of Central Pennsylvania

SOUTH CAROLINA

- Charleston Academic Magnet High School
Syrett, Alicia Lauren (17) 160 Rolling Meadow Drive, Summerville 29486
*Females of *Rhyacophila* (Trichoptera: Rhyacophilidae) from the Southeastern United States*
- Bishop England High School
Menick, Joy Elizabeth (17) 747 Gypsy Lane, Mount Pleasant 29464
Upregulation of Cytochrome C in Phenylephrine Stimulated Rat Neonatal Cardiomyocytes
- Spartanburg Spartanburg High School
Lehman, Jr., Stephen Edward (17) 53 Arbour Lane 29307
Use of Supercritical Solvents to Synthesize Polymeric Solids from Metal Polyselenides

TENNESSEE

- Memphis Lausanne Collegiate School
Niell, III, Frederick Marvin (17) 1381 W. Massey Road 38120-3298
Proving Particle Mass Resonance with Homebuilt Cyclotron
- Nashville Martin L. King Junior Magnet High School
Huang, Mark Lee (17) 6725 Fleetwood Drive 37205-1257
Strontium Isotopes as an Analogue for Calcium Depletion in a New England Forest

TEXAS

- Bellaire Bellaire Senior High School
Cheng, Cheng (18) 1906 Brunson #4, Houston 77030
Pb²⁺ Adsorption on Metal Oxides
- Carrollton Newman Smith High School
Ramanathan, Jr., Murugappan (17) 1920 Primrose Lane 75007
*Isolation of the Cholesterol Lowering Enzyme in *Eubacterium coprostanoligenes*: Three-Phase Study*
- College Station A&M Consolidated High School
Philip, Elizabeth (17) 8004 Raintree Drive 77845
Removal of Heavy Metals from Water by Yeast
Smith, Lynsey Allen (17) 1609 Armistead 77840
Use of Naturally Occurring Antimicrobial Agents to Increase Shelf Life in Tortillas
- Conroe Academy of Science and Technology
Harris, Thomas Joe (18) 44 Falling Star Court, The Woodlands 77381
Understanding and Expanding the Niche of the Red-Cockaded Woodpecker II
- Denton Texas Academy of Math & Science
Lin, Ines Chi-Ying (17) 2405 Chadbourne Drive, Plano 75023
N-Acylphosphatidylethanolamine Synthesis and Turnover in Cotton Seedling Microsomes
- Duncanville Duncanville High School
Anderson, Emily Christina (18) 7102 Christie Lane, Dallas 75249
Measurements of Absolute Substrate Utilization by Citric Acid Cycle in Isolated Perfused Rat Hearts
- Ft. Worth Dunbar High School
Chang, Spencer (17) 1200 Timber Creek Road, Benbrook 76126
Molecular Interactions: A Simplified Model
Tran, Thai (18) 3301 Highlawn 76133
Verification of the Equipartition Theorem by Computer Simulation
Vasan, Ashwin (17) 5313 Summer Court 76123
Gravity in One Dimension: Restricted Three-Body System
- San Antonio East Central High School
Castellano, Heather Elizabeth (18) 3440 Kusmierz Street, Hedwig 78152
Elements of Impact Crater Formation
- Plano Plano Senior High School
Yeh, Deborah Chuan (17) 4016 Fair Meadows Drive 75024
Characterization of a Choline Oxidase-Chemiluminescent Detection System and its Potential Use in Phospholipase D- and Immunodetection Assays
- Ogden Ben Lomond High School
Woods, Rebekah (17) 548 Simoron Drive 84404
Gold Extraction Through Peroxygen Accelerated Continuous Loop Cyanide Leaching and Electrolytic Recovery of Gold

Bonneville High School

Waters, Mikal-Anne (17) 5083 Harrison Boulevard 84403

Metamorphosing Arid Wastelands into Productive Gardens Due to the Osmotic Nature of the Cross-linked Polyacrylamide

Provo

Timpview High School

Shirts, Brian Hanson (18) 2565 N. 1000 E. 84604

Expression of Avian Zyxin Sequences in Rat Embryo Fibroblasts

VIRGINIA

Alexandria

Thomas Jefferson High School for Science & Technology

Goetz, Benjamin Michael (17) 1020 Shipman Lane, McLean 22101

Lorenz Braids

Lee, Janet (17) 4313 Lamarree Drive, Fairfax 22030

Arg3 as a Marker for the Transposition of Tfl in Schizosaccharomyces pombe

Werfel, Justin Keith (17) 8608 Queen Elizabeth Boulevard, Annandale 22003

Computational Model for Throughput of Probes for Near-Field Scanning Optical

Microscope Use

Chesterfield

Lloyd C. Bird High School

Sherman, Christina Quam (17) 4001 Rockridge Court, Chester 23831

Effect of Increasing the Frequency of Exposure to Aerosol Air Freshener Vapors on the Brassica rapa

Roanoke

Patrick Henry High School

Alger, Kristi Lynn (18) 1143 Overland Road, S.W. 24015-4710

Oil Spills: Application of Microwave Radiation to the Recovery of Oil Phase I and Phase II

Newport News

Denbigh High School

Weber, Griffin M. (17) 29 Lakeshore Drive 23602

Asthma and Weather: A Mathematical Model

WASHINGTON

Richland

Hanford High School

Bhowmick, Deb Ashish (17) 2500 G. Washington Way, #238 99352

Effects of Sulfate Nuclei on Cloud Albedo in the Subset of Ultraviolet Radiation

Sunnyside

Sunnyside Senior High School

Kassebaum, Jeremy David (17) 4970 Hudson Road, Outlook 98938

Analysis of Environmental Water Contaminants and Their Effects on in vitro Isolated Enzyme Systems