

THE 40th ANNUAL
Science Talent Search[®]
for the
Westinghouse Science Scholarships
and Awards
1981 HONORS GROUP



Administered by SCIENCE SERVICE
1719 N Street N.W., Washington, D. C. 20036

FOR RELEASE: WEDNESDAY, JANUARY 21, 1981

The Science Talent Search was the pioneering endeavor to discover at the high school senior year level those who have the potential to become the research scientists and engineers of the future. It has fulfilled this function far beyond the hopes entertained when this educational project was conceived. Many millions of dollars in scholarships in colleges and universities throughout the nation, supplementing the Westinghouse Science Scholarships, have been given to those who have thus been discovered to have high science talent.

This selection of students with research ability in science and engineering has become an institution and tradition due to approval from the academic community and the creditable records of winners in colleges, universities and professional positions.

The participation of a great industrial organization in the financing of the annual Science Talent Search is a notable contribution to the advancement of science in America. This activity can be considered a support of "pure research" of importance equal to the fundamental researches in the Westinghouse Research Laboratories. Science and education are grateful for the financial support of the forty Science Talent Searches by the Westinghouse Electric Corporation and the Westinghouse Educational Foundation.

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 newspapers, educators, 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.

1981 Honors Group

The achieving of Honors in the Science Talent Search is an evidence of ability and interest in science and engineering which should be taken into consideration by colleges and universities in admissions and granting of scholarships. For this reason this Honors List is distributed to all universities and colleges of the United States. Each of those winning honors is being furnished with multiple certifications intended to accompany applications for college admissions and scholarships, but a listing in this pamphlet should be accepted as an equivalent certificate. Listed are 86 girls and 214 boys.

From this list of 300 Honors, 40 are being chosen as Winners of the Washington trip. Among these, \$89,500 in scholarships and awards will be distributed. The Winners are being announced subsequent to the distribution of this list and their names will be published in SCIENCE NEWS of January 31, 1981, and it will be sent upon request accompanied by a self-addressed stamped envelope.

(age follows name; home address underlined)

ALABAMA

Florence	Madewell, Alan Edward 17	Coffee H.S.	<u>135 Creekwood Cir.</u>	35630
	Bioconversion of Lemna minor			
Huntsville	Allan, Barbara Diane 18	Grissom H.S.	<u>7803 Michael Cir.</u>	35802
	Enzymatic Protoplast Release as a Function of Time After Cell Transfers in Liquid Suspensions of Carrot Cells			
Jacksonville	Brown, William Blake 18	Jacksonville H.S.	<u>P.O. Box 51</u>	36265
	Computer Controlled Multifunction Pigeon Behavioral Analysis Laboratory: Hardware and Software			
Moulton	Chitwood, William Shelton 17	Lawrence County H.S.	<u>P.O. Box 37</u>	35650
	The Role of Gibberellins in Phytochrome-Mediated Lettuce Seed Germination			

ARIZONA

Tucson	Fogelsong, David Scott 18	Canyon del Oro H.S.	<u>6865 N. Nanini Dr.</u>	85704
	Viability of Type "A" Strategy in Chess-Playing Computer Program			

CALIFORNIA

Alhambra	Don, Debra Mel 17	Alhambra H.S.	<u>2045 Arriba Dr., Monterey Park</u>	91754
	Determination of the Total Cellular Volume and the Volume of Inner Membrane Vesicles of Escherichia coli			
	Lieu, Cheryl Lynne 17	Alhambra H.S.	<u>535 Cumbre St., Monterey Park</u>	91754
	Characterization of Isoenzyme Specific Monoclonal Antibodies to Horseradish Peroxidase			
	Lim, Stephen Wong 18	Alhambra H.S.	<u>527 Granda St., Monterey Park</u>	91754
	Bacterial "Jumping Genes": Do IS Elements Have Preferred Sites in Lambda Bacteriophage?			
	Spira, Howard Stanton 18	Alhambra H.S.	<u>516 Granda St., Monterey Park</u>	91754
	Anemones: Response Elicited by Oxygen Deficiencies			
	Sun, Douglas 17	Alhambra H.S.	<u>2070 Abajo Dr., Monterey Park</u>	91754
	Authenticity of a Writer's Impressions of "The Planets" by Holst			
Antioch	Robinson, Pamela Jane 17	Antioch Sr. H.S.	<u>2913 Garfield Pl.</u>	94509
	Polarized Light and Snails			
Beverly Hills	Mena, Francisco Javier 18	Beverly Hills H.S.	<u>814 Linden Dr.</u>	90210
	Noninvasive Measurement of Left Ventricular Volume in Stillborn Lambs			
Chula Vista	Cave, Colin Robert 17	Hilltop H.S.	<u>345 Hilltop Dr.</u>	92010
	Effects of Sex, Age, Coat Color, and Breed Upon Expression of Malignant Melanoma in Dogs			
Huntington Beach	Olshausen, Bruno Adolphus 18	Marina H.S.	<u>16842 Seawitch Ln.</u>	92649
	Applications of 1/f Noise in Music			
Lafayette	Chu, Jonn Inyul 17	Acalanes H.S.	<u>3282 Ameno Dr.</u>	94549
	How to Overproduce a Restriction Enzyme Using Recombinant DNA Techniques			
Long Beach	Pekar, Ronald Emmanuel 17	Woodrow Wilson H.S.	<u>310 Laurinda Ave.</u>	90803
	Computer Language for Widespread Application			
Los Angeles	Schauer, Kimberly 17	Marlborough School	<u>2534 Canyon Dr.</u>	90068
	Effects of Pollution on the Size of Mussels			
Mill Valley	Briggs, Daniel Shenon 17	Tamalpais Union H.S.	<u>357A Molino Ave.</u>	94941
	Least Squares Curve Fitting in a Symmetric Interval About the Origin			

Moorpark Haudenschild, James Scott 18 Moorpark Memorial Union H.S. 13450
Visto Levana 93021 Characterization of the Bacteriostatic
Component in Allium sativum

Palo Alto Chen, David Allen 17 Henry M. Gunn Sr. H.S. 14255 Amherst Ct.,
Los Altos Hills 94022 Engineering of an Automatic Targeting System

Ridgecrest Childress, Mark Daniel 17 Sherman E. Burroughs H.S. 312 S. Sunland
Dr. 93555 Effects of Lower Temperatures on the Fecundity of
the Aphid Rhopalosiphum padi

Sacramento Puthuff, James Charles 17 Sacramento H.S. 8348 Lake Forest Dr. 95826
Anatomy and Morphology of Uncinula necator

San Jose Simmons, David Michael 17 Sacramento H.S. 8202 Caribbean Way 95826
Effects of Irrigation Water on Four Traits of Culex tarsalis

San Marino Lam, Osama Fu Wah 17 Independence H.S. 3548 Lisbon Dr. 95132
Advanced Placement Physics Tutorial Program

Ko, William 18 San Marino H.S. 2695 Wallingford Rd. 91108
Purification and Characterization of EMC Viral Coat Proteins

COLORADO

Aurora Holcomb, Matthew Scott 17 Aurora Central H.S. 382 Newark St. 80010
In Pursuit of Perfection...

Boulder Mahanthappa, Nagesh Kalyana 16 Fairview H.S. 2865 Darley Ave. 80303
Aerodynamics of Birds' Bodies and Its Applications

Fleming Dreier, Rebecca Jo 17 Frenchman RE-3 Rt. 2 80728 An Archeological
Discovery

CONNECTICUT

Berlin Kristopik, Suzanne 17 Berlin H.S. 932 Kensington Rd., Kensington
06037 Evaluation of Acridine Orange Stain for the Interpretation
of the Serum Bactericidal Test

Guilford Schew, William Allen 17 Guilford H.S. 2675 Boston Post Rd. 06437
Morphological Differences and Substrate Preferences of Caprella
penantis and Paracaprella tenuis

Newington Dowling, Michael Morgan 17 Newington H.S. 129 Fisk Dr. 06111
Iron Transport Proteins in Serum From Patients With
Hollnervorden Spatz Syndrome

Stamford Smithline, Howard A. 17 Stamford H.S. 39 Regent Ct. 06907
Effects of Low Level Ionizing Radiation on Tagetes erecta and
Azotobacter vinelandii

Mitzi, David Brian 17 Westhill H.S. 66 Lancer Ln. 06905 Design
and Optimization of a Nitinol Heat Engine

DELAWARE

Wilmington Spiegelman, Marc Willard 17 Concord H.S. 2641 Pennington Dr. 19810
Impacts of Primary and Secondary Sewage Treatment Effluents in
Relation to Tidal Action in the East Passage of Narragansett Bay,
Rhode Island

DISTRICT OF COLUMBIA

Washington Ellis, Eric Christopher 17 Sidwell Friends School 2809 N. Glade St., N.W.
20016 Resistance of Roots to Ion Penetration and Flow

FLORIDA

Cape Coral Graziano, Paul Thaddeus 17 Cape Coral H.S. 3906 S.E. 13th Ave.
33904 In vivo and in vitro Reaction of Sea Star Coelomocytes to
Antigen

Cocoa Beach Weaver, Jr., Kenneth Neal 17 Cocoa Beach H.S. 332 Jack Dr. 32931
Oral Microflora Promoted by Orthodontic Appliances

Coral Gables Gomez, Selma Maria 17 Coral Gables Sr. H.S. 2221 S.W. 26 Ln., Miami
33133 Use of ^{13}C and ^{19}F NMR to Determine the Bonding and
Geometry of Olefinic Fluorocarbons

Fort Lauderdale Tighi III, Alvin John 17 Cardinal Gibbons H.S. 2116 N.E. 45th St. 33308
Effects of Lithium Chloride, Beer, and Saliva on Planaria Regeneration

Bapty, Theodore Allan 17 Nova H.S. 3320 S.W. 40 Ave., Hollywood 33023
Separation and Isolation of the Methanol Dehydrogenase
Isoenzymes and a Comparison of Their Kinetic Properties

Candiotti, Keith Allen 17 Nova H.S. 3331 Forrest Dr., Hollywood 33021
Effects of Functional Amblyopia Upon Binocular Vision

Mish, Risa Marlyne 16 Nova H.S. 4912 Cleveland St., Hollywood 33021
Relationships Between Absorbance, Glucose Concentration, and Cell
Number of Escherichia coli

Jacksonville Moriarty, Jenn Elizabeth 17 Nova H.S. 2632 N.E. 35th St. 32306
Effect of Oxidation on the Size of Clay Particles

Weiss, Joshua Robert 17 The Bolles School 3846 San Remo Dr. 32217
Effects of Selenium on Cells in Culture

Bruce, Herbert Rudolf 18 Terry Parker Sr. H.S. 401 Monument Rd.,
#164 32211 Effect of Styrid Caricide on CHE Activity

Sucholeikl, Irving 17 Samuel W. Wolfson H.S. 4875 San Clerc Rd. 32217
An Analytical Investigation of the Denaturing Process in the
Casein Protein

Melbourne Mears, Thomas Lee 17 Melbourne H.S. 517 Sunset Blvd., Melbourne
Beach 32951 Use of Citrus Pulp in the Production of Hydrogen
Fuel by Rhodospseudomonas acidophila

Merritt Island Fogarty, Robert Sean 17 Merritt Island H.S. 2455 Las Palmas 32952
Enhancement of TNF Oncolysis of L-929 Tumor Cells by Ascorbic Acid

Miami Garcia, Eduardo Antonio 18 Christopher Columbus H.S. 911 Ferdinand
St., Coral Gables 33134 Perturbation of Erythroid Differentiation
in the 979-Leukemia Cells by Incorporation of 5'-methyldeoxycytidine
Into DNA

St. Jacques, Jeannine Mary 17 Immaculate-La Salle H.S. Yacht "Antares",
Dinner Key Marina 33133 Anti-Microbial Properties of Six South
Floridian Marine Sponges

Tan, Song 17 Southwest Miami H.S. 5508 SW 133 Pl. 33175 The
Pyrolysis of Polystyrene

Miami Beach Baikovitz, Howard Israel 17 Miami Beach Sr. H.S. 1516 Cleveland Rd.
33141 Effect of Glucose on Growth and Luminescence of
Photobacterium fischeri: A Possible Method for Determining Glucose
in Diabetic Urine

Neptune Beach Conover, Maria Teresa 17 D.U. Fletcher Sr. H.S. 1403 Neptune Grove
Dr. East 32233 Development of an Original Structure For Use in
Prevention and Mitigation of Coastal Erosion

North Miami Fisher, Ronald Harris 17 North Miami Sr. H.S. 13370 Biscayne Bay
Terr. 33181 Isolation and Characterization of Specific Inhibitory
Proteins From Saliva of a Caries Free Donor

Vero Beach Lescocock, Troy Anthony 16 North Miami Sr. H.S. 1350 N.E. 148th St.
33161 A Quantitative Analysis of the Chain Length of Laminarin

Wildwood Simons, Douglas Anthony 18 Vero Beach H.S. 1105 25th Ave. 32960
Spectroscopic Survey of the Lunar Topography

Wresh, Theresa Marie 17 Wildwood H.S. 17 Fairway Dr. 32785
Quantitative Determination of Trace Element Concentrations in a
Murine Melanoma by Particle-Induced X-Ray Emission Analysis

GEORGIA

Atlanta Homes, Melissa Marian 17 Lakeside H.S. 2624 Hawthorne Dr., N.E. 30345
Effect of Chemical Mutagens on the Map Distance of the Mutant-Tan
Gene of *Sordaria fimicola*

HAWAII

Aiea Taira, Michelle Kay Fujie 17 Aiea H.S. 98-261 Puuahi St. 96701
Cell Processes Involved in the Inhibition of KB Cancer Cells by
Asparagus Extract

Yokoyama, Karen Takako 17 Aiea H.S. 99-583 Alii Pkwy Dr. 96701
Phytonexin Response to Various Pathogens

Honolulu Lau, Zachary Hung Jan 17 Iolani School 2344 Pacific Heights Rd. 96813
Conditions That Affect the Efficiency of VMOS FETs

Yamada, Asao Kenao 17 Kaiser H.S. 693 Hahaione St. 96825
Separation of Bismuth in Aqueous Solutions by Absorption
Colloid Floation

Kahului Horita, Karl Naoki 17 Maui H.S. 17 Malie Pl., Pain 96779 Reagent
Toxicity Susceptibility of Asparagus in Cryogenic Storage

Wainalua Terashima, Iris Sachie 17 Wainalua H.S. 61-118 Puniala Pl., Haleiwa
96712 Efficiency of Ethanol Production From Sugarcane Juice

ILLINOIS

Chicago Cap, Daniel Scott 17 William J. Bogan H.S. 4130 W. Crestline St. 60652
Cadmium Contamination in Daphnia and Processed Sewage Sludge

Hayden, Randall Todd 17 Whitney M. Young H.S. 1626 W. Greenleaf
60626 Effects of Foreign Substances on Leukocytes

Oehri, Constanze Marlene 17 Whitney M. Young H.S. 720 S. Laflin
60607 Saving Oil-Spilled Seas

Evansston Levine, Marjorie Susan 17 Evansston Twp. H.S. 2622 Orrington Ave.
60201 The Rise and Spread of Buoyant Jets as Applied to
Environmental Flows

- Glenview Soll, Wendy Fileen 17 Evanston Twp. H.S. 900 Washington 60202
The Motion of Heat Waves
- Adler, Lawrence Mark 18 Glenbrook South H.S. 3809 Joanne Dr. 60025
Making Turbidimetric Assays of Chlorotetracycline Hydrochloride
Medicated Animal Feeds Accurate and Reliable
- Peru Perona, Paul Gildo 17 St. Rede Academy R.R. 1 61354 Removing
the "Pop" From Concrete
- Rolling Meadows Caravello, Margaret Mary 17 Rolling Meadows H.S. 3705 Bluebird Ln.
60008 Effects of Ultraviolet Light on Tr2 and *Escherichia coli* B.
- Kompare, David Owen 17 Rolling Meadows H.S. 740 S. Evergreen.
Arlington Heights 60005 Effects of Antibiotics on Bacterial Growth
- Tinley Park Brown, William Richard 17 Victor J. Andrew H.S. 8751 W. 163rd St.
Orland Park 60462 Behavior Altering Effects of Drugs on Spiders
- Winnetka Yuen, Eric Chu Ming 17 New Trier East H.S. 2232 Iroquois Rd.,
Wilmette 60091 Holographic Interferometric Study of the Surface
Deformations of an Object Subjected to a Point Load

INDIANA

- Bloomington Thomas, Cheryl Marie 17 Bloomington H.S. North 4129 Highland Ct.
47401 Relationship Between Maximum Voluntary Ventilation and
Fast Twitch Fiber Proportion in Ventilatory Muscles
- Culver Millonas, Mark Mountford 17 Culver Military Academy CMA, Box 380
46511 Symmetry and Non-Symmetry of Time Phenomena in
Quantum Field Theory
- Goshen Huitema, Betty Lucille 18 Fairfield H.S. 16496 CR 146, New Paris
46553 Occurrence of Beta Alanine in Human Hair
- Highland Ustunlik, Luraynn Louise 18 Highland H.S. 8345 Cottage Grove Ave.
46322 Co Aggregation of *Streptococcus sanguis* and *Actinomyces*
naeslundii
- Michigan City Piper, Brett William 17 Marquette H.S. 407 Spruce Dr. 46360
Detection of Cancer by Electron Spin Resonance Using Superconductivity
- Monticello Murrell, David Bryan 18 Twin Lakes H.S. R.R. 1, Box 108A, Idaville
47950 Behavioral Observations in a Game Influenced Environment
- West Lafayette Perry, Michael Andrew 17 West Lafayette H.S. 2550 Yenger Rd. #21-5
46906 Comparison by Gamma Ray Spectroscopy of Environmental
Thorium, Uranium, and Potassium Concentrations in Tippecanoe
County, Indiana

IOWA

- Bettendorf Muller, Jeffrey George 17 Bettendorf H.S. 2701 Olympia Dr. 52722
Computer Adaptability to Diverse Problems
- Dubuque Stevens, John Alan 17 Dubuque Sr. H.S. 2435 Coates 52001
Adapting Metal Hydrides for Hydrogen Storage
- Sioux City Stoyer, Mark Alan 17 East H.S. 4117 Sherwood Terr. 51106
Alleopathic Properties of *Taraxacum officinale* Against *Sorghum bicolor*

KENTUCKY

- Cynthiana Shukla, Archana Kanu 17 Harrison County H.S. P.O. Box 425 41031
Measurement and Modification of Salt Tolerance in *Avena sativa*,
Zea mays, and *Phaseolus vulgaris*
- Leitchfield Dennis, Michael Leon 17 Grayson County H.S. 317 Wallace Ave. 42754
Ages and Expansions of M 1 and NGC 6302
- Park Hills Purcell, Susan Clare 17 Notre Dame Academy 4 Highview Dr., Fort
Thomas 41075 Visual Acuity: Its Determination and Modification

MARYLAND

- Baltimore Miller, Fred Brian 17 Perry Hall Sr. H.S. 107 W. Elm Ave. 21206
Computer Simulation of Neuron Function
- Bethesda Steffens, Lisa Marie 17 Holton Arms School 9621 Dewmar Ln., Kensington
20795 Effect of Microwave Radiation on Red Blood Cell Hemolysis
- Sownlsky, Richard Aery 17 Walt Whitman H.S. 5706 Durbin Rd. 20034
Optimizing the Sodium Dodecyl Sulfate Polyacrylamide Gel Electro
phoresis Process in Order to Achieve Maximum Separation of Proteins
Under 50,000 Daltons
- Bowie Uehling, Mark Allen 17 Bowie Sr. H.S. 2905 Stonybrook Dr. 20715
Microcomputer Graphics
- Columbia Fagan, David Scott 17 Wilde Lake H.S. 10478 Waterfowl Terr. 21044
Photoreactivation: Survivability in *Saccharomyces cerevisiae*
- Lucco, Steven Edward 16 Wilde Lake H.S. 3704 Spring Meadow Dr.,
Ellicott City 21043 Recursive Technique for the Solution of
Polynomials

- Oxon Hill Lee, Jin-Moo 17 Friendly Sr. H.S. 3301 Stonesboro Rd. 20022
Specific Binding Facilitating *Rhizobium japonicum*: Soybean Symbiosis
- Salisbury Chnd, Toby Chu-Chung 16 James M. Bennett Sr. H.S. 1231 Orchard
Cir. 21801 Effect of Earwax on Bacteria
- Silver Spring Harris, Geoffrey Roy 17 Montgomery Blair H.S. 9526 Lawnsberry Terr.
20901 Hybridoma Production and Culture: Test of Alternatives
to Fetal Calf Serum for Culture Medium Supplementation
- Opal, Denise Ruby 16 Springbrook H.S. 11215 Oak Leaf Dr. 20901
Inhibition of the Incidence of *Monilinia fructicola* on Peaches With
Exposure to Various Concentrations of $CaCl_2$ in the Presence of
Various Pressure Gradients
- Tiway, Anurag Devesh 15 Springbrook H.S. 12706 Laurie Dr. 20904
Pericentrically Inverted Chromosome 9 in 238 Black Newborn Babies
- Hubbell, Wendy Jean 17 Wheaton H.S. 11830 Rocking Horse Rd.,
Rockville 20852 Some Interesting Relationships Between World
Temperature and Sunspot Number

MASSACHUSETTS

- Lexington Tucker, Gregory Sheridan 17 Lexington H.S. 56 Baskin Rd. 02173
Method for Determining the Molecular Optical Rotation in Simple
Saccharides
- Needham Jain, Manoj Kumar 17 Needham H.S. 1 Brewster Rd. 02192
Radiation-Induced and Enzyme Hydrolyzed Decomposition of
Cellulose Resulting in High Yield of Reducing Sugar
- West Roxbury Treon, Steven Peter 17 West Roxbury H.S. 4466 Washington St.,
Roslindale 02131 Ozone Layer Deterioration: Mutagenic Effects
of Sublethal UV-B radiation on *Pseudomonas aeruginosa*

MICHIGAN

- Ann Arbor Zand, Martin Stuart 18 Huron H.S. 2098 Yorktown Dr. 48105
Oblique Fractures of Bone: A Biomedical Analysis of Compression
Plating
- Gleibermann, Erik 17 Pioneer H.S. 2325 Dundee 48103 Mathematical
Examination of the Evolutionary Process
- East Grand MacDonald, James Patrick 17 East Grand Rapids H.S. 2103 Coronado
Rapids Dr., S.E. 49506 Identification and Examination of Denitrification
Processes Occurring in an Anoxic Basin of the Pettaquamscutt Estuary
- Mount Clemens Avesian, Philip Ronald 17 Lutheran H.S. North 5245 Aintree, Rochester
48063 Isolation of Mesophyll and Bundle Sheath Cells and the
Possible Differential Expression of the Gene Coding the Enzyme
Ribulose Biphosphate Carboxylase in *Zea mays*

MINNESOTA

- Dawson Quass, Dallan Wendell 17 Dawson-Boyd H.S. 1383 Pine St. 56232
Artificial Intelligence in Game Playing
- Lakefield Paulson, Robin Lynn 17 Lakefield H.S. R.R. 1 56150 Production
of Penicillin G and an in vitro Study of Its Activity
- Mankato Felstul, David Robert 18 Mankato East H.S. 1008 Plum 56001
Bacterial Degradation of Petroleum Hydrocarbons
- Minneapolis Rabatin, Jeffrey Thomas 17 Benilde-St. Margaret's H.S. 3547 James
Ave. No. 55412 Sugar and Blood Group Specificity of a Lectin
Found in the Albumin Gland of *Helix aspersa*
- St. Louis Park Khoruts, Alexander 17 St. Louis Park H.S. 3117 Virginia Ave. S. #304
55426 The Influence of an Electric Current on Crayfish and
Grasshopper
- St. Paul Scanlon, David Alan 18 Harding Sr. H.S. 1756 Euclid St. 55106
Computer Monitored Motion Lab

MISSOURI

- Joplin Fortier, Tim Edward 17 Parkwood H.S. 1210 Montana Pl. 64801
Use of Transposon Tn5 as a Cloning Vehicle for F
- St. Louis Burns, Kelley Catherine 17 Ursuline Academy 11015 Golf Crest Dr.
63126 Effect of Malathion on *Aspergillus niger* and *Penicillium*
notatum Growth Averages
- Willow Springs Moore, Rosemarie Lee 17 Willow Springs H.S. Box 270, S.S. Route,
West Plains 65775 Optimum Environmental Conditions for Mold

MONTANA

- Helena Davis, Carla Elaine 17 Capital H.S. 1531 Leslie 59601 Effects of
Surface Water and Well Water Upon the Oviposition, Larval
Development, and Autogeny of *Culex tarsalis*

DeGrandpre, Michael David 18 Capital H.S. 901 Garfield Ave. 59601
Comparison of Two Water Systems Through Quantitative and
Qualitative Chemical Analysis
Sawitke, James Arthur 17 Capital H.S. 1522 Flowerree 59601
Milling Stones of Indian Canyon 2 35W113

NEBRASKA

Omaha Geppert, John Marion 18 Creighton Preparatory School 3282 S. 77th Ave.
68124 Solar "C" Collector, A Compound Parabolic Concentrator
Earl, Catherine Ann 17 Northwest H.S. 7809 Manderson 68131
A Determination in the Relations of Tonal Differentiation

NEW JERSEY

Fair Lawn Rubenstein, Sidney Charles 17 Fair Lawn H.S. 3-01 Morlot Ave. 07410
Relationship Between Wing Damage and Flight Capability in the
Housefly *Musca domestica*
Hillside Simmons, Elizabeth Helen 17 The Pingry School 422 Wyoming Ave.,
Millburn 07041 Effects of a Drainage Culvert Upon the Fresh
Water Region of the Millford Marsh
Livingston Ayyadurai, Shiva 17 Livingston H.S. 7 Baker Rd. 07039 Software
Design Development and Implementation of a High Reliability,
Network Wide, Electronic Mail System
Maplewood Hsu, Anna Yee 18 Columbia H.S. 17 Ridgewood Terr. 07040
Pepsin and Its Formation of Inhibitor-Enzyme Complexes
Mendham Fox, John Alan 17 West Morris Mendham H.S. Oak Knoll Rd. 07945
Levels of Chromium Pollution in the Upper Narragansett Bay and
Accumulation Found in *Mercurialis perennis*
Montvale Wall, Michael Francis 18 Pasenack Hills H.S. 90 Bedford Rd., Hillsdale
07642 ASTEROIDS: A Real Time Graphic Game for the TRS 80
Microcomputer
Parsippany Sohn, Regina Lee 17 Parsippany Hills H.S. Box 33, Mountain Lakes 07046
Genetic Linkage in the Metabolic Pathway for Aromatic Amino Acids
Through Transformation in *Acinetobacter calcoaceticus*
Waldwick Leventhal, Ezekiel Michael 17 Waldwick H.S. 90 Lincoln Pl. 07463
A Uniformly Distributed Sequence and Its Generation of an
Infinite Sequence of Unit Fractions
Shoop, Daniel Ray 17 Waldwick H.S. 127 E. Prospect St. 07463
Investigation Into the Set of Pseudo Squared Numbers
Wayne Kriegman, Michelle Robin 17 Wayne Valley H.S. 33 Eleron Pl. 07170
Perceptual Developmental Changes Over Short Time Periods
in the Structure of Classifications in Adults
Lambert, Diana Cary 18 Wayne Valley H.S. 56 Greenacre Ave. 07470
Effects of Mycotoxin on Corn Plants
Westwood Turr, Jeffrey Richard 17 Westwood H.S. 1 Highland Dr., Rutland, VT
05675 Use of X-Ray Fluorescence Spectroscopy for the Determination
of the Areal Density of Particle Accelerator Target Foils

NEW MEXICO

Albuquerque Wayland, Sarah Catherine 17 El Dorado H.S. 3809 Madrid Dr., N.E.
87111 Effects of PLE EMP on *Phaseolus lunatis*, *Phaseolus vulgaris*
and *Raphanus sativus*

NEW YORK

Angola Menzel, Lyle Jeremy 17 Lake Shore Central Sr. H.S. 7431 Erie Rd.,
Derby 11047 Effect of Fluorescent Light on Clam Mantle
Cells in Culture
Baldwin Miegiani, Victor Alfred 17 Lake Shore Central Sr. H.S. 1404 Independence
Dr., Derby 11047 Trail Laying in Ants
Redden, Peter John 17 Baldwin Sr. H.S. 154 Delaware Ave.,
Freeport 11530 Synthesis of Some Potential Immunomodulating Agents
Drogin, Jack Paul 17 Baldwin Sr. H.S. 806 Vivian Ct. 11510 Effects
of Ammonia Toxicity and Assimilation on Carbohydrate Excretion in
Dunaliella tertiolecta on a Diel Cycle
Gross, Mara Mae 18 Baldwin Sr. H.S. 3154 Grand Ave. 11510 Novel
Assay Procedure for Phosphatase Hydrolase Activity
Ilievsky, Howard Jay 17 Baldwin Sr. H.S. 793 Allwyn St. 11510
Purification and Analysis of Antibodies to Pancreas Tumor Acid Protein
Kaplan, Todd Mitchell 18 Baldwin Sr. H.S. 3287 Bertha Dr. 11510
Inhibitory Effects of Glycerol Mono Laurate and Sorbate on Ten
Commercially Important Fungi
Laxer, Michele 17 Baldwin Sr. H.S. 812 Marilyn Ln. 11510 Ground
State pKa Values of Beta Adrenergic Blocking Agents

Rayside

Banerjee, Rina 17 Benjamin N. Cardozo H.S. 4604 Westmoreland St.,
Little Neck 11363 Idiosyncratic Coloration of the *Homarus*
americanus
Berger, Adam Jared 17 Benjamin N. Cardozo H.S. 61-18 245 Pl.,
Douglaston 11362 Non Congruent Integer Triangles With Constant
Perimeter and Related Ideas
Binderow, Bruce David 17 Benjamin N. Cardozo H.S. 240-25 68 Ave.,
Douglaston 11362 The Capability of the Fertilization Membrane to
Prevent Bacterial Infiltration of Fertilized Eggs at Various Times
Post-Insemination in the Sea Urchin, *Lytechinus variegatus*
Candan, Michael Richard 17 Benjamin N. Cardozo H.S. 56-38 Bell Blvd.
11364 Effectiveness of *Nephrolepis exaltata* Extract as an Antifeedant
for *Tribolium confusum*
Gerstenblatt, Marc Alan 17 Benjamin N. Cardozo H.S. 240-17 67 Ave.,
Douglaston 11362 Effect of Cigarette Smoke Residue on *Paramecium*
multimicronucleatum
Jha, Asha 17 Benjamin N. Cardozo H.S. 67-34 Bell Blvd. 11364
Effect of Poised Redox Potentials on the Growth Rate and NADH
Oxidase Activity of *Clostridium perfringens*
Patil, Jason Michael 17 Benjamin N. Cardozo H.S. 71-53 244 St.,
Douglaston 11362 Inhibitory Effect of Aqueous Clam Extracts on
the Budding of *Hydra littoralis*
Schachner, David Joel 17 Benjamin N. Cardozo H.S. 213-15 85 Ave.,
Queens Village 11427 Effects of Soybean Trypsin Inhibitors on
Periplaneta americana and *Manduca sexta* Digestive Proteases
Pardalis, Anastasio D. 17 Briarcliff H.S. 48 Cypress Ln. 10510
Concentration of Elements Leached From Coal Fly Ash
Ngo, Tan Dinh 16 John F. Kennedy H.S. 27 W. 184 St. 10468
Some Inequalities in $N^2/O(N)$
Turkel, Marc Adam 17 Riverdale Country School 4483 Manhattan College
Pkwy. 10471 Inheritance of Monoterpenes and Needle Characteristics
in Serbian X White Spruce Hybrids
Barnett, Todd Allen 17 John Dewey H.S. 2643 E. 64 St. 11234
Determining the Existence and Quantification of Light Induced
Photopigment Variation in *Carrissius auratus*
Dachille, Douglas Adam 16 Midwood H.S. 18 Faerdegat 10 St. 11236
Effect of Fibronectin on DNA Antigen Binding to Collagen in
Systemic Lupus Erythematosus
Weiss, Maurice 17 F.D. Roosevelt H.S. 1406 59 St. 11219 Effects of
Adriamycin and Daunomycin on RNA Polymerase DNA Supercoiled
Complexes
Rao, Peter Charles 16 South Shore H.S. 1387 E. 53 St. 11234 On the
Form of Two and Three Dimensional Soap Bubbles
Wong, Helen 17 South Shore H.S. 9615 Church Ave. 11212 Counting
the Number of Triangles and Quadrilaterals Satisfying Certain
Initial Conditions
Friedman, Jay Lawrence 17 Yeshiva of Flatbush Joel Braverman H.S.
645 E. 79 St. 11236 An Employment and Manipulation of
Escherichia coli Bacteriophage Lambda as a Preliminary Step in the
Effective Treatment of Generalized Gangliosidosis
Inker, Steven Alan 17 Yeshiva of Flatbush Joel Braverman H.S.
3132 Nostrand Ave. 11229 An Endogenous Inhibitor of the
Aggregation of Human IgG in the Ultrafiltrate of Normal Serum:
Subnormal Levels in Rheumatoid Arthritis
Rosenthal, Eugene Jay 17 Yeshiva of Flatbush Joel Braverman H.S.
1772 E. 15 St. 11229 Computer Controlled Pollution Monitor
Mancuso, Charles Curtiss 17 Nichols School 144 Chapin Pkwy. 14209
Spectroscopic Study of the Variable Intensities of Selected
Water-Vapor Absorption-Lines
Cohen, Todd Douglas 17 Half Hollow Hills H.S. West 1 Westwood Ct.
11746 Reaction Kinetics of Linoleic Acid in a Chloride Environment
Hoffmann, James Farwell 17 Elmont Memorial H.S. 356 Norfield Blvd.
11003 An Algorithm for Computer Simulation of Machine
Recognition of Human Speech Phonemes
Dyal, Charise Malinda 16 Francis Lewis H.S. 138-08 223 St., Laurelton
11413 Genetic Observations on Mutant *Heliconius cydno*
Ishihara, Junko Amy 17 Francis Lewis H.S. 197-10A 85 Crescent 11365
What Economic Problems Have Arisen Between Japan and the United
States During the 1970s?
Katz, Robert Alan 17 Francis Lewis H.S. 64-53 175 St. 11365 Effects
of Quantity and PH on Forage Preference in Leaf-Cutting Ants
Osman, Yusemin 16 Francis Lewis H.S. 58-15 182 St. 11365 Effects of
Precocene II on the Function of the Corpora Allata on Reproductive
Development and Flight Behavior in *Melanoplus sanguinipes*

- Schmidt, Walter Peter 16 Francis Lewis H.S. 42 18 204 St., Bayside 11361 Analysis of Interaction Among the Three Basic Variables Which Determine Political Party Preference
- Suzuki, Yuichi 18 Francis Lewis H.S. 175 20 Wexford Terr., #8x, Jamaica 11432 Survival Tests Among Three Kinds of Higher Green Plants
- Wetty, Chris Andrew 17 Francis Lewis H.S. 29 25 159 St. 11358 Using Quasic Distances to Test the Big Bang Theory
- Forest Hills
Moseson, Mark Lewis 16 Forest Hills H.S. 69 09 108 St. 11375 Isolation of DNA From Two Thymidine Kinaseless Mutants of Herpes Simplex Virus Type 1
- Great Neck
Berger, Richard Arlen 17 Great Neck South Sr. H.S. 50 Lahey St., New Hyde Park 11040 The Ballistic Pendulum: An Experimental Investigation
- Hewlett
Kaplowitz, Lori Ellen 17 George W. Hewlett H.S. 39 Brower Ave., Woodmere 11598 Effect of the Antibiotic Cefoxitin on Clostridium sporogenes: An Evaluation of Its Performance in the Selection of Auxotrophs
- Lesser, Cammie Faith 17 George W. Hewlett H.S. 75 Burton Ave., Woodmere 11598 Orientation of the Pumice Shards in a Welded Tufaceous Igneobrite in the Hancock Area of the John Day Formation in Eastern Oregon
- Rubenstein, David Scott 17 George W. Hewlett H.S. 160 Franklin Pl., Woodmere 11598 Isolation and Purification of DNA Fragments Coded for the Production of the Enzyme Thymidine Kinase, From Mutant Herpes Simplex Virus Type-1 (F11) and From Wildtype Herpes Simplex Virus Type 2 (333)
- Jamaica
Lisanti, Michael Philip 17 Hillcrest H.S. 8200 Shore Front Pkwy., Rockaway Beach 11693 Brain Chlathrin and Coated Vesicle Associated Proteins
- Fan, Lawrence 17 Jamaica H.S. 73 43 173 St., Flushing 11366 ASP: A Simulated PDP 11
- Miller, Martin Bruce 16 Jamaica H.S. 73 11 184 St., Flushing 11366 Computer Algorithms for English Language Comprehension
- Papastergiou, Harriet 17 Jamaica H.S. 84 38 171 St. 11432 Actions of Bacillus thuringiensis Exotoxin on Manduca sexta Larvae at Different Temperatures and Stages of Growth
- Villanueva, Emmanuel Santos 17 Jamaica H.S. 71 72 162 St., Flushing 11365 Incorporating Radioisotopes Into Crystals as a Source of Ionizing Radiation for ESR Experiments
- Wong, Tai Lee 17 Jamaica H.S. 92 18 51 Ave., Elmhurst 11373 Effect of Cycloheximide on Manduca sexta Larval Salivary Gland Death
- Levittown
Spetter, Scott 18 MacArthur H.S. 1227 Flower Ln., Wantagh 11793 Interactive Graphic Tutorial Coursewriter
- Long Beach
Brandt, Karen Rose 17 Long Beach H.S. 112 Ivy Ln. 11561 Biochemical Differentiation of Malignant and Non-Malignant Hepatic Diseases by Use of Enzyme Ratios
- Gillespie, John 17 Long Beach H.S. 516 W. Market St. 11561 Coordinate Plotting Utilizing BASIC Language Computer Programming
- Mamaroneck
Morse, Thomas Labor 17 Mamaroneck H.S. 28 Walnut Ave., Larchmont 10538 Biological and Immunochemical Determinations of Herpes Simplex Virus Antibodies
- New York
Chang, William I Wei 17 Bronx H.S. of Science 48 44 189 St., Fresh Meadows 11365 $\phi(N)$: A Generalization of Euler's ϕ Function
- Cheng, Teresa May Ling 17 Bronx H.S. of Science 32 22 73 St., Jackson Heights 11370 Chemosensory Effect of Histamine and Antihistamines on the Ciliate Tetrahymena pyriformis
- Dorfman, Robert 17 Bronx H.S. of Science 2300 Bronx Park East 10467 Effects of Aspirin on the Membrane of the Lysosome
- Finkelstein, Seth Steven 16 Bronx H.S. of Science 140 24 Darrow Pl., Bronx 10475 On Perfections: A Generalized Study of Integers for Which $\phi(N) = A$
- Fisher, Renji Nicholas 17 Bronx H.S. of Science 57 E. 96 St. 10028 Self Dual Graphs
- Fuh, Vivian Liu 16 Bronx H.S. of Science 81 44 168 St., Jamaica 11432 Possible Control Mechanisms of Secretion and Deciliation in Paramecium
- Georgiou, Peter Spyridon 17 Bronx H.S. of Science 4996 Broadway 10034 Effects of Non-Prescription Drugs on Respiratory Pathogens
- Greenwald, Corey Stuart 17 Bronx H.S. of Science 3850 Hudson Manor Terr., Bronx 10463 Effects of Benomyl on Nitrogenase Activity in Rhizobium japonicum
- Kehr, Andrew David 17 Bronx H.S. of Science 3131 Grand Concourse, Bronx 10468 Quantification of Chemosensory Responses Exhibited by Tetrahymena thermophila for the Aromatic Amino Acids and Related Indolamines and Catecholamines
- Klein, David Bruce 17 Bronx H.S. of Science 679 W. 239 St., Bronx 10463 Coloring All of the Points in a Plane So That No Two Points at Unit Distance Receive the Same Color
- Krele, Mark Alton 17 Bronx H.S. of Science 147-19 Hawthorne Ave., Flushing 11355 Effect of Eye Color on the Fruit Fly's Response to Varying Wavelengths of Light
- Krumper, Michael Allan 15 Bronx H.S. of Science 2560 Olmville Ave. 10467 Photic Response of Ochromonas danica With Respect to the Potassium Ion
- Kwong, Yu-Wang 18 Bronx H.S. of Science 2465 Palisade Ave., Bronx 10463 Some Properties of a New Number-Theoretic Function
- Linzer, Juliette Aviva 17 Bronx H.S. of Science 2550 Independence Ave., Bronx 10463 Comparative Mutagenicity of Potassium Sorbate and Sodium Nitrite in Drosophila melanogaster
- Lo, Patrick C.H. 17 Bronx H.S. of Science 97-25 64 Ave., Rego Park 11374 Biological Effects of Cytochalasin B on Normal and Bromodeoxyuridine Suppressed Melanogenesis in B16 Murine Melanoma Cells
- McKenney, Kelly 17 Bronx H.S. of Science 355 W. 85 St. 10024 Determining a Range for Normal Levels of Fibronectin in Human Plasma
- Nicholson, Brigid Tucker 17 Bronx H.S. of Science 656 W. 170 St. 10032 Hemoglobin A1 in Aging Red Blood Cells in Diabetes Mellitus
- Oei, Paul Djien 17 Bronx H.S. of Science 558 E. 191 St., Bronx 10458 Magnetic Interactions Between Localized Spins in Coal
- Sperber, Sebastian Ronald 16 Bronx H.S. of Science 30 17 34 St., Astoria 11103 Effect of Environmental Changes on the Spiracular Movement of the Madagascan Hissing Roach, Gromphadorhina portentosa
- Tantoco, Minerva M. 17 Bronx H.S. of Science 41-22 Parsons Blvd. 11355 Effect of Nitrogen Forms and Concentration on Maize Germination and Seedling Development
- Thompson, Lisa Ann 17 Bronx H.S. of Science 3200 Netherland Ave. 10463 Proposed Design for Flexible Arrays of Cortical Electrodes for Use in Man
- Weinzwieg, Jeffrey 17 Bronx H.S. of Science 120-9 Darrow Pl., Bronx 10475 Effects of Several Reverse Transcriptase Inhibitors on the Growth of Tobacco Mosaic Virus
- Wong, Chi-Lung 17 Bronx H.S. of Science 31-21 88 St., East Elmhurst 11369 Determination of the Optimal Time of Gibberellic Acid-Cycocel Application Which Induces the Greatest Carrot Yield in a Given Period
- Wong, Rodney Loo 17 Bronx H.S. of Science 5800 Arlington Ave., 10471 $Q(N)$: The Inverse Function of $\phi(N)$
- Yu, Daniel 17 Bronx H.S. of Science 8211 Spencer Terr., Bronx 10471 Effect of Interferon on the Oxygen-Dependent Microbicidal Activity of the Macrophage
- Sanger, Terence David 17 The Dalton School 1080 5th Ave. 10028 Programming System S
- Reichel, Amy Sue 17 Hunter College H.S. 160 E. 88 St. 10028 Isolation and Characterization of Plasmid Mediated Chloramphenicol Super Resistant Mutants in Saccharomyces cerevisiae
- Mann, Michael Jonathan 16 Ramaz School 5606 Riverdale Ave., Bronx 10471 Sodium Translocating Functions in Bacillus alcalophilus
- Scheinfeld, Noah Simoon 17 Ramaz School 141 E. 88 St. 10028 Studies of the ATPase of Bacillus alcalophilus
- Zeldin, Robert Kenneth 17 Ramaz School 53-27 Concord St., Little Neck 11362 Structural and Comparative Analysis of the Human, Rat and Hamster Basal Body Rootlets in Ciliated Cells of the Tracheal Epithelium
- Blum, Leslie Frances 17 Stuyvesant H.S. 330 E. 33 St. 10016 Effect of Nerve Growth Factor on the Morphology of Pheochromocytoma Cells
- Colodner, Debra Claire 17 Stuyvesant H.S. 139-15 83 Ave., Jamaica 11435 Comparison of Concentrations of Elements Leached From Fly Ash by Water and Acids
- Glasser, Nathaniel Elliott 17 Stuyvesant H.S. 212-07 43 Ave., Bayside 11361 Fermat Numbers
- Karlin, Oliver 17 Stuyvesant H.S. 15 Claremont Ave. 10027 Acetylcholine Receptor in Earthworm
- Kim, Kee Duk 18 Stuyvesant H.S. 33-45 160 St., Flushing 11358 Relationship Between the Concentration of Dissolved Oxygen and Aerobic Bacterial Growth
- Kwint, Phillip S. 16 Stuyvesant H.S. 572 Grand St. 10002 Role of Formative Cells in the Regeneration of Dugesia dorotocephala
- Kwok, Susan Louise 17 Stuyvesant H.S. 353 58 St., Brooklyn 11220 Absorption, Distribution, and Elimination of Salicylate in Humans: A Mathematical Problem

- Lyness, David Jay 17 Stuyvesant H.S. 148 10 Franklin Ave.,
Flushing 11435 Effects of Indoleacetic Acid on the Growth of Gall Tumors
- Oliver, Wendy Ann Michelle 16 Stuyvesant H.S. 828 E. 21 St.,
Brooklyn 11210 Isolation of Drug Resistant Cell Lines for Use
in Culture System Experiments
- Patterson, Gary C. 16 Stuyvesant H.S. 353 Gifford Pl., Flushing
11435 The Effect of the Polarity of Repolar Polymers on Repolar
Polymers
- Piletsky, Andre Robert 15 Stuyvesant H.S. 2158 E. 34 St. Brooklyn
11229 Early Cancer Detection in Helicobacter pylori Positive Gastric
Discharge Photography
- Wang, Susan Annemarie 18 Stuyvesant H.S. 30 38 71 St., Jackson
Heights 11370 Origin of Regenerated Plants From Specific Cell
Layers of Tobacco Leaf Explants
- Wein, Joel Martin 17 Stuyvesant H.S. 40 E. 9 St. 10003 Examination
and Generalization of Planck's Conjecture
- Oceanside
Okin, Harvey 17 Oceanside H.S. 2609 Cornwell Pl. 11572
Programming a Robot
- Ridgewood
Lorchberg, Lisa Anne 17 Grover Cleveland H.S. 19 Apollo St.
Brooklyn 11219 Effects of Monoclonal Antibodies on the
Physiology of Parasites
- Heller, Susan Patricia 17 Grover Cleveland H.S. 58 48 60 E.,
Maspeth 11378 Environmental Agents Affecting *Escherichia coli*
Growth in the Soil Surface Cycle
- LoVico, Christine Marie 18 Grover Cleveland H.S. 54 47 71 St., Maspeth
11378 In vivo drug resistance to Malathion 50 Insecticide
in *Drosophila melanogaster*
- Mayer, Kathleen Ann 17 Grover Cleveland H.S. 66 27 70 St., Middle
Village 11439 Environmental Temperature Variations as a Selective
Agent for *Drosophila melanogaster*
- Young, Lori Ann 17 Grover Cleveland H.S. 1720 Himrod St. 11385
Effects of Streptomycin on the Mutation Rate of Irradiated
Serratia marcescens
- Roslyn Heights
Sabot, Gary Wayne 17 Roslyn H.S. 38 Woodland Rd., Roslyn 11576
Development and Testing of Focus Indices
- Shoreham
Cassoy, Lisa Marie 17 Shoreham Wading River H.S. 14 Cordwood Path
11786 Effects of Locality on Hematopoietic Stem Cells in
Adult Mice
- Smithtown
Langston, Nancy Anne 17 Smithtown H.S. West 14 Albion St. 11787
Physiology and Genetics of the Lac Operon in *Escherichia coli*
- Staten Island
Huehning, Frederick John 17 New Dorp H.S. 159 Ross Ave. 10396
Word Processor/Text Editor for Any Small Computer
- Wappingers Falls
Patterson, Thomas Green 17 Roy C. Ketchum H.S. 1 Walnut Dr. 12590
Effects of pH and pH on Bacteriophage Lambda Integrative
Recombination

NORTH CAROLINA

- Arden
Best, William Victor 17 Arden School, Christ Church, 101 Church Rd.
28404 The Effect of Microscopic Radiation on Biochemical
Reactions

NORTH DAKOTA

- Jamestown
Kisch, Joseph Jay 17 Jamestown Sr. H.S. 333 16 Ave., N.E. 58401
Hormonal Regulation in vitro on *Asparagus densifloris* and *Nicotiana
glauca*

OHIO

- Fairfield
Billett, William James 18 Fairfield Sr. H.S. 601 Congress Hill Ln. 45014
Role of Anticardiac Pigments in the Prevention of Myocardial Infarction
- Ironton
Kennedy, Richard Dean 17 Ironton H.S. 2308 S. Eleventh St. 45638
Effects of Concentration Force Upon the Evolution of Organic
Asymmetric Compounds
- Parma Heights
Del Rio, Samuel 17 Valley Forge H.S. 6717 Kingsdale Blvd. 44130
Effects of Ultraviolet Light on the Bacteria *Serratia marcescens* D1
- Meszaros, Sharon 17 Valley Forge H.S. 11081 Magdala Dr., Parma 44130
Characterization of Three Strains of *Serratia marcescens*
- Perryburg
Allender, Alfred William 17 Perryburg H.S. 920 Rexley Dr. 43551
Isolation of Lipoxycarboxylic Acids by Isotopic Labeling
- Springfield
Lubbers, Stephen Anthony 18 Shagene H.S. 500 Possum Rd. West 45506
Baby Elephant Cacaothe Interface
- Toledo
Ayers, James Edgar 17 John's H.S. 10702 Roma Rd., Whitehouse
45741 Determination of Concentration of a Series Parallel Hybrid
Circuit

- West Alexandria
Waller, Paula June 18 Twin Valley South H.S. 71 W. Second St. 45381
Photoperiodism, Phytochrome, and Red Light

OKLAHOMA

- Moore
Chry, Kevin Sean 17 Moore H.S. 701 N. Dallas 73160 Relationship
Between Primary Production, Light Intensity, and Light
Acclimation in Lake Texoma, Oklahoma
- Oklahoma City
Russell III, Donald Patrick 17 Northwest Classen H.S. 2214 N.W. 11th
73107 Binding of Plasma Lipoproteins Using Dye-Ligand Affinity
Chromatography
- Ozling, Lynne Valerie 18 Putnam City West Sr. H.S. 2820 Windsor Terr.
73127 Aggregation of Coronary Heart Disease Risk Factors by
Social Class
- Foss, Susan Kay 17 Western Heights H.S. 3300 S. Eagle Ln. 73179
NMR of Platelet Dense Granules
- Ponca City
Becraft, Warren Russell 17 Ponca City Sr. H.S. 2013 Wildwood Ave.
74601 Thermal Expansion Motor: Using Solar Energy a New Way

OREGON

- Portland
Bangsberg, David Roy 17 Lincoln H.S. 7125 S.W. Canyon Dr. 97225
Level of and Attitudes Associated With Minority Participation in
Extra-Curricular Activities in the Portland Public School District

PENNSYLVANIA

- Ardmore
Kauffman, Michael Glen 17 Lower Merion H.S. 227 Brydon Rd., Wynne-
wood 19151 Abnormal Enzyme Activities in Malignant Mouse
Tissues in vitro
- Bryn Mawr
Rowan, Amy Beth 17 The Shipley School 1825 Lorraine Rd., Reading
19604 An Investigation of A, B, and O(H) Lectins in Common
Garden Seeds
- Dallastown
Williams, Lance Richard 17 Dallastown Area H.S. 391 Allegheny Dr.,
York 17402 Computer Simulation of a Neural Tissue
- Fort Washington
Matt, Frederick James 17 Upper Dublin H.S. 1566 Campus Dr., Maple
Glen 19002 Effects of Several Gases on Ozone and Possible
Stratospheric Significance
- Lancaster
Seidman, Glen David 17 Manheim Twp. H.S. 1606 Lambeth Rd. 17601
Quantitation of Epsilon-Aminocaproic Acid in Human Serum
- Merion
Lewchuk, William Kurt 18 The Episcopal Academy 2518 Kingswood Ln.,
Broomall 19008 Computer Controlled Multi-Tract Recording and
Instrumentation
- Pittsburgh
Hoffmeister, Jeffrey Worth 17 North Hills H.S. 110 Brandon Ct. 15237
Experimental Determination of Planck's Constant
- Rosemont
Ming, Jeffrey Eugene 17 Harrison H.S. 655 Heatherwood Rd. 19010
In vitro Induction of Asexual Embryogenesis in Pear

SOUTH CAROLINA

- Hatesburg
Jones, Neil Calvin 17 Hatesburg Leesville H.S. Rt. 3, Box 84 29006
Three Types of Luminescence

SOUTH DAKOTA

- McIntosh
Maher, Steven Carl 17 McIntosh H.S. R.R. 2, Morrilltown 57645
Development of an Inexpensive System for the Transmission of
Digital Data Over Optical Fiber

TENNESSEE

- Oak Ridge
Lin, Richard John 17 Oak Ridge H.S. 107 Newell Ln. 37830
Hydration and Its Effects on Coenzyme B₁₂ Cleavage
- Waverly
Hinson, Roger Mack 17 Waverly Central H.S. Rt. 4, Box 680 37185
Utilization of Echocardiography to Determine Left Ventricular
Response to Exercise
- Kiss, Stephen Joseph 17 Waverly Central H.S. Rt. 1, Box 71A, New
Johnsonville 37134 Isolation of a Trimethoprim Resistant
Mutant of *Escherichia coli*
- Ross, Brenda Jane 17 Waverly Central H.S. Rt. 2, Box 217 T 37185
Effects of Continuous Running on Weight Reduction and Control

TEXAS

- Austin
Prough, Michelle Kathleen 17 L.C. Anderson H.S. 8405 Hub Cove 78759
Fluorescence Measurements on *Escherichia coli* Ribosomes

Clute Wang, Michael Michele 17 Pezowood H.S. 109 Rose Trail, Lake Jackson 77566 Gene Regeneration Patterns in the Medial Giant Axons of Procambarus clarkii

Dallas Smith, Jeffrey Roder 18 Skyline H.S. 5319 W. University Blvd. 75209 Isolation of Nucleoli From the Slime Mould Physarum polycephalum

El Paso George, Edward 17 Coronado H.S. 780 De Leon 79912 Preparation of Colicin E3 and Its Effect on 30S Ribosomal Subunits of Escherichia coli K12, Strain A19

Houston Malcof, Brenda Georgette 17 Loretto Academy 3816 Deyore Ct. 77904 Observations on the Behavior of Atta texana Queens in Groups

Houston Rieble, Garrett Trent 17 Westchester Sr. H.S. 13006 Hermitage Ln. 77079 Radial Heat Conduction

Spring Read, Russell 17 Westchester Sr. H.S. 12818 Hansel Ln. 77024 Silicon Wafer Photovoltaic Fabrication

Hall, Janice Marie 17 Spring H.S. 1011 Rhine Ln., Houston 77090 Mutagenesis: A Screen for Carcinogenesis

FLA

Ogden Radle, John Evan 17 Pompano H.S. 4762 S. 100 E. 84403 Utilizing Densitometry to Determine Lead Concentrations From Automobile Exhaust Emissions

VIRGINIA

Alexandria Nguyen, Chinh Kien 18 T.C. Williams H.S. 375 S. Reynolds St. #304 22304 Mechanism of the Oxidation of 2 octanol by Bromine in the Presence of Different Silver Salts

Burke Wright, Peggy Rosen 17 Lake Braddock Secondary School 10713 Shadelight Trail, Fairfax Station 22039 The Geometry of Soap Bubble Configurations

Midlothian Penberthy, John Scott 15 Midlothian H.S. 2021 Leovey Ln. 23113 An Interimmed Computer Project Utilizing Simultaneous File Access "Starship"

Nokesville Jones, David Wayne 18 Brentsville District H.S. 14502 Vint Hill Rd. 22123 Pressure's Effect on Solubility of Salts in Water

Springfield Reidy, Michael Frank 17 West Springfield H.S. 6421 Brentford Dr. 22152 Characterization of the Plasma Membrane ATPase of Rhizopus Saccharomyces cerevisiae

Virginia Beach Milbocker, Christine Marie 17 Kempsville H.S. 5397 Challedon Dr. 23462 Kinetic Retards Chlorophyll Degradation in Chinese Broccoli

WASHINGTON

Des Moines Axtell, James Carter 18 Mt. Rainier H.S. 2106 S. 230th St., Seattle 98188 Possibility of a New Synthetic Fuel

Mighell, Robert Scott 18 Mt. Rainier H.S. 25931 13th Pl. S., Kent 98031 Pulmonate Gastropods and Their Reaction to Osmotic Solutions

Kennewick McFadden, Jerome Joseph 17 Kennewick H.S. 411 S. Morain St. 99336 A New Species of Tetrapteris From the Tertiary Period in Oregon

Lacey Henderson, Bryan Douglas 17 Timberline H.S. 7515 Shorewood Ct., SE, Olympia 98503 ENTERPRISE: A Computer System for Teaching Computer Science

Mercer Island Elinchem, Edward Paul 17 Mercer Island H.S. 9232 S.E. 46th St. 98040 A Two Dimensional Numerical Simulation of Inertial Waves Produced by an Obstacle Submerged in a Deep, Rotating Fluid

Pullman Smith, John Eric 17 Pullman H.S. W. 405 Main 99163 Computer Tracking of a Radio Controlled Car

Renton Woolf, Michael Lee 18 Oliver M. Hazen H.S. 11815 S.E. 64th St. 98055 A Multipurpose Central Processing Unit

WEST VIRGINIA

Keyser Field, Forrest Lincoln 17 Keyser H.S. Rt 1, Box 119 26726 Trees, Deer and Antler Rubbing

Lewisburg Pritt, Mark Davenport 17 Greenbrier East H.S. 228 Seneca Trail, Ronceverte 24970 Computer Simulation of Complex Logarithmic Conformal Mapping of Visual Patterns

Parkersburg Smith, W. Garth 18 Parkersburg South H.S. 1906 Gladstone St. 26101 A Three Dimensional Technique to Aid in Evaluation of Aerodynamic Stress on Structural Design Utilizing the Systems Engineering Approach

Wheeling Miller, Debra Lynn 17 Wheeling Park H.S. 257 Springdale Ave. 26003 Determining for Properties of Various Rocks Suitable for Use as Building Materials

WISCONSIN

Brookfield Krause, Derrick Donald 17 Brookfield Central H.S. 16235 Onondaga Cir. 53005 Fire Retardancy in Chloride Hydrates

Madison Ellegel, Jonathan Eric 18 James Madison Memorial H.S. 6605 Gettysburg Dr. 53705 Development of Starch Granules in Wheat

Fort, Edward Clarke 17 James Madison Memorial H.S. 330 N. Yellowstone Dr. 53705 Maximum Heat Flux Values in Normal Liquid Helium for a Sphere Made of Oxygen-Free High Conductivity Copper

Menomonee Falls Baranski, Thomas John 17 Menomonee Falls East H.S. N61 W15921 Edgemont Dr. 53051 Effects of Polychlorinated Biphenyls in Lemna minor as Exhibited by Radiophosphate Uptake Studies

VIRGINIA

Midlothian Penberthy, John Scott 15 Midlothian H.S. 2021 Leovey Ln. 23113
Springfield Reidy, Michael Frank 18 West Springfield H.S. 6421 Brentford Dr. 22152

WASHINGTON

Lacey Henderson, Bryan Douglas 17 Timberline H.S. 7515 Shorewood Ct. S.E.,
Olympia 98503

WEST VIRGINIA

Keyser Piehl, Forrest Lincoln 17 Keyser H.S. Rt. 1, Box 119 26726

WISCONSIN

Madison Fliegel, Jonathan Eric 18 James Madison Memorial H.S. 6605 Gettysburg Dr.
53705



SCIENCE SERVICE, INC. - 1719 N Street, N.W. - Washington, D.C. 20036

Washington Trip Winners

of the

Fortieth Annual Science Talent Search®

for the Westinghouse Science Scholarships and Awards

The forty Washington trip winners of the 40th Annual Science Talent Search, among whom \$89,500 of Westinghouse Science Scholarships and Awards will be distributed, represent about 4% of those who completed entries in 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 and Awards by Science Service, 1719 N Street, N.W., Washington D.C. 20036.

Six girls and 34 boys are being invited to Washington, D.C. for an all-expense paid trip February 26-March 2, 1981, to attend the Science Talent Institute. Here 10 winners will be selected by the board of judges to receive one of the following four-year Westinghouse Science Scholarships: One \$12,000 (\$3,000 per year) two \$10,000 (\$2,500 per year), three \$7,500 (\$1,875 per year), four \$5,000 (\$1,250 per year). The remaining 30 contestants will be given Westinghouse Science Awards of \$500 each.

The trip winners are 15 to 18 years of age and come from 31 cities in 14 states. They were picked by the judges from among 13,122 contestants of whom 993 completed their entries by writing a report on their science project, submitting personal data and teacher recommendations. Completed entries were received from 49 states, the District of Columbia, Puerto Rico and Overseas American Schools.

Washington Trip Winners

HOME ADDRESS follows name of school

AGE of winner follows name

ALABAMA

Moulton Chitwood, William Shelton 17 Lawrence County H.S. P.O. Box 37 35650

CALIFORNIA

Alhambra Lim, Stephen Wong 18 Alhambra H.S. 527 Grandeza St., Monterey Park 91754
 Lafayette Chu, Joan Inyul 17 Acalanes H.S. 3282 Ameno Dr. 94549
 Mill Valley Briggs, Daniel Shenon 17 Tamalpais Union H.S. 357A Molino Ave. 94941
 San Marino Ko, William 18 San Marino H.S. 2695 Wallingford Rd. 91108

CONNECTICUT

Newington Dowling, Michael Morgan 17 Newington H.S. 129 Fisk Dr. 06111

FLORIDA

Miami Garcia, Eduardo Antonio 18 Christopher Columbus H.S. 911 Ferdinand St., Coral Gables 33134
 Vero Beach Tan, Song 17 Southwest Miami H.S. 5506 SW 133 Pl. 33175
 Simons, Douglas Anthony 18 Vero Beach H.S. 1105 25th Ave. 32960

ILLINOIS

Chicago Hayden, Randall Todd 17 Whitney M. Young H.S. 1626 W. Greenleaf 60626
 Evanston Soll, Wendy Eileen 17 Evanston Twp. H.S. 900 Washington 60202

MARYLAND

Oxon Hill Lee, Jin-Moo 17 Friendly Sr. H.S. 3301 Stonesboro Rd. 20022

Omaha

Geppert, John Marion 18 Creighton Preparatory School 3282 S. 77th Ave. 68124

NEW JERSEY

Parsippany Sohn, Regina Lee 17 Parsippany Hills H.S. Box 33, Mountain Lakes 07046
 Waldwick Leventhal, Ezekiel Michael 17 Waldwick H.S. 90 Lincoln Pl. 07463

NEW YORK

Baldwin Gross, Mara Mae 18 Baldwin Sr. H.S. 3154 Grand Ave. 11510
 Bayside Binderow, Bruce David 17 Benjamin N. Cardozo H.S. 240-25 68 Ave., Douglaston 11362
 Candan, Michael Richard 17 Benjamin N. Cardozo H.S. 56-38 Bell Blvd. 11364
 Bronx Ngo, Tan Dinh 16 John F. Kennedy H.S. 27 W. 184 St. 10468
 Turkel, Marc Adam 17 Riverdale Country School 4483 Manhattan College Pkwy. 10471
 Buffalo Mancuso, Charles Curtiss 17 Nichols School 144 Chapin Pkwy. 14209
 Forest Hills Movsesian, Mark Lewis 16 Forest Hills H.S. 69-09 108 St. 11375
 Hewlett Kaplowitz, Lori Ellen 17 George W. Hewlett H.S. 39 Brower Ave., Woodmere 11598
 Jamaica Lisan, Michael Philip 17 Hillcrest H.S. 8200 Shore Front Pkwy., Rockaway Beach 11693
 Miller, Martin Bruce 16 Jamaica H.S. 73-11 184 St., Flushing 11366
 New York Chang, William I-Wei 17 Bronx H.S. of Science 48-44 189 St., Fresh Meadows 11365
 Finkelstein, Seth Steven 16 Bronx H.S. of Science 140-24 Darrow Pl., Bronx 10475
 Yu, Daniel 17 Bronx H.S. of Science 6211 Spencer Terr., Bronx 10471
 Sanger, Terence David 17 The Dalton School 1080 5th Ave. 10028
 Reichel, Amy Sue 17 Hunter College H.S. 160 E. 88 St. 10028
 Wein, Joel Martin 17 Stuyvesant H.S. 40 E. 9 St. 10003
 Wappingers Falls Patterson, Thomas Orren 17 Roy C. Ketcham H.S. 3 Walnut Dr. 12590

TEXAS

Dallas Smith, Jeffrey Roser 18 Skyline H.S. 5319 W. University Blvd. 75209
 El Paso George, Edward 17 Coronado H.S. 780 De Leon 79912
 Houston Biehle, Garrett Trent 17 Westchester Sr. H.S. 13006 Hermitage Ln. 77079