

THE 39th ANNUAL
Science Talent Search[®]
for the
Westinghouse Science Scholarships
and Awards
1980 HONORS GROUP



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

FOR RELEASE: WEDNESDAY, JANUARY 23, 1980

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-nine 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.

1980 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 100 girls and 200 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 February 2, 1980, and it will be sent upon request accompanied by a self-addressed stamped envelope.

(age follows name; home address underlined)

ALABAMA

Birmingham Murray, William Blair 17 Huffman H.S. 9833 Red Mill Rd. 35215
Using Chemical Sea-Surface Films to Suppress Hurricane Development

Decatur McGahan, Gary Eugene 18 Austin H.S. 1925 Woodmeade St. 35601
Pheromone Mediated by Neurotransmitter in *Lumbricus terrestris*

Florence Allen, Michael George 18 Henry A. Bradshaw H.S. 2319 McBurney Dr. 35630
Effects of Ammonium Sulfate and Urea on *Scenedesmus capricornutum* and *Scenedesmus quadricauda* in Laboratory Experiments

Brummitt, Michael Lee 17 Henry A. Bradshaw H.S. 106 Kingswood Dr. 35630
Effects of Sulfur Dioxide on Soybeans

ARKANSAS

Fayetteville Wickliff, David Edmund 18 Fayetteville H.S. 1215 Columbus Blvd. 72701
Effect of Ultraviolet Light on the Oxygen Consumption of *Vigna sinensis* Leaf Tissue

Fort Smith Newlin, Susan Lee 17 Southside H.S. 3000 Windrift Cove 72903
Effect of Triacanthol on Tomato Plant Hormone Levels

CALIFORNIA

Alhambra Don, Stephen Kerng 18 Alhambra H.S. 2045 Arriba Dr., Monterey Park 91754
Effects of Various Sugars on the Cohesive Properties of Selected Oral Bacteria

Hong, Chino-Hsien 18 Alhambra H.S. 1620 W. Hellman Ave. 91803
Orbit Determination of the Minor Planet, Eleonora

Iwamoto, Keisuke Steven 17 Alhambra H.S. 1720 Sunrise Dr., Monterey Park 91754
Pressure Retarded Osmosis in the Ocean as an Alternate Energy Source

Ng, Lawrence 17 Alhambra H.S. 355 Casuda Canyon Dr., Monterey Park 91754
Heterotrophic Uptake Studies on a Marine Dinoflagellate, *Sciphiella trochoidea*

Tam, Jr., David Akira 17 Alhambra H.S. 1215 Windover Way 91754
Metabolism of NADH Dehydrogenase in Inner Membranes of *E. coli*

Thornburg, Scott Cameron 17 Alhambra H.S. 1096 Brier Cliff Way, Monterey Park 91754
Isolation of Amber Mutants of Bacteriophage PM2

Yamane, Harvey Kazuo 17 Alhambra H.S. 1640 Brightwood St., Monterey Park 91754
Triplet Energies of 1-(1-Propenyl) Cyclohexene. A Visual Pigment Model

Beverly Hills David, Catherine 17 Beverly Hills H.S. 430 S. Crescent Dr. 90212
Detection and Identification of Glucosyl Fluoride Formed by HF Saccharification

Cerritos Figal, Gerald Alan 18 Richard Gahr H.S. 19302 Demeter Ave. 90701
Computer-Aided Comparative Analysis of Human Speech Patterns

Del Mar Printz, David Joel 16 Torrey Pines H.S. 2480 El Amigo Rd. 92014
The Life-Support Potential of Binary Star Systems

La Jolla Gleba, David Thomas 17 La Jolla H.S. 1685 Marisma Way 92037
CALC: Computer Automation of Laboratory Control

Loomis Chee, Wesley Wendell 17 Del Oro H.S. 6292 Del Oro Rd., Roseville 95678
Three Enzyme-Linked Immunosorbent Assays for the Rapid Diagnosis of Plant Viruses

Los Altos Chang, Robin Chu Hsin 17 Los Altos H.S. 845 Starlite Ln. 94022
MUDOS: Multiple User Disk Operating System for Educational Environment

Oakland Blackwell, Michael Keenan 17 The College Preparatory School 7038 Buckingham Blvd., Berkeley 94705
A Hybrid Digital-Linear Circuit is Used to Speed Computerized Logarithm Computation

Sacramento Cheung, Luke Paul 17 John F. Kennedy Sr. H.S. 4779 Norm Cir. 95822
Relative Absorption by Pigments in Two Strains of *Anacystis nidulans*

Bennett, Tracy 17 Sacramento H.S. 1101 41st St. 95819
Effects of Small Population Size and Genetic Drift on Inbreeding Depression in *Lolium multiflorum*

San Diego Ho, Calvin Kai-Wen 17 Patrick Henry H.S. 8541 Hudson Dr. 92119
Identification and Distribution of Cyclic AMP Binding Proteins in Rabbit Heart

San Francisco Lino, Wuwei Wen-Fang 18 Abraham Lincoln H.S. 1455 35th Ave. 94122
One Special Case of the Circular Movements

San Jose Allegretti, Edward Philip 17 Piedmont Hills H.S. 12500 Poppy Ln. 95127
Manganese in Alum Rock Park

San Marino Penprase, Bryan Edward 17 San Marino H.S. 2570 Lombardy Rd. 91108
Sulphydryl Reagents Reversibly Inhibit Synaptic Transmission

San Ramon Kavadi, Vivek Sharad 17 California H.S. 9910 San Luis Ave. 94583
A Model Enzyme Theory on the Analgesic Mechanism of Aspirin

Santa Ana Murray, Alan Glenn 17 Foothill H.S. 1531 Wyndham Ct. Rd. 92705
Generalized Fibonacci Sequence and the Telescoping Method of Series Evaluation

Sperling, Daryn Maurice 17 Foothill H.S. 11361 La Vereda 92705
Hyperbaric Oxygenation on the Regeneration of Planarian

Saugus Demarzo, Peter Michael 16 Saugus H.S. 23017 Conde Dr., Valencia 91355
Carcinogenicity of Gerovital H3 as Established by the Salmonella/Mammalian-Microsome Mutagenicity Test

Thousand Oaks Stelman, Michael Alan 17 Thousand Oaks H.S. 1824 Brian Ct. 91360
A Method for Solving Generalized Path Problems

Winters Borchard, Marie Teresa 17 Winters H.S. Rt. 1, Box 131 95694
Relationship Between Fruit Set and Stigma Exsertion in Tomato Plants

Woodland Hills Myatt, Kathryn Ann 17 Lissville H.S. 19208 Lassen St., Northridge 91324
Properties of the Action of a Myofibrillar Enzyme on Sarcoplasmic Reticulum From Skeletal Muscle

COLORADO

Brush Dickerson, Bryan Douglas 18 Brush H.S. 518 Cameron 80723
Structure and Arrangement of Ice Crystals in Water Films

Calhan Tarpenning, Martha Jenn 17 Calhan H.S. Box 143, 10th & Golden 80808
Lysozyme: A Natural Antibiotic?

Fort Collins Jackson, Dana Lynn 17 Poudre H.S. 619 Tyler St. 80521
Effects of Gibberellic Acid on the Flowering Process

CONNECTICUT

Bristol Penikas, Jeffrey 17 Bristol Central H.S. 98 James P. Casey Rd. 06010
Location of the Visual Subsystem Responsible for the Optomotor Response in *Apis mellifera*

Milford Mercaldo, Renée Suzanne 18 Milford H.S. 28 Ardmore Rd. 06460
Effects of Salinity on Bay Scallops

Ridgefield Waradzin, Marlene Louise 17 Ridgefield H.S. 27 Marcardon Ave. 06877
The Influence of Large Molecules on the Action of Enzymes

Stamford Widrow, Lawrence Marc 17 Westhill H.S. 91 Mountainwood Rd. 06903
Relationship Between the Fibonacci Series, the Musical Scale, and the Function $Y = 2^X$

Waterford Yoser, Seth Leigh 17 Waterford H.S. 137 Niles Hill Rd. 06385
Flavonoids From *Neurolaena macrocephala* and Variability in the Flavonoids of *Neurolaena lobata*

Westport Rothenberg, David Benjamin 17 Staples H.S. 30 Bayberry Ln. 06880
Soil and Vegetation Development on Inactive Stone Polygons on Niwot Ridge, Colorado Front Range

Windsor LaBarre, RoseAnne Cecile 17 Windsor H.S. 116 Mountain Rd. 06095
Reduction of Insect Damage and Effect on Crop Yield by Timed
Planting and Other Control Methods

FLORIDA

Coral Gables Mehta, Sahil Kan 15 Coral Gables Sr. H.S. 5804 Leonardo St. 33146
Urethral Valve Actuator of the Artificial Urinary Bladder

Daytona Beach Adams, Laura Ellen 17 Mainland Sr. H.S. 1335 Moore St. 32014
Isolation of Spectrin From Human Red Blood Cells

Condorolia, John Peter 17 Seabreeze Sr. H.S. 300 Marvin Rd.,
Ormond Beach 32074 Effects of Electron Beam Ionization on a
Fly Ash Simulating Medium

Fort Lauderdale Blackwood, David Albert 18 Cardinal Gibbons H.S. 631 S.E. 5th Terr.,
Pompano Beach 33060 Effects of Thiourea and Thyroid on Normal
Regeneration in Planaria

Renuart, Shirley Kathleen 17 Cardinal Gibbons H.S. 3310 N.E. 23 Ave.,
Lighthouse Pt. 33064 Effects of Nutrient Loading From Point and
Nonpoint Sources Upon Biochemical Oxygen Demand

Kreitzer, Michael Neil 17 Nova H.S. 1101 N.W. 93rd Terr., Plantation
33322 Effects of a Tumor Necrosis Factor on L-929 Cells Through
Time-Lapse Cinemicrophotography

Talbert, Steven 17 Nova H.S. 832 N.W. 76th Terr., Plantation 33324
An in vitro Culture Technique for Studying Adventitious Shoot
Formation in Sweet Potato Roots

Jacksonville Kupfer, Gary Michael 17 Terry Parker Sr. H.S. 2456 Ligustrum Rd.
32211 Effect of BHT on Drosophila melanogaster

Melbourne Baney, Richard Neil 17 Melbourne H.S. 2350 N. A1A Hwy., North
Indialantic 32903 Ozone and Human Blood

Merritt Island Berman, Barry Scott 17 Merritt Island H.S. 580 Paula Dr. 32952
The Serum Factor(s) Inhibiting Phytohemagglutinin Stimulation of
Rabbit Peripheral Blood Lymphocytes

Epstein, Pamela Lynne 17 Merritt Island H.S. 1035 New Hampton Way
32952 Unlocking the Key to the Seed Germination Phenomenon

Miami Tolat, Darshan Vipin 17 Southwest Miami H.S. 5081 S.W. .95 Ct.
33165 Ultrastructural Changes of the Renal Corpuscle in
Hypertension and Diabetes

Niceville Huyser, Margaret Jane 17 Niceville H.S. 1044 Stephen Dr. 32578
The R Factor in Plasmids

Turner, Mark William 16 Niceville H.S. 2855 Edgewater Dr. 32578
Effects of Nozzle Area Ratio, ϵ on Rocket Motor Thrust
Coefficient, C_p

North Fort Myers Pardo, Maria J. 17 North Fort Myers H.S. 1431 S.E. 24th Ave.,
Cape Coral 33904 Relationship of Antibiotics to Sensitization
to Bee Venom

North Miami Fine, Mitchel Lewis 17 North Miami Sr. H.S. 12810 Cyprus Rd. 33181
Bacterial Aging by Changes in Antimicrobial Susceptibility of
Escherichia coli

North Miami Beach Danziger, James Lee 18 North Miami Beach Sr. H.S. 19320 N.E. 19th
Ave. 33179 Isolation of Salivary Proteins Which Enhance or
Inhibit Growth of Plaque-Forming Oral Streptococci

Greenstein, David Brian 17 North Miami Beach Sr. H.S. 1930 N.E.
210th St. 33179 Effect of Thiols on the Response of Lymphocytes
to Mitogens

Umlas, Marc Evan 17 North Miami Beach Sr. H.S. 19800 N.E. 23 Ave.
33180 Ternary System Ethanol-Ethyl Acetate-Water: Foam
Prediction Using the Phase Diagram

Plantation Garcia, Julian Albert 17 South Plantation H.S. 5220 S.W. 9th St.
33317 Autoradiographic Technique for Estimating the Rate of DNA
Synthesis in Ehrlich Ascites Tumor Cells With a Flow-Cytometer

Riviera Beach Fazenbaker, Melissa Ann 17 Suncoast H.S. 4677 Square Lake Dr.,
Lake Park 33410 Methods of Sewage Application and Their
Effect on Plant Growth

Titusville Zubowicz, Robert Steven 18 Astronaut H.S. 3175 Ellen Dr. 32780
Design of a Three-Dimensional Microprocessor Liquid Crystal
Peripheral Device

GEORGIA

Atlanta Crook, Julie Elizabeth 17 Briarcliff H.S. 1069 Mason Woods Dr.
30329 Effects of Protein Concentrations on the Attachment of
Treponemal Protein to Polyacrylamide Beads as Measured
Through Immuno-Fluorescence

HAWAII

Aiea Laberge, Anthony Charles 18 Aiea H.S. 99-524 Halawa Heights Rd.
96701 Functional Aspects of the Crayfish Biofeedback System
Under Varying Abnormal Conditions

Yamagata, Moya 17 Aiea H.S. 99-928 Kealahoua Dr. 96701
Curing Mango Rash on Slugs With Aloe Sp.

IDAHO

Boise Hurd, Holly Kaye 18 Borah H.S. 549 S. Curtis #1 83705
Detection of Potential Chemical Carcinogens Through Mutation of
Salmonella typhimurium

Lewiston Carmack, Tracy Lee 18 Lewiston Sr. H.S. 621 Grelle Ave. 83501
Resistant Plasmids

ILLINOIS

Algonquin Wachholz, Linda Sue 18 Harry D. Jacobs H.S. 736 Hillside Ct. 60102
Can a Micro-Organism Be Isolated That is Capable of Accelerating
the Process of Decomposition of Paper?

Buffalo Grove Baumgartner, Norbert Erich 17 Buffalo Grove H.S. 2938 N. Windsor
Dr., Arlington Heights 60004 Digital Simulation of the MC6800
Microprocessor in Time Shared BASIC

Chicago Gurski, Therese Anne 17 Lourdes H.S. 6547 S. Kostner 60629
Are Seedlings Searching Towards Darkness or Just Away From the Light

Hennecke, Ellen Marie 17 Lourdes H.S. 8530 S. Komensky Ave.
60652 Can This Bee an Antibiotic?

Buszkiewicz, Andrea Marie 17 Maria H.S. 5809 S. Whipple 60629
ACES: Annual Cycle Energy System

Lim, Jennifer Irene 17 Mother McAuley Liberal Arts H.S. 7520 Ute Ln.,
Palos Heights 60463 Effects of Immunoglobulin and/or Complement on
the Efficiency of Neutrophil Phagocytosis of Polyacrylamide Beads
in vitro

Downers Grove Ring, Robert Steven 17 Downers Grove North H.S. 6 Royal Vale Dr.,
Oak Brook 60521 Dust Explosibility

Evanston Friedman, Joel 17 Evanston Twp. H.S. 2669 Orrington Ave. 60201
Optimal Control for Cooling Problems

Hughes, Christopher Alan 17 Evanston Twp. H.S. 720 Roslyn 60201
Properties of a Coacervate System

Nelson, Andrew John 17 Evanston Twp. H.S. 209 Kedzie St. 60202
Variance of the Sun's Angular Velocity via Measurements of Sunspots

Hinsdale Brorson, Kurt Andrew 17 Hinsdale Central H.S. 903 S. Vine St. 60521
Nutrient Uptake Capabilities of Lemna Under Controlled Environment

La Grange Kelly, Matthew John 17 Lyons Twp. H.S. 4116 Franklin, Western
Springs 60558 An Algorithm for the Systematic Analysis of a Maze

Macomb Elkin, Edmund Lee 17 Macomb Sr. H.S. 1114 Memorial Dr. 61455
Frequency Modulated Optical Communications

Reddick Mahler, Carolyn Louise 18 Reddick H.S. R.R. 1 60961
The Role of Hydrogen and Calcium Ions in Planaria Regeneration

Rolling Meadows Gowdy, Eric Eugene 17 Rolling Meadows H.S. 207 W. Noyes St.,
Arlington Heights 60005 Effects of Different Trace Metal Ions
on Nitrogen Fixing Bacteria

Wheeling Bina, Craig Richard 17 Wheeling H.S. 2603 N. Waterman Ln., Arlington
Heights 60004 Multi-User Computer Assisted Instructional Management
System: Software Development and Implementation

INDIANA

Centerville Burtzloff, Robert Albert 16 Centerville H.S. P.O. Box 161 47330
Transmission and Reflection of Sound Through Partitions

Elkhart Bassett, Bruce Randall 18 Elkhart Central H.S. 1421 E. Beardsley Ave. 46514 Determining the Number of Isomers of Generic Organic Compounds as a Function of Carbon Content

Gary Tropp, Iris Marilyn 17 William A. Wirt H.S. 401 N. Montgomery St. 46403 Effects of Cytokinin on Multiple Shoot Formation in Roses

Highland Barbois, Cheryl Lynn 17 Highland H.S. 3236 Strong St. 46322 A Genetic and Biochemical Approach to the Isolation, Selection, and Understanding of Aspergillus, Nalidixic Acid Resistant Mutants of Bacillus subtilis JH 642

Indianapolis Kring, David Allen 18 Perry Meridian H.S. 6441 Meridian Woods Blvd. 46217 Analyzing Landsat 1 Data and NASA Photographs of Mount Ranier

Jasper Rohner, Tony James 18 Jasper H.S. 840 Giesler Rd. 47546 Assaying for an Octopamine Sensitive Adenyl Cyclase System in the Tobacco Hornworm

Kendallville Stark, Paul Kenneth 18 East Noble H.S. R.R. #4 46755 Carburetor Design for High Fuel Economy

Marion Oakerson, Pamela Kay 18 Marion H.S. 1308 N. Horton St. 46952 Seasonal Changes of the Leaves of Acer saccharum

Michigan City Lazerek, David Peter 17 Marquette H.S. 215 Grace St. 46360 Bioelectrophysiological Application of Cellular Action Potential, Evoked Response, and Communication Ratio in the Detection, Cause, and Correction of Lung Cancer, Emphysema, and Myocardial Infarction

South Bend Raymond, Lily Ann 18 John Adams H.S. 1409 E. Madison St. 46617 Effect of Incremental Applications of Four Antibiotics on the Survival Rate of Four Different Strains of Bacteria

Traub, Kenneth Richard 17 John Adams H.S. 711 Cherry Tree Ln. 46617 A Distributed Loop Communications Network Using Single-Chip Microprocessors

Terre Haute Wunker, Frederick J. 17 Terre Haute North Vigo H.S. 12 Park Ln. 47803 Long-Chain Alcohols as Plant Growth Regulators

KANSAS

Newton Kiger, Shanelyn Adair 18 Newton H.S. 435 W. 7th 67114 X-Ray Induced Chromosome Aberrations of Human Peripheral Leukocytes

Shawnee Mission Bennett, Brian Robert 17 Shawnee Mission West H.S. 8923 Wedd. Overland Park 66212 Microbial Degradation of Diesel Fuel

KENTUCKY

Covington Broomall, Kathleen Rose 17 Notre Dame Academy 673 Clover Dr. 41015 Phototaxis in *Cypris* and its Modification by Gravitational and Galvanic Responses

Wermeling, Lisa Ann 17 Notre Dame Academy 351 Carmel Ridge, Edgewood 41017 Formation of Toxic Products by Photooxidation of #2 Fuel Oil

Cynthiana Jibb, Pamela Jo 17 Harrison County H.S. 602 Parkway Dr. 41031 Quarrying Limestones in North Harrison and South Bourbon Counties, Kentucky

Walters, Karen Shadd 17 Harrison County H.S. Rt. 2, Berry 41003 Extraction of Lectins From Various Legumes

Wiglesworth, Martin Dale 17 Harrison County H.S. R.R. 2, Rankin Mill Pk., Falmouth 41040 Direct and Residual Effect of Atrazine and MH 30 on Zea mays and Glycine max

LOUISIANA

Galliano Doucet, John Phillip 17 South Lafourche H.S. 210 Palmetto Ln., Golden Meadow 70357 Characterization of Hepatopancreatic Behavior in *Procambarus clarki* Influenced by Acetylsalicylic Acid

MAINE

Madawaska Ezzy, Stephen Mark 17 Madawaska H.S. 34 5th Ave. 04756 Effect of Nonelectrolytes on the Survival Rate of *Saccharomyces*

Milo Macdougall, Malcolm Allan 18 Penquis Valley H.S. Sargent Hill 04463 Antibiotics in Tree Bark

MARYLAND

Bethesda Kambouris, Nicholas George 17 Walt Whitman H.S. 6913 Winterberry Ln. 20034 Water Content in Gasoline and Extraction Methods

Germentown Weinert, George Frank 17 Seneca Valley H.S. 10521 Seneca Ridge Dr., Gaithersburg 20760 Analysis of Tidal Forces and the Close Approach Trajectories of Celestial Bodies

Greenbelt Andraka, Charles Emmet 17 Eleanor Roosevelt Sr. H.S. 9214 Lawnview Ln., Laurel 20811 Extending the Limited Casting Facilities in a High School Shop

Lloyd, Steven Andrew 17 Eleanor Roosevelt Sr. H.S. 6908 Lansdale St., District Heights 20028 The Spectrochronometer: The Development of a Monochromatic Sundial

Rockville Dick, Heather Lynn 17 Rockville H.S. 5709 Crawford Dr. 20851 Receptor-Mediated Phagocytosis in Cell Line Culture

Silver Spring Hendrickson, Jill Eileen 17 Springbrook H.S. 12306 Greenhill Dr. 20904 Auxin, Brassin and Naphthylphthalamic Acid: Binding in Cytoplasmic Membranes of *Phaseolus vulgaris*

Meyer, Jr., James Henry 17 Springbrook H.S. 12926 Allerton Ln. 20904 Protein Biosynthesis in Cryopreserved Glycerol Treated Sickle Cell Reticulocytes

MASSACHUSETTS

Harvard Olson, Kirby Sue 17 The Bromfield School Bolton Rd. 01451 Improving Fireplace Heat Efficiency

Holden Zaleski, Kirk Irvin 17 Wachusett Reg. H.S. 103 Laurel Hill Ln. 01520 Iron-Carbon Sintering

Milton Sang, Christine Nai-Mei 17 Milton Academy 80-51 188th St., Jamaica Estates, NY 11423 Glucose-6-phosphate Dehydrogenase Deficiency Lens Model

MICHIGAN

Ann Arbor Chalambor, Cyrus 17 Huron H.S. 1610 McIntyre Dr. 48105 Artificial Intelligence

East Lansing Andersland, John Michael 17 East Lansing H.S. 901 Woodingham Dr. 48823 Characteristics of White Mutant Cells in *Saintpaulia ionantha*

Grand Rapids Downey, Mark Joseph 18 City H.S. 105 Dean, N.E. 40505 Microcomputer I

Livonia Perdue, Craig Thomas 17 Stevenson H.S. 18618 Parklane 48152 Factors Effecting the Dynamics of American Robin Reproductive Success

Oak Park Redstone, Allan Joseph 17 Oak Park H.S. 24121 Stratford 48237 Design for a Microcomputer Steerable Telescope Mounting

Rochester Weng, David Edward 17 Rochester Adams H.S. 1116 Shenandoah 48063 Effects of He-Ne Laser Radiation on the Beta Decay of P-32

MINNESOTA

Winona Mueller, Paul Stephen 17 Winona Sr. H.S. 471 Wayne St. 55987 Salt Water Agriculture

MISSOURI

Ewing Krueger, Roger Glenn 17 Highland H.S. Monticello 63457 Use of Antioxidants for Protection of Tissue Cells From Damage Caused by Ultraviolet Radiation

Neosho Groh, Mark Allen 17 Neosho H.S. 1707 Watkins Dr. 64850 The Electro-Static Effects of the Kelvin Generator

St. Louis Waldo, Richard 17 Lindbergh Sr. H.S. 15 Balmagoun Ln., Sunset Hills 63122 Harpacticoid Disturbances of a Soft-Bottom Community in the Ocean

MONTANA

Helena Vidic, John Ward 18 Helena Sr. H.S. 2122 8th Ave. 59601 Resistivity of $LaNi_5$ Hydride Films

Sunburst	Bunyak, Jenae Rose 17 North Toole County H.S. Box 2246 Cut Bank 59427 The Isolation, Adhesion, and Fusion of <u>Clycine</u> <u>max</u> and <u>Hordeum vulgare</u> Protoplasts		Taylor, Naomi 16 Benjamin N. Cardozo H.S. 53 31 213 St. 11364 Effect of <u>Pseudomonas hirudinis</u> and <u>Staphylococcus aureus</u> on Hemolysis and Erythrocyte Fragility
	NEBRASKA		Zipkowitz, David Edward 17 Benjamin N. Cardozo H.S. 240-23 66 Ave., Douglaston 11362 Feasibility of the Visual Cliff for Usage With <u>Gryllus hexadactyla</u>
Omaha	Trevarrow, Barry John 17 Northwest H.S. 6308 N. 77th St. 68134 The Utilization of Seaweed as an Alternative Means of Insulation	Bellmore	Markowitz, Steven C. 16 J.F. Kennedy H.S. 3065 Susan Rd. 11710 A Mathematical Model and Computer Simulation of the CTSS Job and Process Scheduling Algorithm
	Wiegand, Mark Lohnes 17 Northwest H.S. 3024 N. 75 Ave. 68134 A Frisbee Performance Study Using a Uniform Throwing Device		Prestigiacomo, Mark Paul 17 W.C. Mephram H.S. 2260 Henry St., North Bellmore 11710 Resistance of Sorghum to <u>Colletotrichum graminicola</u> Through Assays for Dhurrin and Total Phenol Content in Leaf Tissue
	NEW JERSEY	Bethpage	Reilly, Martin Timothy 18 Bethpage Sr. H.S. 14 Michigan Dr., Hicksville 11801 Simultaneous Transmission of Two Audio Signals Over a Common Carrier Frequency
Elizabeth	Frisch, Josef Clifford 17 Elizabeth H.S. 871 Park Ave. 07208 Approach to Artificial Intelligence Through Nerve Network Simulation	Brooklyn	Lentzner, Mark Richard 17 Brooklyn Technical H.S. 445 Third St. 11215 CAL: A Multiple Stack Language
	O'Kane, Bernard Philip 17 Elizabeth H.S. 199 Keats Ave. 07208 Design for a High Performance Two Cycle Turbo Diesel Engine		Zlotnikov, Vadim 17 Brooklyn Technical H.S. 35-43 84 St. #622 Queens 11372 Application of Maxwell Tensor in an Anisotropic Medium
	Schuster, David Michael 17 Jewish Educational Center 301 Elizabeth Ave., Cranford 07016 Effects of Lithium Chloride on <u>Paramecium caudatum</u>		Edelman, Alan Stuart 16 Canarsie H.S. 1467 E. 103 St. 11236 Representations of the Complex Numbers Base 1 + i
Martinsville	Brand, Russell L. 17 Bridgewater-Raritan East H.S. 571 Steel Gap Rd., Bridgewater 08807 Computers for the Social Scientist		Gayner, Robert Samuel 16 Canarsie H.S. 9514 Seaview Ct. 11236 Interactions Between Meso-Tetra (4-N-methylpyridyl)-Porphine Tetraiodide and Different Nucleic Acids
	NEW MEXICO		Gitlin, Joshua Brian 17 John Dewey H.S. 394 Mayfair Dr. S. 11234 Effect of Photoc Environment on the Visual Pigments in the Retina of the <u>Cariscus auratus</u>
Grants	Adams, Cynthia Kay 17 Grants H.S. P.O. Box 490 87020 Clathrates: Is This the Solution to Our SO ₂ Problem?		Rein, Frederick Howard 16 John Dewey H.S. 1292 E. 48 St. 11234 Anthraquinone-DNA Intercalation
	Gonzales, Estelle Annette 17 Grants H.S. P.O. Box 181, Cubero 87014 <u>Rheum raphaniticum</u> , a Potential Antibiotic		Coles, Andrea Dale 16 Abraham Lincoln H.S. 2911 Brighton 5th St. 11235 The Use of Attenuated <u>Agrobacterium tumefaciens</u> to Immunize <u>Lycopersicon esculentum</u> Against Crown Gall Disease
	NEW YORK		Herschaf, Allen Stuart 17 Abraham Lincoln H.S. 76 Exeter St. 11235 Effect of Irradiation on the Production of Latex in the Plant <u>Euphorbia lathris</u>
Baldwin	Adler, Francine Sue 17 Baldwin Sr. H.S. 707 Jeffrey Dr. 11510 Oxygen Stress and Ethanol Induction of Alcohol Dehydrogenous Activity, Cytokinin Production, and Root Membrane Potential		Klopukh, Boris 17 James Madison H.S. 2075 79 St. 11214 Human Umbilical Arteries
	Baxevaris, Andreas Demetrios 17 Baldwin Sr. H.S. 830 Jefferson St. 11510 Plasminogen Activator in Mouse Tumors and Normal Organs		Werfel, Steven Bruce 17 Midwood H.S. 441 Ocean Pkwy. 11218 Trace Elements as Growth Factors in a Fully Synthetic Medium for <u>Cryptocodium cohnii</u> like Dinoflagellates
	McCrohan, Gerard 17 Baldwin Sr. H.S. 552 Lenox Rd. 11510 Hemopoietic Stem Cells in the Nude Mouse		Greenberg, Steven Alan 17 Edward R. Murrow H.S. 2270 Ocean Ave. 11229 Generation of an Infinity of Similarity Solutions to a Partial Differential Equation
	Milrod, Eve Meredith 17 Baldwin Sr. H.S. 3447 Courtney Pl. 11510 Serum Protein Levels of <u>Homarus americanus</u> as Related to Different Stages of the Molt Cycle		Jerome, Karen Lisa 16 South Shore H.S. 1061 E. 57 St. 11234 Permutation Structures on the Positive Integers
	Rosenthal, Robert Franklin 17 Baldwin Sr. H.S. 1023 Wood Park Dr. 11510 Reclassification of the Central Indiana <u>Rana pipiens</u>		Krevat, Lee Spencer 16 South Shore H.S. 34 Paerdegat 7 11236 Baseball Has No Strikes and Is No Ball
	Senatore, Carolyn Mary 17 Baldwin Sr. H.S. 1365 Stewart Ct. 11510 Increased Toxicity Due to Synergistic Effects of Mixed Solvent Exposure on Species <u>Rhabberus Cranifera</u>		Newman, Mark Joseph 17 South Shore H.S. 1446 E. 70 St. 11234 Functions of the Diagonals of Regular Polygons
	Siegel, Matthew Adam 17 Baldwin Sr. H.S. 3339 Milburn Ave. 11510 Carbohydrate Analysis of Phytochrome From <u>Avena sativa</u>		Smilen, Scott Walter 16 South Shore H.S. 24 Paerdegat 1st St. 11236 A Non-F.B.I. Approach to the Problems of Hanol
	Smith, Jennifer Lee 17 Baldwin Sr. H.S. 3 Carleton Pl. 11510 The Qualitative Analysis of Some Phenolic Benzophenones and Diphenylmethanes by Thin-Layer Chromatography		Bienenstock, Arielle Nadine 17 Yeshiva of Flatbush Joel Braverman H.S. 156 Beach 140 St., Belle Harbor 11694 A Modification of the Quie Method for Measurement of Migration Neutrophilic Polymorphonuclear Leukocytes
	Tse, Peter Ulric 17 Baldwin Sr. H.S. 626 Mead Terr., South Hempstead 11550 Testing the Visual Behavior Mechanism in Woodlice	East Setauket	Smith, Warren Douglas 15 Ward Melville H.S. 58 Hollow Rd., Stony Brook 11790 Improving on the Pendulum
	Yablon, Gary Howard 17 Baldwin Sr. H.S. 684 Jeffrey Dr. 11510 Effects of Density and Temperature on Aphid Host Plant Interactions	Elmira	Brusso, Charlene Louise 17 Elmira Free Academy RD #1, Lowman 14861 Reduction of Nuclear Wastes by Refissioning of Fission Fragments
Bayside	Arlis, Stephanie Lynn 17 Benjamin N. Cardozo H.S. 57-29 223 St. 11364 An Improvement on Lamé's Theorem	Endwell	Galbi, David Elmer 17 Maine-Endwell Sr. H.S. 819 Biscayne Terr. 13760 A Non-Microprocessor Chip Based Minicomputer as a Teaching Aid
	Bokman, David Ioram 17 Benjamin N. Cardozo H.S. 217-35 47 Rd. 11361 Applications of the Complete Triangle	Flushing	Ferrara, Deborah Ann 17 Francis Lewis H.S. 45-40 194 St. 11358 Crossing Over Between Genetic Loci Which Control Wing Patterns of <u>Heliconius melpomene</u>
	Goodman, David Elliot 17 Benjamin N. Cardozo H.S. 75-24 Bell Blvd. 11364 Non Triangular Numbers and Other Complements of a Sequence		
	Greene, Deborah Reynolds 17 Benjamin N. Cardozo H.S. 158-12 130 Ave., Jamaica 11434 Effect of Changes in the Chemical Composition of Lakes: An Algal Assay		
	Stimler, Lauren Gwen 16 Benjamin N. Cardozo H.S. 53-16 224 St., Douglaston 11362 An Algorithm for Finding a Hamiltonian Circuit in a Graph		

Pai, Dhananjay Mohan 16 Francis Lewis H.S. 195 15 56 Ave.,
 BaySide 11365 Growth of the Canine Kidney Cell Line MDCK in
 a Hormone Supplemented Serum Free Medium
 Takayama, Kathy Mayumi 17 Francis Lewis H.S. 46 31 195 St.
 11358 Effect of Host Plant Quality Differences on Heliconine
 Butterfly Larvae
 Zakarian, Gabriel 17 Francis Lewis H.S. 41 25 156 St. 11355
 Effects of Caffeine on the Ability of Spiders to Build Their Web
 Chen, Antony S.C. 19 Forest Hills H.S. 108-16 47 Ave., Corona
 11368 Vector Analysis in Multi-Dimensional Geometry
 Liu, Kathy 18 Forest Hills H.S. 32 36 71 St., Jackson Heights
 11370 Geometric Analogues of Trigonometric Inequalities
 Ashery, Lawrence Edmond 16 Great Neck North Sr. H.S. 18 Old
 Pond Rd., 11023 An Approach to Second Virial Coefficients
 Hauppauge Bashkoff, Eric Mark 17 Hauppauge H.S. 8 Ardra Ct., Smithtown
 11787 The Design, Prototyping, and Construction of the Music
 Computer
 Hyde Park Taylor, Robert Simpson 17 F.D. Roosevelt H.S. 2 Douglas Rd.
 12538 Improved Schlieren Apparatus
 Ithaca Kammen, Daniel Morgan 17 Ithaca H.S. 207 Cayuga Heights Rd.
 14850 Observational Information Used in the Determination of
 the Origin of Meteor Showers
 Jamaica Johnson, Rita Gail 17 Jamaica H.S. 100-15 197 St., Hollis 11423
 Chemical Nature of the Toxins Secreted by *Aiptasia pallida*
 Lido Beach Konis, Adam Ben 17 Long Beach H.S. 288 Lagoon Dr. W. 11561
 Role of Complement in vitro Secondary Immune Responses
 Long Island City Wong, Steven 16 William Cullen Bryant H.S. 32-81 45 St., Astoria
 11103 Effects of Lamb Hair Isolation on Regeneration and
 Mating in the Tadpole Stage
 Mineola Ryan, Paul Thomas 17 Mineola H.S. 246 Hempstead Ave.,
 Rockville Centre 11510 Development of a Diester Synthetic
 Oil Additive
 New Rochelle Lewis Mark Joel 17 New Rochelle H.S. 22 Top O' The Ridge Dr.,
 Scarsdale 10582 Increasing the Output of Selenium Solar Cells
 New York Barest, Glenn David 16 Bronx H.S. of Science 3856 Bronx Blvd.,
 Bronx 10467 Effects of a Spore Germination Promoter Excreted
 by *Aerobacter aerogenes* on the Stationary Phase Cells of
Dictyostelium discoideum
 Batchelder, Ned Marcus 17 Bronx H.S. of Science 50 W. 95 St.,
 New York 10025 An Analytic Approach to the Properties of
 Inscribed Parabolic Segments
 Chiang, David 17 Bronx H.S. of Science 541 W. 211 St., #44
 10034 N's For Which $\frac{1}{2}(N)$ Divide $\sigma(N)$
 Fuchs, Alan 17 Bronx H.S. of Science 3845 Sedgwick Ave., Bronx
 10463 Establishment of an Electrophoretic Pattern of Lactate
 Dehydrogenase Isozymes to Aid in the Detection of Carcinoma
 Gezelter, Stuart Marc 18 Bronx H.S. of Science 27-42 168 St.,
 Flushing 11358 Inhibition of *Saccharomyces capsularis*
 by a Caproic Acid
 Iannucci, William Joseph 17 Bronx H.S. of Science 4457 Hill Ave.,
 New York 10466 Effects of Monosodium Glutamate on the Rate
 of Regeneration and Short Term Memory Retention in Planaria
 Jatana, Sanjay 17 Bronx H.S. of Science 3363 Sedgwick Ave., #5 G,
 Bronx 10463 Weak Magnetic Field Effect on Photosynthetic Activity
 in *Euglena gracilis*
 Kim, Chi Yeon Maria 18 Bronx H.S. of Science 41 43 170 St.,
 Flushing 11358 Effect of the Pyrimidine Analog 5-Bromode-
 oxyuridine on Cultured Human Melanoma Cells
 Kuperberg, Sarah Julie 17 Bronx H.S. of Science 98 Malba Dr.,
 Malba 11357 Cuticular Resistance of Conifers in Relation to TreeLine
 Lu, Yain Yain 17 Bronx H.S. of Science 89-11 153 St., Queens
 11432 Use of Ascorbic Acid on the Amount of Lethal Recessive
 Gene Formation by Exposure to Nitrites
 Mark, Pak 18 Bronx H.S. of Science 413 W. 16 St. 10011
 Development of a Practical Method for the Isolation of the
 Chromosome With the Coding of the Tight Junction in Human
 Epithelial Cells Through the Use of Hybrids

Nalbantian, Carol Elizabeth 17 Bronx H.S. of Science 765 Riverside
 Dr. 10032 Effect of Arginine Depletion on Muscle Development
 in Culture
 Pirimac, Kristina 17 Bronx H.S. of Science 1357 Astor Ave., Bronx
 10469 Is a Transformation Between the Myxobacterial Types,
Sporocytophaga myxococcoides and *Cytophaga aurantia* Possible?
 Realmito, Joseph Thomas 17 Bronx H.S. of Science 70-22 166 St.,
 Fresh Meadows 11365 Conditions Under Which the Composition
 Functions $P(Q(x))$ and $Q(P(x))$ Are Equal
 Rivera, Marcus E. 17 Bronx H.S. of Science 217-06 110 Rd., Queens
 11429 Effect of a Rotating Magnetic Field on Enzyme Activity in
Hardium vulgare
 Rosenberg, Armand 17 Bronx H.S. of Science 65-50 Wetherole St. #5F,
 Rego Park 11374 Reconstruction Techniques in Computed-Assisted
 Tomography
 Schwartz, Tamar Rachel 16 Bronx H.S. of Science 2713 Hering Ave.,
 Bronx 10469 Ion Requirements for Motility of the Green Alga
Chlamydomonas reinhardtii
 Simon, Gerald Alan 17 Bronx H.S. of Science 3555 Netherland Ave.,
 Bronx 10463 Locating the Chemoreceptors for the Clustering
 Pheromone in *Monomorium minimum*
 Tsao, Priscilla 17 Bronx H.S. of Science 507 W. 113 St., #72 10025
 Isolation of Extrachromosomal Deoxyribonucleic Acids From
 Thermophilic Bacteria
 Turkel, Lee Diana 17 Bronx H.S. of Science 4483 Manhattan College
 Pkwy., Riverdale 10471 Development of the Dorsal Ocelli in
 Dragonfly Nymphs
 Wang, Philip Sung En 18 Bronx H.S. of Science 531 Main St. #718,
 Roosevelt Island 10044 Wax Location in the Vegetative Organs
 of *Jobara*
 Sugrue, Mary Margaret 17 Dominican Academy 46-50 Utopia Pkwy.,
 Flushing 11358 Adsorption of Bile Acids by Wheat Bran, Oat
 Bran and Alfalfa
 Hull, Melissa Willene 17 Hunter College H.S. 549 W. 123 St. #11G
 10027 Isolation and Characterization of Yeast Mutants With
 Glucose-Resistant Respiration
 Blumenfeld, Hal 17 Ramaz School 73 Piccadilly Rd., Great Neck
 11023 Oxidative Phosphorylation in an Uncoupler-Resistant Mutant
 Driven by a Residual Proton Motive Force
 Cohen, Deena Rachel 17 Ramaz School 5 W. 86 St. 10024
 Na⁺/H⁺ Antiporter: Its Special Role in Growth at High pH
 Feldman, Paul Neil 17 Stuyvesant H.S. 105-68 Ave. L, Brooklyn
 11236 Big Primes and Some Ways to Find Them
 Greene, Brian Randolph 17 Stuyvesant H.S. 25 W. 81 St. 10024
 Asymptotic Theory of Partitions
 How, Michael Mankit 16 Stuyvesant H.S. 5907 Glenwood Rd.,
 Brooklyn 11234 Use of Centrifugally Accelerated Paper Chroma-
 tography in the Geological Mineral Analysis of Fe³⁺ Ion
 Lam, Jenny Ngai 17 Stuyvesant H.S. 88 Hester St. #4A 10002
 Effects of FD&C Blue #1 Dye on *Escherichia coli* and *Planaria*
 Lee, Renée Bernadette 17 Stuyvesant H.S. 36 Market St. 10002
 Effect of Differing Concentrations of Hydrocortisone in
 Lymphocyte Response in vitro
 Randall, Lisa Joy 17 Stuyvesant H.S. 196-10A 65th Crescent,
 Fresh Meadows 11365 Perfect Gaussian Integers
 Volpe, Nicholas Joseph 16 Stuyvesant H.S. 159-19 89 St., Howard
 Beach 11414 Effects of the Gene F on Seminiferous Tubule
 Diameter and Germinal Epithelium Development in the B1 Mutant Rat
 Rock, Erik John 17 Orchard Park H.S. 8330 Lower East Hill Rd.,
 Colder 14033 A Simple Nitrogen Laser
 Mazara, Frances 16 Grover Cleveland H.S. 58-07 74 St., Elmhurst
 11373 Effects of Darkness and Streptomycin on the Fine Structure
 on *Euglena gracilis*
 Nicolosi, Lucia Carmela 16 Grover Cleveland H.S. 1800 E. 92 St.,
 Brooklyn 11236 Effect of Photoperiodism on *Paramecia* Reproduction
 Troyd, Karen Patricia 17 Grover Cleveland H.S. 61-07 55 St., New
 York 11378 Environmental Effects on the Growth and Development
 of *Vibrio fischeri*

Scarsdale Goldstein, David Benjamin 17 Scarsdale H.S. 3 Fairview Rd. 10583
A Wind Generator Blade With Endplates
Schenectady Brownlee, Kenneth Gainsford 17 Linton H.S. 1125 Wendell Ave. 12308
An Improved Ski-Lift Design
Shoreham Jablonski, Helen Maria 17 Shoreham Wading River H.S. 20 Walnut Dr.
11786 Splenic and Hepatic Uptake of Particulates From Circulating Blood
Staten Island Ancona, Deborah M. 17 New Dorp H.S. 216 Malone Ave. 10306
A Molecular Model of Yeast Phenylalanine Transfer RNA
Woodmere Singer, Michael Andrew 18 Woodmere Academy 65 Greenleaf Hill.
Saddle Rock 11023 Detection of Angiotensin II in the Primate Brain
by Immunocytochemistry

NORTH CAROLINA

Chapel Hill Tax, Franciscus Eligius 17 Chapel Hill H.S. 611 E. Rosemary St. 27514
An Ultra-Sensitive Mutagenesis Assay System for *Drosophila melanogaster*

OHIO

Dayton Bohman, David Paul 17 Chaminade-Julienne H.S. 5342 Deer Path Ln.
45415 Detection of Nopaline in Habituated Tobacco Pith Cells
Cultured on Arginine-Supplemented Medium
Frankfort Towell, David Bernard 17 Adena H.S. 65 Springfield St. 45628
Archaeology: A Site Study of Concord Township
Ravenna Patterson, Carl Von 18 Ravenna H.S. 7125 S.R. 88 44266
Development of a Computerized Voice Frequency Analysis System

OKLAHOMA

Clinton Reinschmidt, Linda Gail 18 Clinton H.S. Rt. 1, Box 184 73601
Isolation and Kinetic Properties of Tyrosinase
Edmond Gorman, Kathleen Ann 17 Edmond Memorial H.S. 3512 Smokey Hollow
73034 Inference of Free Radical Mechanisms Involved in
Vitamin K-Dependent Carboxylation
Okeene Lorenz, Robinna Gail 17 Okeene Public H.S. R.R. 1, Box 36 73763
Effect of Vitamin E on Prostaglandin Synthesis
Oklahoma City Deatherage, Scott Dean 18 Northeast H.S. Rt. 16, Box 406 73114
Phytoplankton Production in Small Lakes and Ponds: Importance
of Algae Size
Wilburton Raunika, Ronald Paul 17 Wilburton H.S. R.R. 2, Box 213 74578
Production of Liquid Fuels From Inaccessible Hydrocarbon Resources

OREGON

Hillsboro Van Nice, Faith Louise 18 Hillsboro Sr. H.S. 324 S.E. 30th 97123
Concentrations of Progesterone in Rovine Corpus Luteum After
Cell Separation by Velocity Sedimentation
Vale Burke, Jeanie Marie 17 Vale Union H.S. Box 65, Jamieson 97909
Identifying Plant Varieties by Leaf Epidermal Cell Patterns

PENNSYLVANIA

Fort Washington Hsu, Sean Shiao-Fong 18 Upper Dublin H.S. 1024 Hartranft Ave.
19034 Determination of Resonant Growth Rate Responses of
Bacteria Exposed to 10 GHz Electromagnetic Radiation
Junker, Beth Helene 17 Upper Dublin H.S. 1620 Jill Rd., Willow Grove
19090 Amelioratory Effects of Vitamin E on Nitrogen
Dioxide Exposed *Drosophila*
McKeesport Englert, Susan Marie 17 Serra Catholic H.S. 3214 Stewart St. 15132
Lubricant Analysis
Karabin, Christine Michelle 17 Serra Catholic H.S. 1105 Washington St.
15132 Zinc: Plant Growth Stimulant
Plowchalk, David Raymond 17 Serra Catholic H.S. Pierce Rd., Box 686.
Elizabeth 15037 Plant Tissue Culture
Pittsburgh Risinger, Robert Clair 18 Mt. Lebanon H.S. 812 Elm Spring Rd. 15243
Photo-Electrochemical Decomposition of Water

Pottstown Pyfer, Mark Franklin 17 St. Pius X H.S. 1234 S. Keim St. 19464
White Light Holography on Ordinary Film
Reading Linton, James Paul 17 Reading Sr. H.S. 1530 Oak Ln. 19604
Effect of the Selective Pathotoxin From *Periconia circinata* on
Protoplasts of Susceptible and Resistant Genotypes of Sorghum
Rosenberg, Michael Eric 17 Reading Sr. H.S. 1009 Birch St. 19604
Use of Magnetism in the Removal of Oil Spilled on Waterbodies
Saltsburg Hacker, John Robert 17 Kiskiminetus Springs School R.D. 2 Ridge-
view Rd., Mt. Pleasant 15666 An Amateur Built Smoke Tunnel
Used to Demonstrate Lift of Airfoils

PUERTO RICO

San German Jusino, Alvin Gary 17 Lola R. de Tio H.S. Ext. San Ramon #2 00753
Ecological and Biochemical Aspects of Marine Sponges From
the Littoral Zone of Southwestern Puerto Rico

SOUTH CAROLINA

Lexington Lindler, Melanie Layne 17 Lexington H.S. 180 W. 378 29072
Effects of Exhaust Fumes on the *Drosophila* Reproduction Cycle

TENNESSEE

Knoxville Hurst, Daniel Hiram 18 Karns H.S. Rt. 15, Ball Rd. 37921
Effects of Directly Administered Stimuli on Web Pattern and
Silk Structure of *Achaearanea tepidariorum*
Memphis Webb, Steven Wayne 18 Karns H.S. 6701 Heatherbrook Dr. 37921
Development of the Vertical Biaxial Windmill
Brady III, Eugene Giles 17 Memphis Catholic H.S. 1511 Tutwiler
38107 Transformation of *Bacillus subtilis*
Milligan, Daniel Louis 18 Memphis Central H.S. 2896 Young 38111
Effect of the Substituent on the Pyridine Ring on the Rate of
Chloride Ion Displacement in Some Platinum (II) Compounds
Waverly Martin, Barbara Lynn 17 Waverly Central H.S. 481 Powers Blvd.
37185 Various Carbon Anodes for Reduction of Energy Consumption
in the Aluminum Industry

TEXAS

Austin Broucke, Ingrid Martha 18 L.C. Anderson H.S. 7203 Running Rope
Cir. 78731 Fusion Between Starved and Normal Surface Plasmodia
in the Differentiation Process of Myxomycete *Physarum polycephalum*
Busse, Jr., Franklin Keith 18 L.C. Anderson H.S. 7607 Long Point
78731 Role of Salt-Sensitive Chemoreceptors in Recognition of
Nutrients for Oogenesis in *Phormia regina*
Beaumont Wheeler, Ferrell Shane 18 Forest Park H.S. 520 Dowlen Rd. #145
77706 Automorphic Numbers
Clute Boozalis, George Theodore 18 Brazoswood H.S. 109 Clover, Lake
Jackson 77566 Synthesis of Tert-Butyloxycarbonyl-Phenyl-4-
(oxymethyl) phenylacetamidomethyl-resin
Converse Ladda, Lisa Lynn 17 Judson Sr. H.S. 510 Balboa Dr., Universal
City 78148 Relationship Between Oxygen Content and Thermal
Stratification in Lentic and Lotic Communities
El Paso Gamez, Lourdes 17 Loretto Academy P.O. Box 917 79945
Allelopathic Potential of Wild and Cultivated Grasses
Garland Lacy, Scott 17 Lakeview Centennial H.S. 1409 Iroquois 75043
Characteristics of the LP81 Coliphage
Houston Eicher, Susan A. 17 Cypress Creek Sr. H.S. 10603 Glenway Dr.
77070 Water Hyacinths for Water Pollution Reduction and
Methane and Protein Production
Wang, Wayne 17 St. Thomas H.S. 15430 W. Willowwind 77071
Analysis of the Cytogenetic Toxicity of an Anticancer Drug,
Neocarzinostatin
San Antonio Menendez, Carlos Alberto 18 Keystone School 88 Bluet Ln. 78213
Chemotherapeutic Inhibition of the Crown Gall Tumorigenesis

UTAH

- Clearfield Hepworth, Michael 17 Clearfield H.S. 1161 E. 1050 S. 84015
Increasing Ethyl Alcohol Production Through Chemical
Control on Saccharomyces Induced Anaerobic Respiration
- Salt Lake City Hatch, Brian Joseph 18 Highland H.S. 2011 Bryan Ave. 84108
Laser Induced Spectrophotometric Analysis by the Thermal
Lens Technique in Copper Compounds Using a Homemade He:Ne Laser

VIRGINIA

- Alexandria Anderson, Mark George 17 T.C. Williams H.S. 3204 Old Dominion
Blvd. 22305 A Kinetics Study of the Oxidation of 2 Hexanol
by Bromine in Carbon Tetrachloride
- Bedford Rowman, John Walter 17 T.C. Williams H.S. 2708 Farm Rd. 22302
Nuclear Magnetic Resonance Study of Ethylenediaminetetraacetic
Acid and Its Cadmium Complex
- Burke Morton, Dirk Richard 17 Liberty H.S. Rt. 2, Box 236 24523
Building a Resistance to Saccharin in Drosophila melanogaster
- Falls Church Finn, Michael Vincent 17 Lake Braddock Secondary School
5013 Woodland Way, Annandale 22003 Groshing: An Interesting
Recursive Relationship on the Natural Numbers
- Midlothian Mosher, James Stephen 17 Falls Church H.S. 3427 Bannerwood Dr.,
Annandale 22003 Bending Vibrations in Resonant Scattering Theory
- Nokesville Maturi, John Alexander 17 J.E.R. Stuart H.S. 5531 Bouffant Blvd.,
Alexandria 22311 Kinetic Study of the Decomposition of NCl_3
as a Function of Hydrogen Ion Concentration in the Absence
of Other Chloramines
- Portsmouth Stiegler, Linda Catherine 17 Midlothian H.S. 8700 Brown Summit Rd.,
Richmond 23125 Environmental Factors Which Affect Forest
Succession
- Roanoke May, Arthur William 18 Brentsville Dist. H.S. 9197 Broadlands 22123
A Qualitative Analysis of Impact Crater Formation
- Springfield Nabors, Truman 18 Brentsville Dist. H.S. Box 130, 14102 Glenkirch Rd.,
Gainesville 22065 Effects of Different Types of Waves on a
Model Beach
- Virginia Beach Hinton, Curtis McKenzie 18 Manor H.S. 245 Cypress Cir. 23701
Effect of Microwave Versus Conventional Heating on Vitamin C Content
- Williamsburg Warren, Jr., Marvin Hoover 18 Manor H.S. 1407 Darren Dr. 23701
Photoperiodic and Thermoperiodic Control of Diapause in *Nasonia*
vitrepenis and *Sarcophaga bullata*
- DeVincenzis, Christine Mary 17 Roanoke Catholic H.S. 5207 N. Spring Dr.
24019 Application of Guided Optical Waves to Level Sensing
- Gossard, Jr., Terry Wayne 17 West Springfield H.S. 7205 Ashview Dr.,
22153 Attachment of *Neisseria gonorrhoeae* to Selected Tissue
Culture Cell Lines
- Milbocker, Michael Thomas 17 Kempsville H.S. 5397 Challedon Dr.
23462 Allosteric Enzyme Inhibitors: Relationship of Antitumor
Activity of Amygdalin to Protein Synthesis
- Bloom, Bard 17 Lafayette H.S. 302 Mill Neck Rd. 23185
The Berserkerroll: An Investigation of Recursive Probability
Algorithms
- DeVincenzis, Christine Mary 17 Walsingham Academy 860 Wilmet Ln.,
Newport News 23602 Detection of Heterozygotes for Chlorophyll
Production in *Nicotiana tabacum* Utilizing Gamma Radiation-Induced
Mutations

WASHINGTON

- Bellevue Chalupny, Naida Jan 17 Forest Ridge Academy 20429 100 Ave., S.E.,
Kent 98031 Effects of Captan, Chlordane and Cottonseed Meal
on Populations of *Daphnia*
- Des Moines Twidt, Laura Alene 17 Mt. Rainier H.S. 31824 12th Ave. S. 98188
Effect of Light on Root Development
- Lynnwood Roivin, Gregory Paul 17 Meadowdale Sr. H.S. 6832 192nd St., S.W.
98036 A Study of the *Gregarina polymorpha*
- Spokane Hacking, Brian Terry 17 East Valley H.S. R.R. 2, Box 184-A 99207
Alcohol: An Alternative

- Fery, Mark Bradley 17 West Valley H.S. N. 2908 Willow Rd. 98206
Application of the Opto-Acoustic Effect
- Hardison, Karin Susanne 17 Bellarmine Preparatory School 817 25th
Ave., N.E., Puyallup 98371 An Investigation of Pascal's Triangle

WEST VIRGINIA

- Morgantown Hake, Lisa Elaine 17 Morgantown H.S. 140 Poplar Dr. 26505
Amino Acid Analogue Resistant Regulatory Mutants of
Escherichia coli
- Union Thomas, Michael John 17 Morgantown H.S. 661 Valleyview St. 26505
Effect of Phosphatidylcholine Containing Liposomes on Neuroblastoma
Cell Neurite Extension
- Golderman, Richard Fredrick 17 Union H.S. Star Rt. 6, Box 70 24983
Computer Analysis of a Measles Epidemic in a Rural West Virginia
County

WISCONSIN

- Madison Middleton, Karen Laurel 17 James Madison Memorial H.S. 6402 Land-
fall Dr. 53705 Effects of Heparin, Dilantin, and Salicylate on
Free Thyroxine in Serum
- Wauwatosa Benson, James David 18 Wauwatosa East H.S. 2447 N. 82nd St. 53213
A More Stable Floating Liquid Zone

OREGON

Hillsboro Van Nice, Faith Louise 18 Hillsboro Sr. H.S. 324 S.E. 30th 97123

TENNESSEE

Memphis Brady III, Eugene Giles 17 Memphis Catholic H.S. 1511 Tutwiler 38107

TEXAS

El Paso Gamez, Lourdes 17 Loretto Academy P.O. Box 917 79945

VIRGINIA

Burke Finn, Michael Vincent 17 Lake Braddock Secondary School
5013 Woodland Way, Annandale 22003
Falls Church Matur, John Alexander 17 J.E.B. Stuart H.S. 5531 Bouffant Blvd.,
Alexandria 22311

WISCONSIN

Madison Middleton, Karen Laurel 17 James Madison Memorial H.S. 6402 Landfall
Dr. 53705



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

*Washington Trip Winners
of the
Thirty-ninth Annual Science Talent Search®
for the Westinghouse Science Scholarships and Awards*

The forty Washington trip winners of the 39th Annual Science Talent Search, among whom \$89,500 of Westinghouse Science Scholarships and Awards will be distributed, represent about 4.2% 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.

Thirteen girls and 27 boys are being invited to Washington, D.C. for an all-expense paid trip February 21-25, 1980, 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 32 cities in 17 states. They were picked by the judges from among 13,651 contestants of whom 950 completed their entries by writing a report on their science project, submitting personal data and teacher recommendations. Completed entries were received from 46 states, the District of Columbia and Puerto Rico.

Washington Trip Winners

HOME ADDRESS follows name of school

AGE of winner follows name

ALABAMA

Decatur McGahan, Gary Eugene 18 Austin H.S. 1925 Woodmeade St. 35601

ARKANSAS

Fayetteville Wickliff, David Edmund 18 Fayetteville H.S. 1215 Columbus Blvd. 72701

CALIFORNIA

Alhambra Thornburg, Scott Cameron 17 Alhambra H.S. 1096 Brier Cliff Way, Monterey Park 91754
 La Jolla Gleba, David Thomas 17 La Jolla H.S. 1685 Marisma Way 92037
 Los Altos Chang, Robin Chu Hsin 17 Los Altos H.S. 845 Starlite Ln. 94022
 San Marino Penprase, Bryan Edward 17 San Marino H.S. 2570 Lombardy Rd. 91108
 Santa Ana Murray, Alan Glenn 17 Foothill H.S. 1531 Wyndham Ct. Rd. 92705

CONNECTICUT

Westport Rothenberg, David Benjamin 17 Staples H.S. 30 Bayberry Ln. 06880

FLORIDA

Merritt Island Epstein, Pamela Lynne 17 Merritt Island H.S. 1035 New Hampton Way 32952
 Niceville Turner, Mark William 16 Niceville H.S. 2855 Edgewater Dr. 32578

HAWAII

Aiea Laberge, Anthony Charles 18 Aiea H.S. 99-524 Halawa Heights Rd. 96701

ILLINOIS

Evanston Friedman, Joel 17 Evanston Twp. H.S. 2669 Orrington Ave. 60201
 Wheeling Bina, Craig Richard 17 Wheeling H.S. 2603 N. Waterman Ln., Arlington Heights 60004

INDIANA

Jasper Bohnert, Tony James 18 Jasper H.S. 840 Giesler Rd. 47546

MARYLAND

Germantown Weinert, George Frank 17 Seneca Valley H.S. 10521 Seneca Ridge Dr., Gaithersburg 20760
 Rockville Dick, Heather Lynn 17 Rockville H.S. 5709 Crawford Dr. 20851

MICHIGAN

East Lansing Andersland, John Michael 17 East Lansing H.S. 901 Woodingham Dr. 48823
 Livonia Perdue, Craig Thomas 17 Stevenson H.S. 18618 Parklane 48152

MONTANA

Helena Vidic, John Ward 18 Helena Sr. H.S. 2122 8th Ave. 59601
 Sunburst Bunyak, Jenae Rose 17 North Toole County H.S. Box 2246, Cut Bank 59427

NEW YORK

Bayside Taylor, Naomi 16 Benjamin N. Cardozo H.S. 53-31 213 St. 11364
 Bellmore Prestigiacomo, Mark Paul 17 W.C. Mephram H.S. 2260 Henry St., North Bellmore 11710
 Brooklyn Jerome, Karen Lisa 16 South Shore H.S. 1061 E. 57 St. 11234
 Bienenstock, Arielle Nadine 17 Yeshiva of Flatbush Joel Braverman H.S. 156 Beach 140 St., Belle Harbor 11694
 Endwell Galbi, David Elmer 17 Maine-Endwell Sr. H.S. 819 Biscayne Terr. 13760
 New York Chiang, David 17 Bronx H.S. of Science 541 W. 211 St., #44 10034
 Kupferberg, Sarah Julia 17 Bronx H.S. of Science 98 Malba Dr., Malba 11357
 Turkel, Lee Diana 17 Bronx H.S. of Science 4483 Manhattan College Pkwy., Riverdale 10471
 Wang, Phillip Sung-En 18 Bronx H.S. of Science 531 Main St. #718, Roosevelt Island 10044
 Hull, Melissa Willene 17 Hunter College H.S. 549 W. 123 St. #11G 10027
 Feldman, Paul Neil 17 Stuyvesant H.S. 105-68 Ave. L, Brooklyn 11236
 Greene, Brian Randolph 17 Stuyvesant H.S. 25 W. 81 St. 10024
 Randall, Lisa Joy 17 Stuyvesant H.S. 196-10A 65th Crescent, Fresh Meadows 11365
 Schenectady Brownlee, Kenneth Gainsford 17 Linton H.S. 1125 Wendell Ave. 12308