Alexandria (cont.)
Chock, Jeffrey Mun Kong (17) 3264 Grady Lane, Lake Ridge 22192-3329
Measurement of Dark Conductivity of Strontium-Barium Niobate at Extremely Low Light Levels Using Photorefractive Two-Wave Mixing

Dechman, Nicholas Michael (17) 4360 Stegney Drive, Gainesville 22065-1248 An Evaluation of Matching Strategies for a DNA Identification Matcher

Gibbons, Michael Andrew (18) 5218 Montgomery St., Springfield 22151
Investigation of the Factors Affecting the Rates of Nucleophilic Aromatic Substitution Reactions Using Fluororitzenes and Piperidines of Various Structures

Holt, Judson Robert (17) 10841 Verde Vista Drive, Fairfax 22030
Synchronous Effect in Binary Mixtures and Stabilization of the Oxid Form of 1,3,3trimethylindolinol-6-nitrobenzopyrylan by Binary Mixtures

Phillips, Jonathan Mark (17) 6938 Westhampton Drive 22307
Optimization of Sort Routines Using Genetic Algorithms

Schatz, Michael Andrew (17) 2250 Jennings Street, Woodbridge 22191
A Parallel Algorithm for Newton’s Method Convergence for Complex Functions With Rational Exponents

Yerington, Gregory Cannon (17) 6117 Lundy Place, Burke 22015
Effect of Different Buffer Systems on the Hydrolysis of 3-Methyl-1-picyrillimidazolium Ion

Arlington
Yorktown High School
Derkos, David Robert (17) 6209 N. 22nd Street 22205
Development and Assessment of X-Radiotaxicity as a Technique for Experimental Stress Analysis

Fairfax
Paul VI High School
Raphael, Benjamin Joseph (17) 4102 Port Rae Lane 22033
Simulated Evolution of Neural Networks for the Control of Legged Locomotion

Lynchburg
Central Virginia Governor’s School for Science and Technology
Schock, Kelly Lynn (17) Route 1, Box 541, Forest 24551
Effects of Violent Cartoons on First Grade Children

WASHINGTON
Richland
Hanford High School
Franke, Elizabeth Ross (17) 2143 Shasta Avenue 99352
Evidence for G Protein Involvement in Transmembrane Signal Transduction in Amoeba protoplasts

WISCONSIN
Portage
Turner Senior High School
Bradley, Daniel C. (18) W11551 Hwy. 33 W. 53901
A Universal 416-State 9-Neighbor Cellular Automaton

DOMINICAN REPUBLIC
Santo Domingo
The Carol Morgan School of Santo Domingo
Yap, Marc Christopher (17) PO Box 50069X, 7907 N.W. 53rd St., Suite 163, Miami, Fl 33156-4603 Honeycombed Bicycle Tying: How Efficient Is It?
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 51 years of its existence.

Science Service, engaged in the interpretation and public understanding of science on a broad front, is proud of administering the annual Science Talent Search. From the educators, journalists, scientists and engineers of America there has been enthusiastic cooperation in this annual activity that means so much to high school seniors interested in science and engineering.

1992 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 94 females and 206 males.

From this group of 300 semifinalists, 40 students are chosen as finalists for the Washington trip (March 5-9, 1992) 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 February 1, 1992. A copy will be sent upon request.

THIS LISTING IS ORGANIZED BY THE HIGH SCHOOL THE SEMIFINALIST ATTENDS. THE STUDENT’S AGE, HOME ADDRESS AND PROJECT TITLE FOLLOW HIS/HER NAME.

ARIZONA
Flagstaff
Coconino High School
Wu, Donna Taihwa (17) 1841 North Edgewood Street 86004
Effect of Interleukin-4 on Early Activation of Lymphocytes
Flagstaff High School
Lee, Charles Chiu (17) 514 Charles Road 86001
The Molecular-Level Diode: Building a Model From L,3,3-Triethyl-3-hydroxypropindinoisophosphoamide Copolymerized With Thionone
Paradise Valley
Phoenix Country Day School
Cohen, Adam Louis (16) 1029 S. Maple Avenue, Tempe 85281
Analysis of mRNA From Genes Potentially Involved in BCU116 Resistance In Human Malignant Gliomas Using the Polymerase Chain Reaction
ARIZONA
Camden
Fairview High School
Thompson, Gregory Bruce (18) 120 Agee N.W. 71701
Correlation Between Critical Temperature, Critical Field, Resistivity and Magnetic Susceptibility of Contaminated YBa2Cu3O7 , Superconductors: Four-Year Study
CALIFORNIA
Alhambra
Alhambra High School
Kraus, Anna Belle (17) 938 Berkeley Court, Monterey Park 91754
Cloning and Expression of Human Aldehyde Reductase Gene and Evaluation of Reductase Levels in Human Lung Tumor Cells
Chico
Pleasant Valley Senior High School
Hung, Chou Po (18) 29 Shinn Lane 55928-6531
A Low Reynolds Number Study of the NACA 4412 Airfoil at High Angles of Attack, Modified With a Slow-Rotation Leading Edge Cylinder
Chula Vista
Parnold, Patrick Lee (17) 1264 Dixon Way 91911
Outcrossing Rate of the Arizona Cypress: A Conservation Genetics Study
Clovis West High School
Brown, Yen-Chi (18) 8172 N. Angus St. 93720 Effect of Salt Stress on Wheat
Carmen Grove High School
Villa-Romero, Randy Michael (17) 3133 Nutmeg Drive, Corona 92870
Determination of the Work Function
Lompoc
Lompoc High School
Harlow, Jay Allen (17) 515 South C Street 93436
Effects of a Space Environment on the Development of Multi-Resistant Plasmids in Bacillus subtilis
Long Beach
Long Beach Polytechnic High School
Wishnow, Jason Ariel (17) 731 Hillside Drive 90815
Toxic A Detection in Group A Streptococcus pyogenes
Los Angeles
Los Angeles City College
Troutman, Carol Alexis (17) 5201 Pardee Street 90045
Toxic A Detection in Group A Streptococcus pyogenes
Los Angeles High School
Lee, Donald (17) 829 S. Clinton Avenue 90036
Testing the TGI-Beta on the Proliferation and Activation of Murine Lymph Node Cells
Palo Alto
St. Mary's High School
Hanna, Anoop Kumar (16) 4175 Hubbell Dr. 94306 Comparison of Morphological Operations on Hexagonal and Rectangular Grids
Riverdale
John W. North High School
Njolsson, Kjell Hagen (18) 6427 Jaguar Drive 92506
Hydrogen Enhanced Biodegradation in Soil Environments
Paly High School
Lee, Christine Joselin (18) 6591 Hawarden Drive 92506
Language Processing in Bilingual: English vs. Chinese
Roseville
Oakland High School
Neal, Joel William (17) 8120 Barton Road 95681-9335 Purification, Crystallization and Preliminary X-Ray Analysis of Clostridium sciuri
San Diego
San Diego Community College<br>San Diego<br>San Diego Community College<br>Randolph School
Lenger, Loren Lee (17) 1104 Mahan Drive, Madison 35758
An in vitro Method for Determining Chemical Toxicity Using Bioconductive Patterns

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San Francisco
San Francisco University High School
Miller, Eric David (10) 875 Mt. Tallac Ct., San Rafael 94903
Electrodeposition of YBaCuO Superconducting Films
San Marino
San Marino High School
Yang, Alice Tang-Ku (17) 1415 Circle Dr. 91108
Topologically Selective Cleavage of Plasmid DNA
San Mateo
San Mateo High School
Heits, Steven William (18) 645 Woodstock Rd., Hillsborough 94010
Expression of Brain-Derived Neurotrophic Factor mRNA and Bioactivity During the Differentiation of Various Human Leukemic Cell Lines
Santa Ynez
Santa Ynez Valley Union High School
Shaw, Amy Elizabeth (17) P.O. Box 378, Solvang 93464
Chlorosis in Coast Live Oaks
COLORADO
Manitou Springs
Manitou Springs High School
Metc, Erika Marie (17) 6040 Navao Trail (Box 697), Chipita Park 80809
Subcloning and Sequencing Double-Stranded DNA of an Avian Leukosis Reverting
CONNECTICUT
Hamden
Hamden High School
Allain, Daniel (17) 71 Blake Road 06517 Relationships Between Molecular Structures and the Polar Maps of Their Tonal Angles
Westport
Staples High School
Pinto, Michelle Maya (17) 4 Bayberry Common 06800
IgM Serology in the Diagnosis of Congenital Syphilis
DISTRICT OF COLUMBIA
Georgetown Day School
Kedlaga, Kiran Sridhara (17) 12912 Georgia Avenue, Silver Spring, MD 20906
In Search of Y-Set
Reich, David Emil (17) 200 Primrose Street, Chevy Chase, MD 20815
Formalized Method for Finding the Symmetry Operations Matrices of Point Groups of Known Coordinates and its Application in the Simplification of the Force Constant Matrix of the Icosahedral Buckybuck
FLORIDA
Coral Springs
I.P. Taravella High School
Roberts, Steven Aaron (17) 9285 N.W. 14th Court 33071
Enhancement of the Biodegradation of Petroleum Products
Davie
Nova High School
Litwin, Matthew David (17) 1161 S.W. 74th Ter., Plantation 33317
Relaxation and Evaluation of Alkaline Chemicals in E. cellulosa
Weiss, Craig (17) 4741 N. 37th Street, Hollywood 33021
Field Impact Study of Casarea equitata on Unida pascalii - An Affirmation of Hardin's Law
Wilson, Lawrence Eugene (17) 1050 Woodfall Ct., Fort Lauderdale 33326
Communication Efficiency as an Extremal Problem in Graph Theory
Atlantic Beach
Hamilton, Howard Hugh (17) 200 N.E. 27th Avenue, Boynton Beach 33433-1813
Optimizing Lift and Lateral Dynamic Stability of Airfoil Through the Variable Dihedral Concept
Caeslavsky High School
Lu, Shuie Samuel (17) 427 N.W. 98th Street 33071 Location and Analysis of an Enzyme Resistant Glycosaminoglycan in Articular Cartilage
P.K. Yonge Laboratory School
Becht, Laura Christina (17) P.O. Box 12639
Fatty Acid Assay of Commercial Food Products as Possible Predictors of Tumorigenesis in Cats
Hollywood
Hollywood Hills High School
Hua, Le Phuong (17) 3611 Fargare Street 33021 Distribution of U-14C BINDING SITES IN THE OVIDUCT OF CYCLING AND HORMONE-TREATED Cows
Citra High School
Garrett, Matthew Wayne (17) 105 N. Edinburgh Drive 32650
Molecular Interactions of Eicosanoyltrimethyl Anmonium Bromide and Sodium Sulfate at the Air-Water Interface
Langen Senior High School
Kavula, trina Marie (18) 802 Alandama Dr. 34640
Water Conservation Through Electroosmotic Irrigation: Three-Year Study
Leesburg
Leesburg High School
Patek, Alpesh Kanilial (17) 2328 North Avenue 34748
Out-Crossing, Inheritance of Development Time and Response to Photoperiod in Drosophila melangaster
Melbourne
Melbourne High School
Agney, Michael Shaye (17) 500 Seabreeze Drive, Indialantic 32903
Using Neural Nets to Give a Robot Basic Spatial Skills
Palm Bay High School
Massengale, Justin Lee (18) 210320 Gimmer Avenue 32935
Elucidation of Calcium Ion Involvement in Chemotasis of Echerichia coli
Bay High School
Nelson, Ingrid Suzanne (18) 3114 Kings Drive 32405
Visible Acuity and Color Perception Underwater: Study of Contrast Sensitivity and Optical Target Illumination Underwater
Pensacola
Escambia High School
Bidwell, Andrew Wadsworth (17) 11027 Manatee Drive 32507
Effects of Environmental Variation on the Rate of Photosynthesis in Northwest Florida Conifers
Port Orange
Spruce Creek High School
Catalano, Jennifer Grace (17) 1219 Thomasina Drive 32119
Effects of Consontan and Dissontant Music in Emotional Response Based on Mathematical Relationships
Upper, Amy (17) 4715 Montrose Avenue, Ponce Inlet 32127
Immunocytochemical Localization of EGF Along the Alligator Oviduct
Saint Augustine
Saint Augustine High School
Hazen, Jordan Norman (17) 3568 Red Cloud Trail 32086
Comparison of Computer Network Topologies and Protocols
Northeast High School
Saint Petersburg
Benson, Kristina Natasha (17) 173 45 Ave., N.E. 33703
High Temperature Superconducting Bolometer for Infrared Radiation Detection
Ft. Lauderdale
Satellite Beach
Satellite Beach High School
Vishnoi, Timothy Daniel (18) 3571 S. Atlantic Avenue, Cocoa Beach 32931
A Photographic Search for Corona Around Lightning
Piner High School
Tarpon Springs
East Lake High School
Armesto, Charles Phillip (17) 280 Tads Trail, Oldsmar 34677
Electro Reverse Osmosis: A Novel Method That Increases the Efficiency of Reverse Osmosis
GEORGIA
Atlanta
Benjamin E. Moore High School
Edwards, Kimberly Nicole (16) 679 Gordon Place, S.W. 30310
Detection of Plasmid DNA - Membrane Complexes Using a Biotinylated Labelled DNA Probe
HAWAII
Wailuku High School
Moul, James K. (16) P.O. Box 817, Volcano 96785
Rate of Simple Loss of Yeast Plasmid pYM2 in Saccharomyces cerevisiae
Honolulu
Iolani School
Carvin, Leslie Brian (17) 5992 Haleolo St. 96821 Predicting Water Purification Efficiency via Computerized Molecular Modeling
Punahou High School
Koh, Brian Doorswood (18) 1521 Punahou St., #1202 96822-4609
Screening Compounds for Antibiotic Activity Against Papaya Pathogens and Pests
Kaneohe
James B. Castle High School
Yoshino, Troy Masami (17) 45-344 Parewaian Drive 96744 Influence of Light Stress on Photosynthetic Properties of Chaetomonas reinhardii
ILLINOIS
East St Louis
Lincoln Senior High School
Popeke, Alexander E. (18) 1309 Tudor Avenue 62201
Effects of Environment on Leaf Morphology in the Woody Plant Genus Ceanothus and Alnus
Evanston Township High School
Croas, J. Patrick (18) 2649 Orrington Avenue 60201
A Study of the Collision of Two Spheres in Terms of Radius, Velocity and Impact Parameter
Fink, Doran Leonard (17) 553 Barton Avenue 60202
Analysis of Factors Affecting the Equilibrium Depth of Thermal Images in High Conductivity Solids
Skokie
Niles North High School
Liebman, Michael Kevin (17) 9044 Karlov Avenue 60067 Concentration Variations in a Directionally Solidified Binary Alloy
Winnetka New Trier Township High School
Martin, David Royal (17) 523 Abbotsford Rd., Kershworth 60043
Optical Illusions in the Large-Scale Structure of the Universe

INDIANA Bloomington Bloomington High School South Stone, Christopher Peter (18) 2015 Georgetown Rd. 47401
Biologic and Robotic Technology (BART) Integration

Carmel Carmel High School Mughray, Thomas John (17) 598 Smokey Row Court 46032
Detection of Mutations in the Gene for Proteolipid Protein by Combining PCR and Single-Strand Conformation Polymorphism Analysis

Columbus Columbus East High School Patel, Mehul Magan (17) 1620 South Drive 47203
Two Dimensional Electrophoretic Analysis of Mealworm Proteins

Lafayette Lafayette Jefferson High School Roat, Christopher Michael (17) 40 Sugar Maple Court 47905
Fractal Dimension of Turbulence

Muncie Indiana Academy for Science, Mathematics and Humanities Minion, Daniel John (17) 619 Shawnee Dr., Lowell 46356
Neutron Multiplicity Distributions: Used as Sensitive Probes of the Nucleus Energy Density and Heavy-Induced Fusion Reactions

IOWA West Des Moines Valley High School Moore, John William (18) P.O. Box 1467, New Albany 47515-1467
A Simulation of the Origin of the Elements Heavier Than 26 Fe

KANSAS Shawnee Mission Shawnee Mission South High School Hilt, Anne Elizabeth (18) 2307 Pleasant Street 50265
Effects of Far Red Light and Nitrogen on the Vegetative Growth of Barley

Kentucky Louisville High School Naparig, Mantini (17) 7504 Maria Avenue 40222
Reuse of Plastic Milk Jugs in Concrete Construction

MARYLAND Bethesda Walt Whitman High School Mangunian, Christina Victoria (17) 8304 Garfield St. 20817 Expression of Viral Envelope Protein gp120 in Skin Lesions of HIV-Infected Mice

Columbia Atholton High School Kim, Jean (17) 6132 Wooded Run Drive 21044
Role of the Carboxy-Terminal of Virevulysin in Protein Export

Frederick Frederick High School Jejala, Vishnumohan (17) 1593 Ethwood Ct. 21702 Tissue Specific Binding of Activator Protein-1 and Similar Transcription Factors

Shaner, Mark Christopher (18) 5208 Hayford Ct. 21702-6971
The GON4 Binding Site

Oxon Hill Oxon Hill High School Pillot, Daniel Eric (17) 13507 Pendleton Street, Fort Washington 20744
Polarimetric Observations of the Induced Chirality in Picocystine, Phosphotyrosinine microstructures

Pillot, Mark David (15) 13507 Pendleton Street, Fort Washington 20744
Electron Erosions from Micro-Cathodes

Zapalow, Peter Paul (18) 11007 Earnshaw Brandtly, Brandywine 20613
Age-Related Cataract Hydrocarbon Differences in Apo meliberta Kin

Potomac Winston Churchill High School, Jan, Brenda Maxine (16) 9404 Woodington Drive 20854
Identification of Epitopes on the 120 kDa Serotype Protein Antigen of Rickettsia prowazekii

Rockville Colonel Zadak Magruder High School Peng, Zhuangzhuan (17) 7731 Ironforge Court, Derwood 20855
On Solving Fractions Represented by pathic Integers

Silver Spring Montgomery Blair High School Abrams, Douglas Richard (17) 54 Eldrid Dr. 20904 Initiation of Reductive Trigger Waves in the Belousov-Zhabotinski Reaction

Jun, Benjamin Che-Ming (17) 7900 Spring Road, Bethesda 20817-5547
Computer Assisted Space Mapping

Steen, Benjamin Reuben (17) 9208 Bardou Road, Bethesda 20814
Development of a Stewart Platform Micromanipulator

Silver Spring (cont.) VanderZwaag, Deborah Lynn (17) 24300 Peakness Drive, Damascus 20872
Functional Analysis of Specific Chemical Contacts Between the Cyclic AMP Receptor Protein and the Small Molecule Ligand, cAMP

MANASSAS School, Marlton, William Martin (18) 49 Argonne, Quincy 02169 Thunder Cloud Charging and the Rising Effect of Supercycled Water and Ice

The Winnet School Margulis, Claude Deborah (16) 32 Montrose Street, Newton 02158
Ground-Based Reconnaissance of Asteroid 951 Gaspra

Lexington Lexington High School Kim, Effy Young-Wei (17) 5 Tidd Circle 02173
Modeling the Setting of Plateau Particles Based on Stokes' Law

MICHIGAN Detroit Country Day School Singh, Vijay (17) 2950 Fox Grove Road, Farmington Hills 48334
Comparisons of Channel Forming Activity of a Wild-Type CprC Pox With an OmpC Deletion Mutant, RAMT27

Detroit Charles F. Kettering High School Jones, La Taque Lynetta (17) 8959 Armour 48213
A Study in Interplay in the Cross-Dye, Cross-Generational Investigation of Premenstrual Syndrome Among an Urban Minority Community

Grand Rapids Covenant Christian High School Huskens, Jennifer Sue (17) 847 Bretonwood 49428
Speech Disorders and Stereotypes: Educational Implications

Grosse Pointe Grosse Pointe South High School Calogerakos, Robert Halick (18) 136 Mapleton, Grosse Pointe Farms 48236
A Comparison of Galaxy Types by Flux Density and Frequency

Kalamazoo Kalamazoo Area Mathematics and Science Center Huang, Andrew Shane (16) 560 Lodge Lane 49009
The Design, Construction, Testing and Application of the Intelligent Data Acquisition Peripheral

Northville Northville High School Adawi, Rana Lee (17) 20569 Woodcreek 48167
Relationship Between Alcohol Consumption and Depth Perception

Minneapolis Blaine Berge, Christopher Austin (17) 1100 Avenue S. 55427
Relationship Between Intercellular Space Peroxidase Isozymes and Cell Wall Maturaion of Cucumber Seedlings

Blaine Senior High School Koensman, Diane Michelle (18) 2990 S. Goon Creek Dr., Andover 55304-8216
Influence of Color on Memory as an Application of the Context Dependency Theory

Minneapolis Minneapolis Huntington School, Merz, Barbara Jean (17) 1935 Zealand Ave. N., Golden Valley 55427
Nitrogen Throughfall in Forage Legume Canopies

Huntington School, Olson, Christopher LeClair (17) 4139 Terrace Lane S. 55343
Parent Behavior of a Pair of Captive Bali Mynahs

St Paul Cretin-Derham Hall High School Borovansky, Jenna Suzanne (18) 561 E. Emerson Avenue, Mendota Heights 55318 Evaluation of Selected Management and Exhibition Techniques of Two Koalas at the Minnesota Zoo

Winona Winona Senior High School Graenberg, Matthew Ryan (17) 1305 Skyline Drive 55987
Isolation and Characterization of Borrelia burgdorferi From Haemaphysalis leporispalustris Ticks

MISSISSIPPI Starkville Starkville High School Fu, Diana Yan (18) 251 University Village 39759
Effects of Temperature and Current Changes on the Output of a GaAlAs Laser Diode

MISSOURI Montgomery County R-2 High School Hixon, Kimberly Ann (18) Rr 1, Box 6, High Hill 63350
Characteristics of Middle Miocene Sediments of the Niger Delta
Grinstein, Michael Gregory (17) 227 Ocean Parkway, BK 11218
Isolation and Characterization of the Novel gc-Related proto-oncogene
yn by Electrophoresis of PCR-Amplified yn Fragments
Jacobsen, Mathew David (17) 277 West 1st Avenue, RCA 10023
Physical Natura, Morningness/Eveningness and Daytime Sleepiness in
Early Adolescence
Kang, Rian (17) 80 Beekman Street, Apt. SK 10038
Three Approaches to the Preimplantation Diagnosis of Cystic Fibrosis: The
Separate and Simultaneous Amplification of the delta F508 and W128X
Mutations From the DNA Present in a Single Blastomere
Kim, Chang-Wan (17) 66-11 Yellowstone Boulevard, Forest Hills 11375
Effect of Weak Electromagnetic Currents on the Conductivity of
Electrolytes: Application to Calcium Chloride
Kim, Min-Jung (17) 301 8th Street, #4E 10128
Electrophoretic Separation of Large DNA Molecules Using Novel Matrices
Liu, Vanessa Wun-Siu (17) 77 Fulton Street, RSC 10038
In situ Localization of Neural BCl RNA in the Developing Rat Brain:C
Correlation of BCL Expression With Synaptogenesis
Merry, Stefano Paolo (17) 39-65 52 Street, Woodside 11377
Examining a New Function
Nguyen, Tran Tr (17) 36-60 30th Street 11106
Identification and Characterization of the Casinolytic Activity of the
Multicatalytic Protease Complex
Paek, Sandra Chae Young (17) 15-48 217th Street, Bayside 11360
The Composition of and ATE Phosphonin in a New Luminescent
Supramolecular Assembly
Parkhurst, Justin Oliver (17) 40 9th Street, #1101 10003
Comparative Analysis of the Efficiency of Structural Forms in Their
Resistance to Sesame Forces
Patel, Rakesh D. (17) 105-31 63 Drive, Forest Hills 11375
High Temperature, Superconducting, BKO Thin Films: Three Axis
Rotational Stage for an X-Ray Diffraction
Sevilla, Alexander Miranda (17) 22-47 76 Street, Jackson Heights 11370
Analysis of Ultraviolet Emission From Electron-Impact Excited
Carbonbetronitride (CF)
Shen, Janet Jean (17) 33-52 85 Street, Apt. #304, Jackson Heights 11376
Growth of Forams in the Shallow Sub-oxic Zones
Tseng, Ali Sun (17) 45-81 160th Street, Flushing 11358
Transcriptional Regulation of the MetHillin Resistance Gene, mecA, in Staphyloccus
 aureus by the beta-Lactamase Regulatory System of Pseudomonas Plasmids
Wang, Michael Siao-Joong (17) 80-41 Kent St, Jamaica 11432
Effects of a Cumulative Method of Fragment Presentation in Visual
Word Recognition
Wong, Arthur H. Ming (17) 154-65 20th Road, Whitestone 11357
Characterization of a Novel Peptide in the Human T-Cell Receptor
Veta Beta Cencer
Zelkin, Marina (17) 10-13 13th Street, Brooklyn 11230
Effects of Gases on the Comprehension of Mathematics of Inner City Children
Zik-Remien, Julie (17) 159-22 12th Street, Brooklyn 11230
Regulation of the Gene Expression of Neuropeptides
Northport
Northport High School
Rosen, Benjamin Kirshner (17) 5 Caravan Drive, East Northport 11731
Three-dimensional Interactive Surgical Planning Tool Based on
Two-dimensional Scanned Data
Oceanside
Oceanside High School
Moore, Nina Lalee (17) 655 Lakeview Avenue, Rockville Centre 11570
Effect of Transmembrane Pressure Pulsing on Membrane Selectivity
Rosenberg, Benjamin Neil (17) 149 Bamburk Street 11572
The Capacity of Covariant Binding, and Binding via a Second Antibody, to
Immunolocalize Capture Antibodies
Plainview
Plainview-Old Bethpage John F. Kennedy High School
Lee, James (17) 15 Colgate Drive 11803 Determination of Surface
Properties on Lipid Membranes With Extensions to the Cancer Cell
Port Jefferson
Port Jefferson Senior High School
Squier, Jonathan Craig (17) 4 Ross Street 11776
Function Mapping of Protein Disulfide Isomerase in Saccharomyces
cerevisiae
- 11 -
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Port Washington
Paul D. Schreiber High School
Ustun, Oren (17) 112 Soundview Drive 11050 Immunofluorescent
Characterization of Steroidogenic Cytochrome P450 Side Chain Cleavage
Bearing Corpus Luteal Cells From Human Ovarian Follicles
Engel, Steven Andrew (17) 25 Schooner Lane 11050 Application of the Soft
Steroid Isotope Elution to the Monoclonal Membrane
Healey, Adam Raymond (17) 86 Bar Beach Road 11050
Using a Piezoelectric Quartz Crystal Microbalance To Test for the Borellia
burgdorferi Antibody
Shi, David Li (17) 59 Chestnut Rd., Manhasset 11030
Investigating the Role of Root Organic Acids and Root-Facilitated
Reduction in Phosphorus Acquisition Under Phosphorus and iron
Deficiency in Cucumis sativus
Zukerman, Jessica (17) 17 Park Avenue 11050 Structural and Functional
Attributes of Muscarinic Acetylcholine Receptors in Epithelial Cells of the
Lung
Rockville Centre
Rockville Centre High School
Erdos, Brandon Zaky (17) 44 Westminster Road 11570
Cytoskeletal Roles of the Lathro Gene
Roslyn Heights
Roslyn High School
Kim, Newhee (17) 40 Pool Drive, Roslyn 11576
Some Complete Sets of Integers
Patt, Anshul Mathurana (17) 26 Junard Drive, Roslyn 11576
Boron-Calcium Interactions in Fruit Trees
Seacliff
West Meville High School
Kao, Stephen Samuel (17) 26 Cornwallis Rd. 11733 Probabilistic Network
Applied to Seismic and Reliability Problems: A New Approach
Lopez, John Tyler (17) 10 Shelter Hill Ln., Stony Brook 11790
Melting in the System CaSiO3 at 130-152 Kbar
Maunder, Matthew Aaron (17) 16 Seville Ln., Stony Brook 11790
Cheating in High School: Detection, Extent and Causes
Rozengarten, Gabriel Louis (17) 8 Maple Shade Lane, Stony Brook 11790
Proton NMR Magnetic Resonance Probe of the Active Site of the
Lactococcus Lactis Saturated With Benzylhydroxy Acid
Sheldon, Kenneth Thomas (17) 11 Saddler Lane, Stony Brook 11790-3301
The Prokaryotic Genome: DNA Metabolism
Silverman, Joshua Benjamin (17) 22 Hastings Drive, Stony Brook 11790
Assembly of Phospholipid Transfer Protein: An ATPase
Soderman, Michael J (17) 112 Christian Ave., Stony Brook 11790
Analysis of Bird Clay Pipe Fragments From Terry-Mulford Site, Orient, NY
Youngblood, Virginia Yvonne (17) 19 Wells Ln., Stony Brook 11790
Using a Diode Laser to Test Antireflection Coatings on Optics
Shoreham
Shoreham-Wading River High School
Thorn, Kurt Steven (16) White Space Drive, Wading River 11792
Elemental Distributions in Marine Eulaspes as Measured by Synchrotron
X-Ray Fluorescence
South Huntington
St. Anthony's High School
Newman, Edward John (17) 19 Robinhood Court, Nesconset 11767
Effects of Asymmetrical Airfoils on the Performance of a Bicycle Wheel
Tottenville High School
Melhain, Michael Peter (17) 8846 Silcox Avenue 10309 Use of Square Wave
Modulation Techniques in Event-Related Electrophysiological Recording To
Study Attention and Perception of Visual Stimulus
Susan F. Wagner High School
Bingen, Eric J. (17) 204 Green Ave Avenue 10208
Effects of Familiarity on Letter Perception
Wallach, Steven (17) 673 Stewart Ave. 10314
Marked Status and Its Relationship Between Self Esteem and Grade-Point
Average in High School Students
Syosset
Syosset High School
Durr, Adam Craig (17) 35 Kathleen Dr. E. 11791
Comparison of Digital and Fuzzy Logic in a Pattern Recognition System
Clarkstown High School South
Saunders, Brian David (16) 27 Bellwood Drive, New City 10956
Identification and Quantification of Angiotensin II Receptor Sites on the Purified Rat
Epithelial and Retinoperitoneal Adipocyte Cell Membranes
Westhampton Beach
Westhampton Beach High School
Immel, John Joseph (17) 27 Pine Edge Dr., East Moriches 11940 The
Modeling of Population Growth and Relationships Between Organisms in a
Given Environment Using a Computer Program: Population Counter
Finalists of the 51st Annual Westinghouse Science Talent Search

The forty finalists of the 51st Annual Science Talent Search, among whom $205,000 of Westinghouse Science Scholarships will be distributed, represent about 2.3% of those who entered this scientific and educational competition.

Designed to discover and develop scientific and engineering ability among high school seniors, the Science Talent Search is conducted annually for the Westinghouse Science Scholarships by Science Service, 1719 N Street, N.W., Washington, DC 20036.

These 9 females and 31 males are being invited to Washington, D.C. for an all-expenses-paid trip from March 5 through March 9, 1992, to attend the Science Talent Institute. Here 10 of the finalists will be selected by the board of judges to receive one of the following four-year Westinghouse Science Scholarships: one $40,000 ($10,000 per year), one $30,000 ($7,500 per year), one $20,000 ($5,000 per year), three $15,000 ($3,750 per year), four $10,000 ($2,500 per year). The remaining 30 contestants will be given Westinghouse Science Scholarships of $1,000 each.

The finalists are 15 to 18 years of age and come from 27 cities in 13 states and the District of Columbia. They were picked by the judges from among 1,705 contestants who completed their entries by writing a report on their scientific research and submitting it along with an official entry form and supporting documents. Completed entries were received from all 50 states, the District of Columbia, Guam, the Dominican Republic, Puerto Rico, and a Department of Defense Dependents School.

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THIS LISTING IS ORGANIZED BY THE HIGH SCHOOL
THE FINALIST ATTENDS. THE STUDENT'S AGE,
HOME ADDRESS AND PROJECT TITLE FOLLOW HIS/HER NAME.
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**CALIFORNIA**

Alhambra
Alhambra High School
Kim, Anna Belle (17) 938 Berklebele Court, Monterey Park 91754
Cloning and Expression of Human Aldehyde Reductase Gene and Evaluation of Reductase Levels in Human Lung Tumor Cells

Chula Vista
Chula Vista High School
Purdue, Patrick Lee (17) 1264 Dixon Way 91911
Oxidizing Rate of the Arizona Cypress: A Conservation Genetics Study

San Diego
Samuel Gompers Secondary School
Wong-Foy, Anjoie Golanaco (17) 7844 Mission Bonita Drive 92120
Electrozoological Foods: In Search of the ER Fluid Equation

Santa Ynez
Santa Ynez Valley Union High School
Shaw, Amy Elizabeth (17) P.O. Box 378, Solvang 93464
Chlorosis in Coast Live Oaks

**DISTRICT OF COLUMBIA**

Washington
Georgetown Day School
Kedlaya, Kiran Manjha (17) 12912 Georgia Avenue, Silver Spring, MD 20906
In Search of P3Sets

**FLORIDA**

Melbourne
Melbourne High School
Avery, Michael Shane (17) 500 Seabreeze Drive, Indian River 32903
Using Neural Nets to Give a Robot Basic Spatial Skills

**GEORGIA**

Atlanta
Benjamin E. Mays High School
Edwards, Kimberly Nicole (16) 679 Gordon Place, S.W. 30310
Detection of Rasmed DNA-Membrane Complexes Using a Biotinylated Labelled DNA Probe

**ILLINOIS**

East Saint Louis
Lincoln Senior High School
Peppers, Alexander E. (18) 1329 Tudor Avenue 62201
Effects of Environment on Leaf Morphology in the Woody Plant Genera Ceanothus and Alnus

Evanston
Evanston Township High School
Cowan, James (18) 2640 Orrington Avenue 60201
A Study of the Collision of Two Spheres in Terms of Radius, Velocity and Impact Parameter

**KANSAS**

Shawnee Mission
Shawnee Mission South High School
Khalaf, Peter Gabriel (17) 5701 W. 98th Terrace, Overland Park 66207
The Synthesis of Polymerized Phospholipid Reverse Micelles for Use in an Artificial Blood Substitute

**MARYLAND**

Oxon Hill
Oxon Hill High School
Pilkoff, Mark David (15) 13507 Pendleton Street, Fort Washington 20744
Electron Emissions From Micro-Cathodes

**MASSACHUSETTS**

Boston
The Wiscott School
Madris, Claudine Deborah (16) 32 Montrose Street, Newton 02158
Ground-Based Reconnaissance of Asteroid 951 Gaspra