

WASHINGTON

Des Moines Stineman, Debra Jane 17 Mt. Rainer H.S. 215 S.W. 192nd St., Seattle
98166 Preferences of the Pulmonate Gastropod, Arion ater, for
Six Common Plants

Federal Way Bechtold, Ronald Kirk 17 Federal Way H.S. 29024 23rd Ave. S. 98003
Effects of Polyelectrolytes and Their Characteristics on the Conditioning
of an Inorganic Sludge

Richland Schenter, Gregory Keith 17 Hanford H.S. 2240 Davison 99352
Hydrogen Production From Nuclear Wastes

Tacoma Groth, Roy Leonard 15 Bellarmine Preparatory School 27012 Meridian E.
Graham 98338 First Buckling Load of a Simply Supported Column
Braced in a Non-Principal Direction

WEST VIRGINIA

St. Albans Little, Julia Elizabeth 17 St. Albans H.S. 1112 Highland Dr. 25177
Characterization of Plasma Membrane Proteins of Boar Spermatozoa
Before and After Capacitation

Shenandoah Wydoski, Richard Glenn 17 Jefferson H.S. P.O. Box 1026, Shepherdstown
Junction 25443 Potential of the Mountain Sucker as a Forage Fish in Western
Reservoirs

WISCONSIN

Brookfield Lingelbach, David Charles 17 Brookfield Central H.S. 13523 W. Prospect
Pl., New Berlin 53151 Observations of Polarized Solar Radio Waves
at 26 MHz

Madison Hudelson, Brian Dean 17 James Madison Memorial H.S. 1718 Rae Ln.
53711 Phenology of the Scilla sibirica

Port Washington Rondeau, JoAnn Kathleen 18 Port Washington H.S. 407 W. Norport Dr.
53074 Effects of Heavy Industry on the Water Quality of the St.
Louis River

Racine Vos, Julie Elizabeth 17 The Prairie School 1455 Hickory Way 53405
Physical Well-Being as Related to Elevated Ozone Levels

SINGAPORE

Singapore Bellingham, James Gladen 17 Singapore American School American
Embassy, Singapore, FPO San Francisco, CA 96699 Semi-Periodic
Variations in the Nebular Variables

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THE 38th ANNUAL *Science Talent Search*® for the Westinghouse Science Scholarships and Awards 1979 HONORS GROUP



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

FOR RELEASE: WEDNESDAY, JANUARY 24, 1979

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 thirty-eight 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.

1979 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 80 girls and 220 boys.

From the 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 February 3, 1979, and it will be sent upon request accompanied by a self-addressed stamped envelope.

(Age follows name, home addresses underlined)

ALABAMA

- Childersburg Bassett, Timothy Frank 17 Childersburg H.S. P.O. Box 164 35044
Immunochimistry of Complement and It's Role in Mediating
the Cytolysis of Group A Antistreptococcal Infections
- Homewood Pontius, Duane Henry 17 Shades Valley H.S. 5342 Dixieland, Birmingham 35210
One-Mirror Schlieren Optic System that Eliminates Coma

ARKANSAS

- Fort Smith Thiele, Elizabeth Anne 17 Southside H.S. 2700 S. Houston 72901
Purification and Characterization of Bovine Placental Lactogen
- Hot Springs Trott, Wesley Frederic 17 Hot Springs H.S. 1018 Lakeshore Dr. 71901
Effects of Radiation and Temperature Surrounding the Hot Springs in Hot Springs National Park, Arkansas
- Texarkana Nix, Kelsey Irwin 18 Arkansas Sr. H.S. 3208 Laurel 75502
Thermal Separating Effect of a Forced Vortex as Exhibited by the Vortex Tube

CALIFORNIA

- Alhambra Lew, Leslie Jane 17 Alhambra H.S. 1156 Crest Vista Dr., Monterey Park 91754
Fecundity and Seasonal Population Dynamics of Selected Algal Inhabiting Isopods in the Northern Gulf of California
- Siu, Tina Marie 17 Alhambra H.S. 423 N. Almanson 91801
Search for Translocation of Bacterial Genes From Escherichia coli to the F-Plasmid
- Ujita, Eryn Lyn 17 Alhambra H.S. 1555 Feliz St., Monterey Park 91754
Comparison of the Biuret Method and Fluorimetry in the Analysis of Proteins
- Corning Elliott, Douglas Edwin 17 Corning Union H.S. P.O. Box 474 96021
Use of Grasshopper's Rejected Foods as Effective Repellants to Control Destructive Grasshoppers
- Goleta Callaway, Joseph Charles 17 Dos Pueblos H.S. 6250 Aberdeen Ave. 93017
Chemical Experiments on Plant Parasitic Nematodes
- Lakewood Mockli, Gary Craig 17 Mayfair H.S. 5718 Sunfield Ave. 90712
Colorimetric Analyses of the Mineralization of Drinking Water of Lakewood, California and Vicinity
- Loomis Burson, Craig Edward 17 Del Oro H.S. 6905 Poca Montoya 95650
Antigenic Relationships Among Selected Strains of the Tobacco Mosaic Virus Group
- Mountain View Linlor, Peter Michael 17 St. Francis H.S. 1010 Madison Dr. 94040
Fire Ant Eradication
- North Hollywood Unz, Ron Keeva 17 North Hollywood H.S. 6937 Ben Ave. 91605
Possible Effects of Gravitational Fields on Electro-Magnetic Interactions

- Richmond Meltsner, Kenneth Joseph 17 John F. Kennedy H.S. 8653 Don Carol Dr. El Cerrito 94530
Computerized Simulation of the Hippocampal Theory of Mouse Behavior
- Ridgecrest Pogge, Richard William 17 Sherman E. Burroughs H.S. 216 Apache Ln. 93555
Photometric Analysis of Sunspot Phenomenon in the .8 - 1.1um Infrared Region
- Rolling Hills Estates Freeman, Andrew Glen 17 Rolling Hills H.S. 27536 Halescorner Rd., Rancho Palos Verdes 90274
Estriol Time Trend Analysis
- San Francisco Yee, Kenton Kung-Chiu 17 St. Ignatius H.S. 19 Wetmore St. 94108
Results and Analysis of the Skipping Stone Phenomenon With Stroboscopic Photography
- San Mateo Richy, Brian Stephen 18 Serra H.S. 1609 Vine St., Belmont 94002
Effect of Sunspot Activity on Ham Radio Communications
- San Rafael Smith, Bruce Kendall 17 Terra Linda H.S. 57 Glenside Way 94903
Computer System for Evaluating the Performance of Blind Subjects Using a Mobility Aid
- Santa Barbara Scalapino, Kenneth John 17 San Marcos H.S. 4637 Via Carretas 93110
Use of an Ion Windtunnel to Study Drag on a Space Ship
- Torrance Nichols, Mark David 17 South H.S. 25618 Crenshaw Blvd. 90505
Study of Slope Failures in the Palos Verdes Hills
- Van Nuys Hestrin, Mark Allan 16 Birmingham H.S. 15801 Archwood St. 91406
Interchanging Prothrombin (Factor II) Between Human Blood Test Plasma

COLORADO

- Castle Rock Edgar, Ernest Lewis 17 Douglas County H.S. 6614 S. Pike Dr., Larkspur 80118
The Piezoelectric Effect
- Fort Collins Sandborn, Patricia Marie 17 Fort Collins H.S. 917 Cheyenne 80525
Mechanics of Insect Flight

CONNECTICUT

- Berlin Baclaski, Paul Edward 17 Berlin H.S. 65 Norton Rd., Kensington 06037
Large Scale Curvature and the Inverse Square Law
- Fairfield Carré, David Adam 17 Fairfield College Preparatory School
45 Old Newtown Rd., Monroe 06468
A Common Denominator
- Norwalk Flores, Glenn 17 Brien McMahon H.S. 23 Huckleberry Dr. 06850
Reproductive Ecology of the Northern Spring Peeper in Southern Connecticut
- Wolcott Davidson, Jonathan Knight 17 Wolcott H.S. 62 Forest Ln. 06716
Measuring Jupiter's Mass

DISTRICT OF COLUMBIA

- Washington Camby, Richard Mark 18 Gonzaga College H.S. 4405 Burlington Pl., N.W. 20016
Is Our Washington Area Water Safe?
- Dimmick, Timothy Eugene 17 St. John's College H.S. 5501 Fisher Dr., Temple Hills, MD 20031
Elevator Controller Systems

FLORIDA

- Boca Raton Hait, Mitchell Jay 17 Boca Raton Comm. H.S. 250 N.E. 20 St., #304 33431
Temporal Frequency Spectra for LASCERS
- Bushnell Eubanks, Brian Foster 18 South Sumter H.S. P.O. Box 625 33513
Can Soybeans Solve the World Food Shortage?
- Daytona Cody, Linda Carol 17 Mainland Sr. H.S. 1268 Vanderbilt Dr., Ormond Beach 32074
Amounts of Serum Magnesium Present in Patients With a Malignancy
- Daytona Beach Smith, Robin Jayne 17 Seabreeze Sr. H.S. 39 Wisteria Dr., Ormond Beach 32074
Attractiveness of the Pheromone (E,Z)-3, 13-Octadecadien-1-OL Acetate Impregnated in Different Dispensers to Male Synanthedon pictipes
- Fort Lauderdale Ceravolo, Silvia Laura 17 Nova H.S. 5306 Garfield St., Hollywood 33021
Factors Affecting the Growth Rate of Anacystis nidulans

- Echols, Patrick Francis 17 Nova H.S. 6521 S.W. 7th St., Pembroke Pines 33023 Environmental Levels Classification of the Everglades Using LANDSAT Digitized Multispectral Data Analysis
- Fort Myers Meyer, Beth Ann 18 Cypress Lake H.S. 4814 S.W. 1st Ct., Cape Coral 33904 Evaluating the Environmental Sensitivity of Silicious Materials
- Fort Pierce Fradd, René Brandon 16 Fort Pierce Central H.S. 2403 Royal Palm Dr. 33450 Dissociation Properties of Carbon Polymers
- Hialeah Olazabal, Bertha Margarita 18 Hialeah Miami Lakes Sr. H.S. 5790 W. 13 Ave. 33012 Localization of Factor VIII Antigen on Cow Pulmonary Artery Endothelial Cells
- Jacksonville Buzza, Mark Andrew 17 Terry Parker Sr. H.S. 6716 Diane Rd. 32211 Infection Mechanisms of fd Bacteriophage: Beta Protein Identification
- Yoel, Douglas Robert 17 Terry Parker Sr. H.S. 8515 Bengulin Ave. 32211 Radiation Beam Dosimetry Using Thermoluminescent Lithium Fluoride
- Melbourne Stein, David Hyman 17 Melbourne H.S. 1779 Shoreview Dr., Indialantic 32903 Isolation, Bioassay, and Chemical Analysis of the Sex Attractant of *Periplaneta americana*
- Triggs, William Joseph 17 Melbourne H.S. 190 Sandpine Rd., Indialantic 32903 Effects of Marijuana Smoking on White Blood Cell Morphology and Serum Testosterone Levels in Adolescent Males
- Merritt Island Kilberg, Steven Marc 16 Merritt Island H.S. 1720 Davis Dr. 32952 Neuron Regeneration
- Miami Lehr, John Tager 18 Ransom-Everglades H.S. 5215 Pinetree Dr., Miami Beach 33140 Effect of the Carboxylic Ionophore X-537A on Potassium Contracture of Feline Ventricle
- North Miami Beach Hoffman, Richard Scott 17 North Miami Beach Sr. H.S. 1990 N.E. 198 Terr. 33179 Comparative Analysis of Pyruvate Lyases
- Okeechobee Cutts, Keith Lane 17 Okeechobee H.S. 403 S.W. 2nd St. 33472 Effects of Metabolites and Polyols on Phycomyces Mutants
- Palm Beach Gardens Lim, Hyung-O (Grace) 18 Palm Beach Gardens H.S. 3915 Kenas St. Lake Park 33410 An Inhibition of Pepsin by Zymogen Activation Porcine Pepsinogen
- Pompano Beach Perkins, Paul Bouthillier 18 Pompano Beach H.S. 436 N.E. 25th Ave. 33062 Correlative Titration of the Pseudoneurotic Phenomenon of Para-Synthetically Induced Plastid Rotation in Super-Phosphorylated Bean Plant Chloroplasts
- Satellite Beach Landau, Matthew Jason 17 Satellite H.S. 285 Marco Way S. 32937 Quantitative Method for Amino Acid Analysis of Bovine Mitochondrial Ribosomal Proteins

GEORGIA

- Atlanta Koppersmith, Shari 17 Lakeside H.S. 2119 Starfire Dr. 30345 Effect of Various Gases on the Luminescence of *Vibrio fischeri*
- Marietta Huff, Jeffrey Bruce 18 Walton H.S. 3801 Fox Hills Dr. 30067 Nitrifying Bacteria as Applied to the Artificial Initiation of the Nitrogen Cycle in a Marine Aquarium
- Warner Robins Dauby, Frank A. 17 Warner Robins H.S. 249 Meadowdale 31093 Recombination Tests Using the RII B41 and RII B1299 Mutants of the T4 Bacteriophage

HAWAII

- Honolulu Gum, Arnold Jason 17 Kaimuki H.S. 2725 Peter St. 96816 Effects of Prehiscence Harvesting on Orchid Seed Capsule Germination

ILLINOIS

- Arlington Heights Lacey, Eileen Anne 17 Arlington H.S. 548 S. Evergreen Ave. 60005 Conspecific and Heterospecific Calls as Releasers of Agonistic and Courtship Behavior in *Gryllus pennsylvanicus*
- Bloomington Seebauer, Edmund Gerard 17 Bloomington H.S. 2214 E. Olive 61701 Effects of Copper (II) and Hydroxide Ions on the Habit of Rochelle Salt Crystals
- Chicago Gierlowski, Theresa Catherine 18 Lourdes H.S. 5301 S. Kildare Ave. 60632 Modeling Velocity Amplification in Nearly Elastic Collisions
- Skirius, Christine Marie 18 Maria H.S. 5516 S. Francisco 60629 Microscopical Identification of Rock Minerals in Thin Sections and Mineral Grains
- Block, Spencer Jonathan 17 Von Steuben H.S. 5419 N. St. Louis Ave. 60625 Electrically Induced Osteogenesis
- Rogers, Jeffrey Edward 18 Whitney Young H.S. 4531 N. Whipple 60625 Vocal Interfaces for Digital Computers
- Evanston Ghosh, Gautam 17 Evanston Twp. H.S. 2108 Forestview Rd. 60201 Production, by *Streptomyces narbonensis* and by Chemical Modification, of Antibiotics Related to Narbomycin
- Keer, Harold Neal 16 Evanston Twp. H.S. 2801 Harrison St. 60201 Photo-Electrons and Thermal-Electrons Emitted From a Potassium Surface
- Simon, Daniel Ira 17 Evanston Twp. H.S. 411 Wesley Ave. 60202 Elastic Properties of Solids Containing Voids
- Oak Park Panton, Robert William 17 Oak Park-River Forest H.S. 1431 Jackson Ave., River Forest 60305 Sterility in *F₁* Males Produced by Outcrossing the Wild-Type Seto Strain of *Drosophila melanogaster*
- Olympia Fields Greenberg, Ronald Irwin 17 Rich Central H.S. 203 Berry St., Park Forest 60466 Investigations of Montmort's "Probleme de Reccontres" and Generalizations
- Peru Utz, Arthur Lloyd 17 St. Bede Academy 1417 Centennial Pkwy. 61354 Determination of Avogadro's Number Through the Use of Surface Films
- Skokie Horberg, Michael Alan 17 Niles West H.S. 3820 W. Estes Ave., Lincolnwood 60455 Determination of Maximum Root Growth of *Lycopersicum esculentum* and *Pisum sativum* as Induced by Thiamine Hydrochloride and Pyridoxine Hydrochloride
- Vandalia Hardas, Billy Roy 17 Vandalia Comm. H.S. 818 N. 6th 62471 Qualitative Discernment of the Lighter Lanthanides

INDIANA

- Fort Wayne Larkner, Laura Marie 17 Bishop Dwenger H.S. 8201 Quincy Ct. 46815 Analysis of Palynomorphs Collected From an Ordovician Stratigraphic Section
- Rondot, Gregory Alan 18 Bishop Luers H.S. 4110 Tacoma Ave. 46807 Design, Construction and Operation of a Van de Graff Accelerator and Its Use in Research Into the Effects of Low Level Radiation on Transistors
- Kendallville Rhodes, Lynda Suzanne 18 East Noble H.S. Country Club Hills 46755 A Study of PCBs: An Invisible Menace
- Michigan City Di Gioia, David Mauro 17 Marquette H.S. Box 188, Beverly Shores 46301 Laser Doppler Velocimetry
- Kuhn, Randall Lee 18 Marquette H.S. 2304 Oakenwald Dr. 46360 Effects of Automotive Exhaust Emissions on the Lifespan and Respiratory Rate of Human Lung Cells
- Monticello Voliva, Alan Lane 18 Twin Lakes H.S. R.R. 5, Freeman Rd. 47960 Factors Involved in the Anabolism and Catabolism of Collagen Protein and Its Relationship to Peptic Ulcer Formation

St. John Wilson, Michael David 18 Lake Central H.S. 9452 Northcote Ave.
46373 Synthesis of the Active Site of Nitrogenase

South Bend Herring, David James 18 John Adams H.S. 1139 Helman Dr. 46615
Photochemistry: Polymerization and Laser Radiation

Sanders, Jeffri Edgar 18 John Adams H.S. 1001 S. 25th St. 46615
Effects of High Concentrations of Chlorinated Hydrocarbon
Insecticides on Growth Processes of Garden Peas and Sweet Corn

Terre Haute Dvorak, David John 17 Terre Haute North Vigo H.S. 2224 N. 26th St.
47804 Development of a New Class of Reed Instruments

IOWA

Aplington Abbas, Gregory Lew 18 Aplington Comm. School Rt. 1 50604
Rate of Rotation of the Sun

Fayette Adams, Fred Chester 17 Fayette H.S. 300 Mechanic St. 52142
Development of an Aeolian Anemometer

KANSAS

Lawrence Wyttenbach, Robert Alan 17 Lawrence H.S. 1640 Cambridge Rd.
66044 Region of Growth Rate Control in the Colonial Hydroid
Campanularia

KENTUCKY

Paducah Thompson, Traci Ellen 17 Paducah Tilghman H.S. 2979 Jefferson 42001
Memory Transfer and Retention in Planaria

Park Hills Thelen, Jennifer Ann 17 Notre Dame Academy 125 Sunset Dr., Ft.
Mitchell 41017 Observations of the Leidenfrost Phenomenon

LOUISIANA

Alexandria Simon, Julie Dennerly 17 Alexandria Sr. H.S. 4803 Wellington Blvd.
71301 An Objective and Subjective Comparison of Erythrocyte Size

Baton Rouge Young, Luke Titus 17 Baton Rouge Magnet H.S. 645 Sunset Blvd. 70808
Implementation of Digital Techniques in Analog Signal Transmissions

MAINE

Bangor Little, Joyce Lorraine 17 Hermon H.S. RFD 3, Box 187 04401
Pebble Distribution on a Cobble Beach at Sachuest Point, Rhode Island

MARYLAND

Baltimore Cowan, Christopher Orlan 17 Perry Hall Sr. H.S. 9503 Gunview Rd.
21236 Computer and Solid-State Image Sensor Interface:
Operation, Construction and Application

Beltsville Dietrick, Daniel Dean 18 High Point H.S. 2615 Hughes Rd., Adelphi
20783 Hemolytic Activity of "Slow" Viruses

Bethesda Moss, Mari Ann 17 Walter Johnson H.S. 4802 Edgefield Rd. 20014
State of Torpor in the Superfamily Brachyuran

Greenspun, Suzanne Gittes 17 Walt Whitman H.S. 6407 Dahlonga Rd.
20016 What Do "Sell-By" Dates Really Mean?

Burtonsville Lee, Ann Li 17 Paint Branch H.S. 3004 Castleleigh Rd., Silver Spring
20904 Kinetics of Rapid Bean Growth Induced by Indole-3-Acetic
Acid, Brassin, and Fusicocin

Cambridge Ladinsky, Glenn Alan 16 Cambridge-South Dorchester H.S. 114 Somers-
set Ave. 21613 Experimental Demonstration on the Quantum
Nature of Light

Cumberland Rowley, Kevin Gerald 18 Fort Hill H.S. 10 Page Ct. 21502
Properties of Coal Particles Suspended in Black Wash Waters

Damascus Corazza, Susan Marie 18 Damascus H.S. 26508 Aiken Dr., Clarksburg
20734 Altered Peristalsis in Symptomatic Gastroesophageal (GE)
Reflux

Greenbelt Faibisch, Michael Warren 17 Eleanor Roosevelt H.S. 12501 Ivory Pass,
Laurel 20811 Enhancement of the Humoral Immune Lysis of Human
Lymphoblastoid Cells by Metabolic Inhibitors

Oxon Hill Lee, Myung-Moo 17 Friendly Sr. H.S. 3301 Stonesboro Rd. 20022
Interferometric Study of Air in the Vicinity of a Heated Object

Silver Spring Baird, Dean Eliot 17 Springbrook H.S. 1105 Tiffany Rd. 20904
Physiological and Visible Injury Caused by Challenging Doses of
Copper Sulfate on Leaf Tissue

Feldmesser, Lawrence Edward 17 Springbrook H.S. 13309 Clifton Rd.
20904 Isolation of an Inhibitory Compound in *Glottidium vesicarium*

Shykind, David Nathan 17 Springbrook H.S. 903 Burnt Crest Ln.
20903 Antiimmunoglobulin A Antibodies in Normal Human Sera;
Incidence and Specificity Determinations

Timonium Wroblewski, Vincent Paul 17 Dulaney Sr. H.S. 1214 Clearfield Cir.,
Lutherville 21093 Detection of Recombination in the T4
Bacteriophage

Upper Marlboro Dudley, Jr., Theodore Robert 17 Queen Anne School 10041 Worrell
Ave., Glenn Dale 20769 Crab Crushing of Shells From Two Geo-
graphical Provinces

MASSACHUSETTS

Bedford Gauntt, David Michael 17 Bedford H.S. 6 Reed Ln. 01730
Differential Charging of Large Space Structures

Hyannis Donovan, Frederick Morgan 17 Barnstable H.S. 387 Fifth Ave., West
Hyannisport 02672 Analysis of Crater Distribution on Mars and
Mercury to Determine the Origin of Crater Forming Meteoroids

North Attleboro Christianson, David William 17 North Attleboro H.S. 659 Mt. Hope
St. 02760 Quantitative Determination of Methane Yield of
Decomposing Organic Matter and Its Pertinence to Present
National Energy Situation

Sharon Shapiro, Richard Abraham 17 Sharon H.S. 149 Pond St. 02067
On the Properties and Enumeration of Superprimes

Sudbury Kemeny, Thomas Edward 17 Lincoln-Sudbury Reg. H.S. 34 Whispering
Pines Rd. 01776 Prosthetic Leg

Webster Lada, Elizabeth Anne 17 Bartlett H.S. 63 Lake St. 01570
Relationships Among Current Velocity, Grain Size Parameters, and
the Physical Dimensions of Small Scale Ripples

MICHIGAN

Ann Arbor Yeh, Spencer Shang-Ming 17 Pioneer H.S. 1136 Michigan 48104
Alternate Approach to Fermat's Last Theorem

East Lansing Andersland, Mark Steven 17 East Lansing H.S. 901 Woodingham Dr.
48823 Simple Spoken-Word Feature Extractor Using Zero
Crossing Analysis

Beaman, Reed Schiele 18 East Lansing H.S. 1565 Woodside Dr. 48823
Isolation, Purification, and Carbohydrate Analysis of Vicilin From
Phaseolus vulgaris

Farmington Hills Papp, Andrew Alan 17 Harrison H.S. 25865 Castlereigh 48018
Investigation of Electron Microscopy

Flint Struble, Thomas Scott 17 Ainsworth H.S. G-4203 Carmanwood Dr.
48507 Identifying Bacteria by Gas Chromatography

Holland LePoire, David John 17 Holland H.S. 201 W. 27th St. 49423
Electron States in Matter

Mt. Clemens Behling, Cynthia Anne 17 Lutheran H.S. North 17330 Contesti, Fraser
48026 Integrated Pest Management of Maize Chlorotic Dwarf
and Maize Dwarf Mosaic Virus Diseases in Modified Corn Cropping
Systems

Hoehner, Paul James 18 Lutheran H.S. North 684 Rutgers Rd.,
Rochester 48063 Electron Holography Demonstrated by Light
Diffraction

MINNESOTA

- Blue Earth Subbiah, Meena Kumari 17 Blue Earth H.S. 526 E. 12th St. 56013
Effects of Calcium and Magnesium Deficiency on the Crown Gall Disease
- Mankato Schreyer, Timothy Alan 18 Immanuel Lutheran H.S. 119 Carlton Ct. 56001
Kirlian Effect: Aura or Corona?
- Richfield Dalmasso, Enrique Agustin 18 Richfield H.S. QTS 12 No. VA Hospital, Minneapolis 55417
Inhibition of the Early Stages of the Complement Reaction by Trypan Blue
- Winona Ashelin, Keith Francis 17 Cotter H.S. Rt. 1 55987
Development of an Electromagnetic Vehicle
- Mishark, Kenneth James 17 Winona Sr. H.S. 1460 Heights Blvd. 55987
Formaldehyde Contamination of Ground Water

MISSISSIPPI

- Greenville Fung, Yee Wing 18 Washington School 265 Armstrong, Eudora, AR 71640
Degradative Characteristics of *Beijerinckia* and *Pseudomonas*
- Holly Springs Elder, William Lee 17 Marshall Academy 12160 Lee Rd., Byhalia 38611
Toxicity of Common Agricultural Chemicals for Human Lung Cells Grown in Tissue Culture
- Starkville Frank, Geoffrey Campbell 17 Starkville H.S. 48 Magruder St., Box 5205, Mississippi State University 39762
Study of Population Dynamics, Respiratory Rates, and Substrate Quantity and Composition During the Microbial Degradation of Crude Oil in a Marine Environment

MISSOURI

- Ewing Zuspahn, James Michael 17 Highland H.S. R.R. 2, Lewistown 63452
Effect of Antioxidants on Irradiated Bacteria
- Independence Heman, Lee Ann 17 William Chrisman H.S. 501 Dickinson Rd. 64050
Determination of a Limiting Factor Involved in Host Specificity of *Heliconius charitonius* Larvae
- Jennings Belsha, Craig William 17 Jennings Sr. H.S. 2444 Hord Ave. 63136
Infrared Reflectivity of Roofing Materials in Relation to Heat Absorption
- Springfield Osborne, David Wade 18 Central H.S. 2353 E. Locust 65803
Thermodynamic Studies of Hydrobromic Acid and Decyl Tri-Methyl Ammonium Bromide and Water System at 25 °C.

NEBRASKA

- Franklin Tupper, Kerry Merle 17 Franklin H.S. R.R. 1, Naponee 68960
Effects of Sodium Phytate on Cariogenic *Streptococcus mutans*
- Omaha Drvol, Scott Charles 17 Northwest Sr. H.S. 6123 Lamplighter Dr. 68152
Heating and Cooling Rates of Reflectors and Absorbers in a Simulated Atmosphere
- Seward Ray, Karen Leialoha 17 Omaha Central H.S. 5201 California St. 68132
Optimum Volume of Methyl Alcohol for a Low Cost Heat Pipe
- Wood, Susan Karey 17 Seward Sr. H.S. 1432 N. 8th St. 68434
Prehistoric Habitation Sites Along the Plum Creek Watershed

NEW JERSEY

- Clifton Schiano, Jeffrey Louis 17 Clifton Sr. H.S. 35 Hickory St. 07013
Development of an Integral Fuel Cell System for Cardiac Pacemakers
- Jersey City Zelop, Carolyn Michele 17 St. Dominic Academy 5 Somerset Ct. Glen Rock 07452
Gel Filtration of Human Serum Cholesterol
- Maplewood Entman, Lisa Holly 17 Columbia H.S. 260 Tillou Rd., South Orange 07079
Observations of Coastal Upwelling Areas During Periods of Variable Winds
- New Milford Kochenburger, Richard John 17 New Milford H.S. 242 Milford Ave. 07646
The Application of Ascorbic Acid as a Hypothetical Whole Blood Storage Supplement

Old Tappan

Zahos, Peter Athan 17 Northern Valley Reg. H.S. 36 Greenway, Harrington Park 07640
Tolerance and Contact Sensitivity to DNFB in *Lumbricus terrestris*

Parsippany

Ripton, Garth Andrew 17 Parsippany Hills H.S. 12 Brooklawn Dr., Morris Plains 07950
Wind Induced Circulation in Shallow Well-Mixed Estuarine Systems

Stack, Rand Jordan 18 Parsippany Hills H.S. 9 Wood Dr., Morris Plains 07950
Effects of Ampicillin and Amoxicillin on *Bacillus subtilis* in vitro

Somerset

Glick, Gary D. 17 Franklin H.S. 20 Surrey Rd. 08873
Characterization of Medieval Window Glass by Neutron Activation Analysis

Waldwick

Conklin, George Walter 18 Waldwick H.S. 15 Emmet Pl. 07463
Nonfundamental Factorization Within a Family of Multiplicative Systems

NEW MEXICO

Santa Fe

Padilla, Ray Anthony 17 Santa Fe H.S. 667 Old Santa Fe Trail 87501
Comparison of Soil Types Found in Three Different Plant Communities

NEW YORK

Ardsley

Novins, Douglas Keith 17 Ardsley H.S. 15 Western Dr. 10502
Palmar Sweat Gland Enumeration in the Evaluation of Phobic Patient Responses to Treatment

Baldwin

Gittleman, Maury Bruce 16 Baldwin Sr. H.S. 630 Rose Blvd. 11510
Isolation of N-Acetylneuraminic Acid From Edible Bird's Nest Substance and the Synthesis of 3-Fluorosialic Acid

Green, Jason David 17 Baldwin Sr. H.S. 3186 Grand Ave. 11510
Synthesis of Ribose and Arabinose From D-Erythrose

Katz, Bruce Edward 17 Baldwin Sr. H.S. 976 Green Pl. 11510
Does Smoke Induced by Oil Vaporization Affect Hot-Wire Response Under Forced Convection Conditions?

Weber, Steven 17 Baldwin Sr. H.S. 780 Jefferson St. 11510
Preparation of Tumor Specific Antigen Vaccine for Immunotherapy of Carcinoma of the Lung

Bayside

Binderow, Sander Robert 17 Benjamin N. Cardozo H.S. 240-25 68 Ave., Douglaston 11363
Repositioning of n^2 Knights on an $n \times n$ Chessboard

Cohen, Myra Beth 17 Benjamin N. Cardozo H.S. 262-59 Grand Central Pkwy. 11362
Effects of Accumulated Urea on Emergence From Hibernation in *Helix aspersa*

Cohn, Ilene Sue 17 Benjamin N. Cardozo H.S. 224-07 57 Ave. 11364
The Complete Triangle

Distant, Dale Anthony 16 Benjamin N. Cardozo H.S. 209-34 111 Ave., Jamaica 11429
Effect of Starvation Upon Retention of the Maze Habit in *Dugesia dorotocephala*

Heineman, Mitchell Cary 17 Benjamin N. Cardozo H.S. 250-27 Rushmore Terr., Little Neck 11362
Floating Primes

Hertzberg, Jeffrey Keith 17 Benjamin N. Cardozo H.S. 254-11 58 Ave. Little Neck 11362
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- Greenville Fung, Yee Wing 18 Washington School 265 Armstrong, Eudora, AR 71640
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- Holly Springs Elder, William Lee 17 Marshall Academy 12160 Lee Rd., Byhalia 38611
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- Seward Wood, Susan Karey 17 Seward Sr. H.S. 1432 N. 8th St. 68434
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- Jersey City Zelop, Carolyn Michele 17 St. Dominic Academy 5 Somerset Ct. Glen Rock 07452
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- New Milford Kochenburger, Richard John 17 New Milford H.S. 242 Milford Ave. 07646
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- Zahos, Peter Athan 17 Northern Valley Reg. H.S. 36 Greenway, Harrington Park 07640
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- Padilla, Ray Anthony 17 Santa Fe H.S. 667 Old Santa Fe Trail 87501
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	Babcock, Loren Edward 17 Southside H.S. 73 Pomona Pl. 14210 Evidence of Non-Biological Formation of "New" Taxa, as Exhibited in <i>Greenops boothii</i>		Kazim, Robert 18 Bronx H.S. of Science 3725 Henry Hudson Pkwy., Bronx 10463 Effect of an Induced Pseudo-Symbiotic Relationship of Blue-Green Algae on the Growth of Barley
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WEST VIRGINIA

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- Racine Vos, Julie Elizabeth 17 The Prairie School 1455 Hickory Way 53405 Physical Well-Being as Related to Elevated Ozone Levels

SINGAPORE

- Singapore Bellingham, James Gladen 17 Singapore American School American Embassy, Singapore, FPO San Francisco, CA 96699 Semi-Periodic Variations in the Nebular Variables

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OKLAHOMA

McAlester Clark, Christy Dawn 17 McAlester H.S. 1803 S. 9th St. 73501

SOUTH CAROLINA

Columbia Durig, Douglas Tybor 17 Spring Valley H.S. 3815 Fernleaf Rd. 29206

TENNESSEE

Dickson Allen, Wesley David 17 Dickson County H.S. RL 6, Box 77 37055

Texas

Arlington Pribyl, William Lee 17 Arlington H.S. 2025 Rockcreek 76010
Houston Duke, Nanda Victorine 18 Cy-Fair H.S. 18416 KZ Rd., Cypress 77429

VIRGINIA

Arlington Dale, Gregory Allen 18 Yorktown H.S. 1546 N. Ivanhoe St. 22205
Springfield Phillips, Michael Lee 17 West Springfield H.S. 5984 Queenston St. 22152

WEST VIRGINIA

St. Albans Little, Julia Elizabeth 17 St. Albans H.S. 1112 Highland Dr. 25177

SINGAPORE

Singapore Bellingham, James Gladen 17 Singapore American School American Embassy Singapore, 1 PO San Francisco, CA 96699



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

Washington Trip Winners

of the

Thirty-eighth Annual Science Talent Search⁹⁰

for the Westinghouse Science Scholarships and Awards

The forty Washington trip winners of the 38th 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.

Ten girls and 30 boys are being invited to Washington, D.C. for an all-expense paid trip March 1-5, 1979, 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 16 to 18 years of age and come from 33 cities in 18 states and Singapore. They were picked by the judges from among 13,142 contestants of whom 980 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 and Singapore.

Washington Trip Winners

HOMER ADDRESS follows name of school

AGE of winner follows name

ARKANSAS

Fort Smith Thiele, Elizabeth Anne 17 Southside H.S. 2700 S. Houston 72901

CALIFORNIA

Alhambra Sin, Tina Marie 17 Alhambra H.S. 423 N. Almansor 91801
North Hollywood Unz, Ron Kevyn 17 North Hollywood H.S. 6937 Ben Ave. 91605

COLORADO

Fort Collins Sandborn, Patricia Marie 17 Fort Collins H.S. 917 Cheyenne 80525

FLORIDA

Hialeah Olazabal, Bertha Margarita 18 Hialeah Miami Lakes Sr. H.S.
5790 W. 13 Ave. 33012
Merritt Island Kilberg, Steven Marc 16 Merritt Island H.S. 1720 Davis Dr. 32952

ILLINOIS

Chicago Rogers, Jeffrey Edward 18 Whitney Young H.S. 4531 N. Whipple 60625
Vandalia Hardas, Billy Roy 17 Vandalia Comm. H.S. 818 N. 6th 62471

MARYLAND

Damascus Corazza, Susan Marie 18 Damascus H.S. 26508 Aiken Dr., Clarksburg 20734
Oxon Hill Lee, Myung-Moo 17 Friendly Sr. H.S. 3301 Stonesboro Rd. 20022
Silver Spring Shykind, David Nathan 17 Springbrook H.S. 903 Burnt Crest Ln. 20903

MICHIGAN

Holland LePoire, David John 17 Holland H.S. 201 W. 27th St. 49423

MISSISSIPPI

Starkville Frank, Geoffrey Campbell 17 Starkville H.S. 48 Magruder St., Box 5205, Mississippi State University 39762

NEBRASKA

Seward Wood, Susan Karey 17 Seward Sr. H.S. 1432 N. 8th St. 68434

NEW JERSEY

Waldwick Conklin, George Walter 18 Waldwick H.S. 15 Emmet Pl. 07463

NEW YORK

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Dix Hills Moy, Ernest Mingway 17 Half Hollow Hills H.S. East 124 Burrs Lane 11746
Flushing Klein, Jeffrey David 16 Francis Lewis H.S. 162-02 59 Ave. 11365
Forest Hills Berkson, Mitchell Harris 17 Forest Hills H.S. 65-60 Wetherole St., Rego Park 11374
Chang, Eileen 17 Forest Hills H.S. 110-22 64 Rd. 11375
Herkimer Peck, Jeffrey Victor 17 Herkimer Central School 616 Church St. 13350
New York Bose, Arani 17 Bronx H.S. of Science 3332 Giles Pl. Bronx 10463
Liu, Ken 17 Bronx H.S. of Science 3515 Henry Hudson Pkwy., Bronx 10463
Shaffer, Samuel 17 Bronx H.S. of Science 64-85 Booth St., Rego Park 11374
Sheppard, Brian Frederick 16 Bronx H.S. of Science 11 Fort George Hill 10040
Urbahn, John Arthur 17 Collegiate School 570 Park Ave. 10021
Munshi, Ashfaq Abdulrehman 17 Stuyvesant H.S. 444 E. 20 St. #3E 10009
Sorkin, Gregory Bret 16 Stuyvesant H.S. 80-06 246 St. Bellerose 11426

NORTH CAROLINA

Durham Karis, John Proud 17 Charles E. Jordan H.S. 3923 St. Marks Rd. 27707