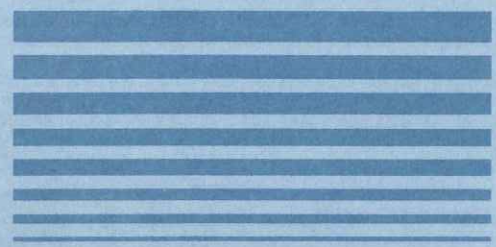


FOR USE: WEDNESDAY, JANUARY 13, 1988

THE 47TH ANNUAL

STS



SCIENCE
TALENT
SEARCH



WESTINGHOUSE SCIENCE
SCHOLARSHIPS AND AWARDS

1988
HONORS
GROUP

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

Washington Trip Winners

HOME ADDRESS FOLLOWS NAME OF SCHOOL

AGE OF WINNER FOLLOWS NAME

ALABAMA

Grand Bay Moore, Terry Kay 17 Mobile County H.S. Rt. 2, Box 230-A 36541

CALIFORNIA

Alhambra Tsou, Christine Cha Ming 17 Alhambra H.S. 3305 Jurich Pl. 91803
 Fresno Ryder, Scott William 18 Edison H.S. 5517 E. Butler 93727
 San Diego Huynh, Hong B. 16 Hoover H.S. 4384 Van Dyke Ave. 92105

FLORIDA

Fort Walton Beach Deibler, Elizabeth Ann 17 Choctawhatchee H.S. 20 James Ave., Shalimar 32579
 Palm Beach Gdns. Beaulieu, Stacey Ellen 16 Palm Beach Gardens H.S. 4072 Ilex Cir. S. 33410
 Plantation Zucker, Scott David 17 South Plantation H.S. 10160 S.W. 2nd St. 33324

GEORGIA

Atlanta Hooker, Brian Casey 17 Benjamin E. Mays H.S. 653 Peeples St., S.W. 30310

ILLINOIS

Chicago Abella, Benjamin S. 17 University of Chicago Laboratory Schools H.S. 5454 S. Shore Dr. 60615
 Evanston Albrecht, Meredith Ann 17 Evanston Township H.S. 28 Salem Lane 60091

IOWA

Bettendorf Duncan, Todd Lucas 18 Bettendorf H.S. 3630 S. Hampton Dr. 52722

MASSACHUSETTS

North Andover Gilbert, Michele 17 North Andover H.S. 98 Marian Dr. 01845
 North Dartmouth Hsu, Leonardo 16 Dartmouth H.S. 147 Lexington Ave. 02747

MICHIGAN

Ann Arbor Matthews, Keith David 17 Huron H.S. 1609 S. University 48104

NEW JERSEY

Midland Park Cooke, David Aaron 17 Midland Park H.S. 212 Park Ave. 07432

NEW YORK

Bayside Choi, Mina 18 Benjamin N. Cardozo H.S. 134-11 Blossom Ave., Flushing 11355
 Brooklyn Liao, Hsin-Chao 17 Brooklyn Technical H.S. 41-15 97 PL, Corona 11368
 Cedarhurst Mancuso, James Paul 17 Lawrence H.S. 249 Elm Rd., Inwood 11696
 Centereach Conrad, Brian David 17 Centereach H.S. 39 Arrow St., Selden 11784
 Flushing Levine, Dana Susan 17 Townsend Harris H.S. 219-45 Stewart Rd., Hollis Hills 11427
 Long Island City Alaie, Ali Reza 17 William C. Bryant H.S. 41-20 28 Ave. 11103
 Chumbes, Eduardo Martin 17 William C. Bryant H.S. 24-51 38 St., Apt. 8A 11103
 New York Kim, Sally Joanne 17 Bronx H.S. of Science 200-02 46 Ave., Bayside 11361
 Park, Sheeyun 17 Bronx H.S. of Science 552 E. 240 St., Bronx 10470
 Sich, Weiva Yu 17 Bronx H.S. of Science 3377 Sedgwick Ave., Bronx 10463
 Zuckerman, Brian Lee 17 Ramaz Upper School 610 W. End Ave. 10024
 Ali, Mohamad Shahan 17 Stuyvesant H.S. 139-20 88 Rd., Jamaica 11435
 Checinska, Aurika Wanda 16 Stuyvesant H.S. 421 W. 57 St. 10019
 Chen, Meivile 17 Stuyvesant H.S. 89-14 34 Ave., Apt. 5D, Jackson Heights 11372
 Nayak, Chetan 16 Stuyvesant H.S. 510 W. 110 St. 10025
 Tseng, Janet 17 Stuyvesant H.S. 68-55 Exeter St., Forest Hills 11375

OHIO

Xenia Shirazi, Nabeel 17 Beavercreek H.S. 2416 Apricot Dr., Dayton 45431

OKLAHOMA

Edmond LeGrand, Richard Mark 17 Edmond Memorial H.S. 1217 Cedar Ridge Rd. 73013

PENNSYLVANIA

State College Cuffey, Kurt Marshall 18 State College Area Senior H.S. 1254 Smithfield St. 16801

TEXAS

San Antonio Rodriguez, Karl Andrew 17 John Marshall H.S. 5603 Charlie Chan 78240

UTAH

Clearfield Chang, Shu-Ming 17 Clearfield H.S. 1657 N. 250 W., Sunset 84015

VIRGINIA

Hampton Reed, Jason Christopher 17 Kecoughtan H.S. 40 Finns Point Lane 23669
McLean O'Brien, Lucy Erin 17 Langley H.S. 6505 Deidre Ter. 22101
Pande, Vijay Satyanand 17 Langley H.S. 1043 Dead Run Dr. 22101

WISCONSIN

Madison Green, Aileen Louise 17 James Madison Memorial H.S. 3042 Maple Grove Dr. 53719



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

Washington Trip Winners

of the

Forty-Seventh Annual Science Talent Search

for the Westinghouse Science Scholarships and Awards

The forty Washington trip winners of the 47th Annual Science Talent Search, among whom \$140,000 of Westinghouse Science Scholarships and Awards will be distributed, represent about 3% 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, DC 20036.

Sixteen girls and 24 boys are being invited to Washington, DC for an all-expenses-paid trip February 25-29, 1988, 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 \$20,000 (\$5,000 per year), two \$15,000 (\$3,750 per year), three \$10,000 (\$2,500 per year), four \$7,500 (\$1,875 per year). The remaining 30 contestants will be given Westinghouse Science Awards of \$1,000 each.

The trip winners are 16 to 18 years of age and come from 30 cities in 17 states. They were picked by the judges from among 16,566 contestants of whom 1,339 completed their entries by writing a report on their scientific research, submitting personal data and teacher recommendations. Completed entries were received from 47 states, the District of Columbia, American Samoa, Puerto Rico, and Overseas American Schools.

Science Talent Search

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

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

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

Westinghouse Electric Corporation has made a notable contribution to the advancement of science in America by financing the Science Talent Search through the 47 years of its existence.

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

1988 Honors Group

The achieving of Honors in the Science Talent Search is evidence of ability and interest in science and engineering which is taken into consideration by colleges and universities in admissions and granting of scholarships. For this reason this Honors List is distributed to all universities and colleges in the United States. Each of those winning honors is being furnished with multiple certifications intended to accompany applications for college admissions and for scholarships, but a listing in this pamphlet should be accepted as an equivalent certificate. Listed are 124 girls and 176 boys.

From this group of 300 Honors, 40 students are chosen as Winners of the Washington trip where \$140,000 in scholarships and awards will be announced. The Winners are announced subsequent to the distribution of this list and their names will be published in SCIENCE NEWS of January 23, 1988. A copy will be sent upon request.

(age follows name; home address underlined)

ALABAMA

Auburn Chen, William 17 Auburn H.S. 2039 Oriole Dr. 36830 Computer Vision System
Neuman, Cheryl Lynne 17 Auburn H.S. 630 Elizabeth Dr. 36830 EPA and
DHA: Eskimo Paradox
Birmingham Ho, Yen-Ching 17 The Altamont School 1583 Mountain Gap Dr. 35226 Role
of Biliary Endogenous beta-glucuronidase in the Development of Gallstones
Bland, Lashun Reane 17 Minor H.S. 615 Vicksburg St. 35224 System for
Serotyping Streptococcus pneumoniae Based on Pneumococcal Surface
Protein
Grand Bay Moore, Terry Kay 17 Mobile County H.S. Rt. 2, Box 230-A 36541 Isolation
and Characterization of Small Extrachromosomal Circular DNAs

ARIZONA

Sierra Vista Allen, Cynthia Kaye 17 Buena H.S. 5264 Equestrian Ave. 85635 Spreckle
Autocorrelation Function Analysis of 4-Meter Telescope Images of R Aquarii

CALIFORNIA

Alhambra Tsou, Christine Cha Ming 17 Alhambra H.S. 3305 Jurich Pl. 91803 Isolation
and Identification of High-Density Plasma Lipoprotein

Fresno Vu, Ann Quynh 17 Clovis West H.S. 329 E. Omaha Ave. 93710 Capacitation
of Mammalian Sperm: Examining the Biological Significance of Zona
pellucida Binding, the Ability to Undergo an Acrosome Reaction, and Sperm
Velocity
Obernolte, Jay Phillip 17 Edison H.S. 6764 N. Rafael 93711 Using a
Microcomputer to Predict Impact Speeds and Coefficients of Drag
Ryder, Scott William 18 Edison H.S. 5517 E. Butler 93727 Piezoelectric
Film as a Real-Time Rain Gauge
La Jolla Davis, Gregory Keith 17 La Jolla H.S. P.O. Box 3252 92038 Are the Mean
Differences Between Self and Perceived Love Significant?
North Hollywood DeAntonio, Carlo 16 Harvard School 17052 Mooncrest Dr., Encino 91436
Observational Factors Affecting the Determination of the Visual Brightness
of Comets
Engin, Doruk 17 North Hollywood H.S. 11839 Magnolia Blvd. #10 91607
Acceleration
Orinda Jacobson, Andrew Marc 17 Miramonte H.S. 53 E. Altarinda Dr. 94563
Insulin "A" Chain That Links Man and Protozoa, a Further Study of the
Effect of Insulin on Paramecium
Riverside Farmer, Melissa Marie 17 North H.S. 5086 Berryhill Pl. 92507 Nitrogen
Fixation to Improve Plant Growth
San Diego Magde, Laura Suzan 16 Gompers Secondary School 3113 Ducommun Ave.
92122 Viscous Fingers as Fractals
Huynh, Hong B. 16 Hoover H.S. 4384 Van Dyke Ave. 92105 Tumor Cell
Maturation Assayed by Changes in Cell Surface Proteins
San Francisco Thaler, Joshua Paul 15 Lowell H.S. 35 Castenada Ave. 94116 Plano-
Concave Ellipsoidal Interferometer for Far-Infrared Spectroscopic Analysis
San Marino Ma, Paul 18 San Marino H.S. 1430 Bellwood Rd. 91108 High Resolution
Paramagnetic Salt Thermometer for Temperature Measurements Near 4.2 K

COLORADO

Lakewood Ismailidis, Gregory Isidoros 17 Green Mountain H.S. 729 S. Cole Ct. 80228
Analysis of the Possible Dangers Associated With Malfunctions of a
Tethered Satellite

CONNECTICUT

Fairfield Horowitz, Marc Howard 16 Fairfield H.S. 161 Lamplighter Lane 06430
Expert System Shell for a Parallel Processing Computer

DELAWARE

Wilmington Miller John Charles 18 Salesianum School 3 Garrison Cir., Smyrna 19977
Use of Optics in the Automation of Visibility Sensors

FLORIDA

Coral Springs Novendstern, Sheri Lynn 17 J.P. Taravella H.S. 8482 N.W. 78th Ct., Tamarac
33321 Anti-oxidants: Induced Recombination in Sordaria fimicola
Fort Lauderdale Jacobson, Jeffrey Randall 17 Nova H.S. 4220 Van Buren St., Hollywood
33021 Study of the Production and Properties of Intercalated Graphite
Aguilar, Richard Manuel 17 Western H.S. 721 S.W. 158 Ln. 33325
Determination of Rotatory Polarization in Sodium Chlorate Crystals
Fort Walton Beach Deibler, Elizabeth Ann 17 Choctawhatchee H.S. 20 James Ave., Shalimar
32579 The Use of Vibrations to Rid Wood of Termites
Gainesville Crawford, Russell David 17 Buchholz H.S. 20 S.W. 79th Dr. 32607
Microhardness of Polymer Composites
Chen, Si 16 Eastside H.S. 278 Corry Village, #15 32603 Oracle: The Birth
of an Expert System
Jacksonville Shaeffer, Willette Lilia Pascua 17 Terry Parker H.S. 1765 Derringer Rd.
32225 Supercooling of Iron-Copper Alloys
Melbourne Riley, Caryn Marie 17 Melbourne H.S. 1560 Holland St. 32935 Development
of a Numerical Model of a GaAs MESFET for the Simulation of the Design
Performance
Miami Erber, Stephanie Lynn 17 Miami Killian H.S. 7827 S.W. 106 Circle 33173
Cardiovascular, Emotional, and Psychomotor Responses to Feedback During a
Frustrating Task

- Palm Beach Gdns. Beaulieu, Stacey Ellen 16 Palm Beach Gardens H.S. 4072 Ilex Cir. S. 33410 Enhancement of Citrus and Dieffenbachia Canker Symptomatology by Xanthan Gum Interaction
- Plantation Zucker, Scott David 17 South Plantation H.S. 10160 S.W. 2nd St. 33324 Correlation Between Hypopigmentation and Other Developmental Anomalies in *Caretta caretta*, a Threatened Species
- Port Orange Mondlak, Kurt Alon 17 Spruce Creek H.S. 616 Ridge Blvd., South Daytona 32019 Neutron Energy Spectrum Within a 100 kW Light Water Reactor
- Sunrise Williams, William Bradley 17 Piper H.S. 12000 N.W. 29 Pl. 33323 Testosterone as a Possible Cause of Coronary Thrombosis and Its Potential Use as a Natural Blood Coagulant in Bleeder's Disease
- Tampa McCabe, Marianne Kaleen 16 Chamberlain H.S. 13315 Orange Grove Dr. 33618 New Revelations Air-A-Ponics vs. Fast Growers System for the Germination and Growth of the *Brassica campestris*

GEORGIA

- Atlanta Schafer, Katherine Louise 17 Lakeside H.S. 1920 Mercedes Ct. 30345 What Effect Does Color Have on the Readability of an Afterimage?
- Hooker, Brian Casey 17 Benjamin B. Mays H.S. 653 Peeples St. S.W. 30310 Development and Application of a Portable Device for Determination of Atmospheric Carbon Monoxide
- Chamblee Kundra, Robin Ann 17 Henderson H.S. 2054 LaVista Circle, Tucker 30084 Effect of Base Media on Tolerance Tests

ILLINOIS

- Chicago Lum, Helen 17 Mather H.S. 6452 N. Fairfield Ave. 60645 Adherence of *Streptococcus mutans*: Implications for the Construction of the Artificial Heart
- Abella, Benjamin S. 17 University of Chicago Laboratory Schools H.S. 5454 S. Shore Dr. 60615 Partial Characterization of the *rplKAJL* / *rpoBC* Region of *Rhodobacter capsulata*
- Evanston Albrecht, Meredith Ann 17 Evanston Township H.S. 28 Salem Lane 60091 Effect of Geometric Variations in the Dispersed Phase on the Thermal Diffusivity of Composite Materials
- Buchanan, David Roberts 17 Evanston Township H.S. 2519 Ridge Ave. 60201 Effects of Temperature and Mixed Solvents on the Thermodynamics of the Rhodamine B Lactone - Zwitterion Equilibrium
- Kato, Isaac Ken 17 Evanston Township H.S. 2717 Sheridan Rd. 60201 Comparison of the Initial Rates of Reactions of Selected 1-Haloalkanes and the Derivation of a Mathematical Equation
- Glen Ellyn Ramsey, Stephen Allen 17 Glenbard West H.S. 873 Colcord Place 60137 Launch Time Optimization in Interplanetary Space Travel
- Naperville Hoshen, Shiri 16 Naperville Central H.S. 812 Shiloh Cir. 60540 Calculation of Functional and Structural Alphabet Indices for Amino Acid Sequences
- Taylorville Daley, Michael Allen 18 Taylorville H.S. 300 E. Adams 62568 Polymer Degradation: Phase II
- Urbana Nicholas, Christopher Dean 17 University H.S. 2506 Slayback 61801 Comparison of the Ureide and *in vivo* Acetylene Reduction Assays for Estimation of Nitrogenase Activity in Mutant Soybeans *Glycine max* (L.) Merr.

IOWA

- Bettendorf Duncan, Todd Lucas 18 Bettendorf H.S. 3630 S. Hampton Dr. 52722 Photometric Measurements of Suspected Variable Star 27 Cygnus

MARYLAND

- Beltsville Mathews, Susan Elouise 17 High Point H.S. 4610 Lincoln Ave. 20705 Improving Little Falls Dam
- Bethesda Swanson, Eric Thomas 17 Walter Johnson H.S. 5921 Rossmore Dr. 20814 Comparative Analysis of Toxic Patterns of 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine and Analogs in Cultured Rat Hepatocytes
- Bekelman, David Benjamin 17 Walt Whitman H.S. 8301 River Trail Lane 20817 Feedback Inhibition in Rat Hippocampal Neurons

- Doran, Jr., Charles Francis 16 Walt Whitman H.S. 8544 Brickyard Rd., Potomac 20854 Stability of the Logistic: a Dynamical Model, a Logical Proof, and an Empirical Test
- Burtonsville Lee, Mary Katherine Elizabeth 17 Paint Branch H.S. 15427 Good Hope Rd., Silver Spring 20904 Effects of Magnetic Annealing Procedures on Magnetoelastic Properties of Amorphous Metallic Glass Ribbons
- Wang, Yen-Wei 16 Paint Branch H.S. 2033 Kingshouse Rd., Silver Spring 20904 Effects of Malachite Green on Cellular Respiration
- Ellicott City Robinson, Michelle Lynn 17 Centennial H.S. 4227 Purple Twilight 21043 Off-Regulation for Transient Acetylcholinesterase in Neurons of the Ventrobasal Thalamus of Rat: Independence from Principal Afferents and Humoral Factors
- Glen Burnie Donaldson, Kendall Estelle 17 Glen Burnie H.S. 901 Oak Tree Rd., Severn 21144 Ecotypic Variation of *Escherichia coli* With Respect to Antibiotic Sensitivity From Anne Arundel County Watersheds
- Greenbelt Chatterton, Jacqueline Ruth 16 Eleanor Roosevelt H.S. 3801 Idle Ct., Bowie 20715 What Sank the Pride of Baltimore?
- Pati, Sibani 17 Eleanor Roosevelt H.S. 8604 Saffron Dr., Lanham 20706 Rotation Stabilizes Cellular Convection: A New Understanding of Solar Granulation
- Oxon Hill Meade, James Shelton 17 Oxon Hill H.S. 12125 Wheeling Ave., Upper Marlboro 20772 Modal Responses of Vibrating Structures
- Rockville Chen, Douglas Sou 17 Thomas S. Wootton H.S. 7 Olmstead Ct. 20854 Isolation of Weed-Inhibitory Allelochemicals in *Artemisia annua*

MASSACHUSETTS

- Concord Waggett, Caryl Eleanor 17 Concord-Carlisle Regional H.S. 169 Lowell Rd. 01742 Dinoflagellate Population Densities and Species Diversities on Different Substrates in Little Lameshur Bay and Greater Lameshur Bay, St. John, the U.S. Virgin Islands
- North Andover Gilbert, Michele 17 North Andover H.S. 98 Marian Dr. 01845 Patterns of Spatial Leadership as a Function of Range Use of the Panamanian Tamarin, *Saguinus oedipus geoffroyi*
- North Dartmouth Hsu, Leonardo 16 Dartmouth H.S. 147 Lexington Ave. 02747 Inverse Sprinklers: Two Simple Experiments and the Resolution of the Feynman-Forrester Conflict
- Williamstown Behr, Bradford Bartholomew 17 Mount Greylock Regional H.S. P.O. Box 446 02167 Titius-Bode Configurations in the Uranian Planetary System

MICHIGAN

- Ann Arbor Matthews, Keith David 17 Huron H.S. 1609 S. University 48104 Introduction of Methyltetrahydrofolate into Cellular Metabolism: Removal of the Methyl Group
- Houghton Lee, Dean Junyuel 16 Houghton H.S. 1214 E. 5th Ave. 49931 Calculating General Diffraction Losses in Radiometry: An Enhancement of the Present Theory of Approximations
- Portage Taraszka, Karen Sue 17 Portage Central H.S. 410 Marylynn Ct. 49002 Characterization of the Enzyme, Extensin Peroxidase

MINNESOTA

- Rochester Attlessey, Chad Daniel 18 John Marshall H.S. 5501 St. Mary's Dr. N.W. 55901 Robotics and Machine Learning: A Three-Year Study

MISSOURI

- Kansas City Fay, Michelle Paulette 17 Park Hill H.S. 10606 N.W. Verlin, Parkville 64152 Replacement of Barium Carbonate for Barium Oxide in Perovskite Superconductors
- St. Louis Mahabub, Taj Jerry 16 Christian Brothers College H.S. 405 LeMans Way, Belleville, IL 62221 Computer Generated Rehabilitation: Its Applications and Outcomes in the Treatment of Visuospatial Agnosia

MONTANA

Missoula Raithel, Cort Osborn 18 Big Sky H.S. 1602 Birchwood Ln. 59801
Mathematical Model Which Determines an Individual's Time in the 100m
Dash and the Minimum Time Humanly Possible

NEBRASKA

Henderson Thieszen, Stefani Loye 17 Henderson H.S. Rt. 1, Box 15 68371 Analysis of
Biological Responses to Irradiation
Omaha Sharpe, Jody LeRon 17 Central H.S. 1529 N. 106 68114 Metabolism of
Capsaicin: Putative Carcinogen From Red Pepper
Gilliland, Nathan Richard 17 Northwest H.S. 11109 N. 61st St. 68152 ADCC
and NK of Peripheral Blood Mononuclear Cells in IDC Patients
Wayne Rump, Kurt Matthew 18 Wayne H.S. 1414 Claycomb Rd. 68787 Experimental
Investigation of the Effects of Lateral Vortex Lift in Stepped Airfoils

NEW JERSEY

Allendale Aronsky, Adam Michael 17 Northern Highlands Regional H.S. 14 Indian Tr.
Upper Saddle River 07458 In vitro Role of Hyaluronic Acid Catabolic
Metabolites on the Cell Viability of Fibrosarcoma SW 684A and SW 924B
Cell Lines
Little Silver Giallourakis, Cosmas Chris 17 Red Bank Regional H.S. 46 Winding Brook
Way, Shrewsbury 07702 Organic Superconductor: Copper(I)di-
pyridino18crown6.e
Long Branch Cole, Samuel Allen 17 Long Branch H.S. 231 Cottage Ave. 07740 Design
and Development of an Organic Photovoltaic Cell Employing a Schottky
Barrier and Fluorescein Substrate
Middle Township Harvey, Allison Jane 18 Middle Township H.S. 372 C.H. South Dennis Rd.
Cape May Court House 08210 Use of Equine Amnion as a Temporary Burn
Wound Dressing in Serious Burn Wounds
Midland Park Cooke, David Aaron 17 Midland Park H.S. 212 Park Ave. 07432 Symbiosis
in Foraminifera: Surface Antigens as Recognition Mechanisms
Morristown Pyle, Michele Marie 17 Villa Walsh Academy 8 Bolton Dr., Long Valley
07853 Thumb-Index Distance and its Relationship to Reading Ability
Secaucus Eda, Patricia Noriko 17 Secaucus H.S. 4 Allan Terr. 07094 Novel Approach
to the Dynamic Behavior of Nonlinear Pendulums

NEW MEXICO

Albuquerque Dawson, Heather Louise 18 Albuquerque H.S. 1617 San Cristobal, S.W. 87104
Rochelle Salt: Morphological and Optical Effects of Metal Impurities
Santa Fe Rodriguez, Manuel Marolt 16 Santa Fe H.S. 1003 Stagecoach Rd. 87501
Effects of Exogenous L-[1-¹³C] Proline on the Growth and Proline
Metabolism of *Distichlis spicata* Suspension Cultures

NEW YORK

Bayside Wong, David 18 Bayside H.S. 169-51 25 Ave., Whitestone 11357 Study of
Senile Plaques and Their Distributions in Relation to Vascular Structures
Anathanarayan, Girish 17 Benjamin N. Cardozo H.S. 188-52 85 Rd.,
Holliswood 11423 Using an Interferometer to Aid Computer Pattern
Recognition
Choi, Ming 18 Benjamin N. Cardozo H.S. 134-11 Blossom Ave., Flushing
11355 Analysis of Teacher Perceptions of Students With Respect to Student
Race and Gender in Queens New York City H.S.s
Chow, Victor 18 Benjamin N. Cardozo H.S. 260-16 Grand Central Pkwy.,
Glen Oaks 11004 Victorian Numbers
Chung, Jina 18 Benjamin N. Cardozo H.S. 30-11 Corporal Kennedy St. 11360
Experimental Validation of the Sadhal-Plesset Formulations for Liquid
Dropwise Evaporation
Chung, Sang Ha 18 Benjamin N. Cardozo H.S. 143-52 3rd Fl. Sanford Ave.,
Flushing 11355 Design and Validation of a Two-Dimensional Ising Model
of Ferromagnetic Systems Based on Conway's Game of Life
Eng, Irene Frances 17 Benjamin N. Cardozo H.S. 58-31 217 St. 11364
Quantitative Assay to Measure Chemotaxis by *Caulobacter crescentus* and
Analysis of the Lethality of Chemotaxis Medium

Hsu, Wen Chuan 17 Benjamin N. Cardozo H.S. 224-03 77 Ave. 11364
Tomorrow's Labor Supply
Kim, Jung Ho 18 Benjamin N. Cardozo H.S. 56-49 220 St. 11364
Investigation on Xth Order Complete Numbers
Lau, Bernard 17 Benjamin N. Cardozo H.S. 246-33 Thornhill Ave., Douglaston
11362 Duffinian and Imperfect-Duffinian Numbers
Lee, Lincoln 18 Benjamin N. Cardozo H.S. 61-08 217 St. 11364 Dynamic
Behavior of a Moored, Conical Platform Continuously Impacted by an Ice
Sheet
Lin, Chen Chen 17 Benjamin N. Cardozo H.S. 56-27 220 St. 11364
Investigation Into Rational and Gaussian Semiprimes
Hsia, Elizabeth Chun-Ching 17 John F. Kennedy H.S. 2717 Elliot St., Merrick
11566 Quantitation by Flow Cytometry of Rat Alveolar Macrophage
Phagocytosis of Texas Red Latex Beads
Cheng, Pochen 18 Brooklyn Technical H.S. 40 Monroe St. FF9, New York
10002 Quantitation and Localization of Disialogangliosides in Human Renal
Tumors
Heymont, Jennifer Leah 17 Brooklyn Technical H.S. 71 Lefferts Ave. 11225
Geometric Superproofs: Applications and Extensions of Three Uncommon
Mathematical Methods
Lee, Kevin M. 17 Brooklyn Technical H.S. 52-23 79 St., Elmhurst 11373
Application of Retroreflectors With an Interferometer
Liao, Hsin-Chao 17 Brooklyn Technical H.S. 41-15 97 Pl., Corona 11368
Application of the Prime Density Function to Simple Quadratic Fields
Rodriguez, Jr., Herbert 16 Brooklyn Technical H.S. 97-27 130 St., Richmond
Hill 11419 Special Matrix Exponential Forms
Gayle, Paula M. 17 Erasmus Hall H.S. 1601 Nostrand Ave. 11226
Cytochrome b₅ From Bovine Heart; Purification, Characterization and
Isozymic Properties
Ly, Quocdan 18 Erasmus Hall H.S. 81 Ocean Pkwy., #2H 11218
Development of a Computerized Laser Vibration Detector
Ngo, Canh Le 18 Fort Hamilton H.S. 5617 6th Ave. 11220 Study of Fecal
Coliform Counts Between Mussels and Ambient Water During the Tidal
Change
Obeid, Nadia 17 James Madison H.S. 428 E. 31 11226 Molecular Relaxation
Dynamics and Structure of Crown Ether Complexes in Dimethyl Carbonate
Yung, Mandy 18 James Madison H.S. 1318 West 6 St., Apt. #B2 11204
Color Vision in the Perifovea
Bonsignore, Antoinette Joan 17 Midwood H.S. 1755 76 St. 11214
Immunological Study of Interleukin 1 and Interleukin 2 in Septic Patients
Petrocelli, Dennis 17 Edward R. Murrow H.S. 1750 Coleman St. 11234
Computer Simulation of Drug Diffusion Through the Blood-Brain Barrier
Feigenblum, Leora 17 Yeshiva of Flatbush Joel Braverman H.S. 1319 E. 27
St. 11210 Illegitimate Recombination in Eukaryotic Cells
Mancuso, James Paul 17 Lawrence H.S. 249 Elm Rd., Inwood 11696 An
Examination of the XN + 1 Problem
Conrad, Brian David 17 Centereach H.S. 39 Arrow St., Selden 11784
Inverted Continued Fractions: A New Representation of the Real Numbers
Miodynia, Deborah Ann 17 Commack H.S. South 10 Dorothea St. 11725 Use
of Recombinant Inbreds to Map a Maize Molecular Probe to its Chromosomal
Location
Dix Hills Begleiter, Alison Faye 17 Half Hollow Hills H.S. East 3 Vauxhall Ct.,
Melville 11747 Ca⁺⁺ Current Stimulated by GABA-A Binding
Flushing Kapur, Sunil 17 John Bowne H.S. 91-40 Lamont Ave., Apt. #4E, Elmhurst
11373 Characterization of the Nerve Growth Factor-Like Protein Detected
in ACM and SCM Following a Bioassay on Chick DRG and Rat PC12 Cells
Krishnamurthi, Ranjani 17 John Bowne H.S. 43-32 Kissena Blvd. 11355
Birth-Order: Your Passport to Acculturation?
Trakru, Meena 17 John Bowne H.S. 42-91 Saull St., Apt. #1-B 11355
Investigation of the Relationship Between Income and Religious Beliefs
Gupta, Suman 17 Townsend Harris H.S. 132-05 Avery Ave. 11355 Induced
Plasmid Insertion and Excision Accompanying Variant Strain Isolation and
Reversion in *Staphylococcus aureus*
Lazar, Teresa 17 Townsend Harris H.S. 78-22 165 St. 11366 Biological
Mutations of *Escherichia coli* to Produce Thiosine Resistance, Biological
Mutagen Contributing Pressure
Levine, Dana Susan 17 Townsend Harris H.S. 219-45 Stewart Rd., Hollis Hills
11427 Effects of Alliteration on the Cognition of Children

Flushing (cont.) Qazi, Yasmin Outub 17 Townsend Harris H.S. 141-40 73 Ave. 11367 Effect of Gold Thiomalate on the Aggregation of Immunoglobulin G

Chu, Allen 17 Francis Lewis H.S. 134-14 Franklin Ave. 11355 Investigation of Primary Film Under the Optimal Condition for Spontaneous Spreading

Hellman, Justin Marc 17 Francis Lewis H.S. 36-14 19 St. 11358 Predictability of U.S. Supreme Court Nominees' Voting Patterns on Civil Rights Cases Based on an Examination of Justices who Served From 1865-1987

Khan, Rehana 17 Francis Lewis H.S. 161-10 20 Ave. 11358 Income and Attitude Toward Social Change in Bangladesh

Kuhl, Philip Rudolf 17 Francis Lewis H.S. 24-03 201 St. Bayside 11360 Effects of Ultrasound on the Dehydration of 2-Methylcyclohexanol

Pu, Allen 17 Francis Lewis H.S. 67-15 Fresh Meadow Lane, Fresh Meadows 11365 Crystalline Organic Films for Integrated Optics Application

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UTAH

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Anyone desiring information on or details of the results of State Science Talent Searches should send their inquiries to the Directors in the respective states.

ALABAMA: The Gorgas Scholarship Foundation, Inc., Dr. Leven S. Hazlegrove, Professor, Department of Chemistry, Samford University, Howard College of Arts and Sciences, 800 Lakeshore Drive, Box 2236, Birmingham, AL 35229-0001

GEORGIA: Georgia Junior Academy of Science, Dr. Don A. Berkowitz, School of Chemistry, Georgia Institute of Technology, Atlanta, GA 30332

ARKANSAS: Arkansas Academy of Science, Dr. John D. Peck, Assistant Professor, Department of Biology, Lewis Science Center, University of Central Arkansas, Conway, AR 72032

ILLINOIS: Illinois State Academy of Science, Dr. Donald R. Dickerson/Dr. Dorothy R. Martin, Illinois State Academy of Science, Illinois State Museum, Spring and Edwards Streets, Springfield, IL 62706

COLORADO-WYOMING: Colorado-Wyoming Junior Academy of Science, Mr. Elemer Bernath, Executive Secretary, Colorado-Wyoming Junior Academy of Science, 803 Ensign, Fort Morgan, CO 80701

INDIANA: Indiana Academy of Science, Dr. Donald R. Winslow, Coordinator for School Science, Office of School Programs, School of Education 253, Indiana University, Bloomington, IN 47405

CONNECTICUT: Connecticut Science Talent Search, Mr. John Tanaka, Director, Honors Programs, University of Connecticut, U-147 Wood Hall, Room 113, 241 Glenbrook Road, Storrs, CT 06268

IOWA: Iowa Junior Academy of Science, Dr. Lynn Glass, N156 Lagomarcino, Iowa State University, Ames, IA 50011

DISTRICT OF COLUMBIA: Washington Academy of Sciences, Mrs. Edythe Durie, 3001 Leefield Drive, Herndon, VA 22071

KANSAS: Kansas Academy of Science, Ms. Virleen Bailey, Research Assistant, Department of Entomology, Kansas State University, Manhattan, KS 66506

FLORIDA: Florida Academy of Sciences/Junior Academy, Dr. John G. Windsor, Jr., State Director, Florida Junior Academy of Science and Talent Search, Department of Oceanography and Ocean Engineering, Florida Institute of Technology, Melbourne, FL 32901

KENTUCKY: Kentucky Junior Academy of Science, Dr. John Wernegreen, Associate Professor of Physical Science, Eastern Kentucky University, 220 Memorial Science Building, Richmond, KY 40475

LOUISIANA: Northwestern State University, Dr. Nayda Keller, Department of Chemistry, Physics and Geology, Northwestern State University of Louisiana, Natchitoches, LA 71497

MARYLAND: Maryland Academy of Sciences, Ms. Mary B. Hyman/Ms. Nancy J. Leyko, Maryland Academy of Sciences, 601 Light Street, Baltimore, MD 21230

MASSACHUSETTS: Massachusetts Science Talent Search, Dr. Mary H. Laprade, Director, Clark Science Center and Lecturer in Biological Sciences, Smith College, Northampton, MA 01063

MICHIGAN: Sigma Xi, the Scientific Research Society, Dr. Donald R. Petersen, Michigan SIS, P.O. Box 2237, Midland, MI 48641

MINNESOTA: Science Museum of Minnesota, Dr. Adela S. Elwell, Field Director, Opportunities in Science, Route 8, Box 479, Bemidji, MN 56601

MISSISSIPPI: Mississippi Junior Academy of Sciences, Donald R. Cotten, P.O. Box 8414, Southern Station, University of Southern Mississippi, Hattiesburg, MS 39406

MISSOURI: Missouri Academy of Science, Dr. Brian R. McGuire, Assistant Professor of Chemistry, Division of Science, Northeast Missouri State University, Kirksville, MO 63501

MONTANA: Montana College of Mineral Science and Technology Sigma Xi Club, Dr. Lindsay Hess, Professor of Mathematics and Physics, Montana College of Mineral Science and Technology, Butte, MT 59701

NEBRASKA: Nebraska Academy of Sciences, Dr. James A. Woodland, Science Consultant, Nebraska Department of Education, 301 Centennial Mall South, Lincoln, NE 68509

NEW JERSEY: The New Jersey Academy of Science, Dr. Leland G. Merrill, Jr., Executive Secretary, New Jersey Academy of Science, Beck Hall, Kilmer Campus, Room 215, Box B, Rutgers University, New Brunswick, NJ 08903

NEW MEXICO: New Mexico Tech, Dr. David Shortess, Biology Department, New Mexico Tech, P. O. Box 3732, Campus Station, Socorro, NM 87801

NORTH CAROLINA: North Carolina Student Academy of Science, Dr. Charles F. Lytle, Biological Sciences, Box 7611, North Carolina State University, Raleigh, NC 27695

OHIO: The Ohio Academy of Science, Mr. Lynn Edward Elfner, Executive Officer, The Ohio Academy of Science, 445 King Avenue, Columbus, OH 43201

OKLAHOMA: Oklahoma Junior Academy of Science, Mr. Jim Pigg, Director, Oklahoma Junior Academy of Science, 300 N. Eastern, Moore, OK 73160

OREGON: Oregon Museum of Science and Industry, Mr. David Heil, Director, Grant Program Development and Outreach, Oregon Museum of Science and Industry, 4015 SW Canyon Road, Portland, OR 97221

PENNSYLVANIA: Pennsylvania Academy of Science, Dr. Kurt C. Schreiber, President-Elect, Pennsylvania Academy of Science, Duquesne University, Pittsburgh, PA 15282

UTAH: Utah State Office of Education, Mr. R. LaMar Allred, Specialist in Science Education, Utah State Office of Education, 250 East 500 South, Salt Lake City, UT 84111

VERMONT: The University of Vermont, Dr. George C. Crooks, 74 Spear Street, South Burlington, VT 05403

VIRGINIA: Virginia State Science Talent Search, Dr. John Liebermann, Jr., Chemistry Teacher, Thomas Jefferson High School for Science and Technology, 6560 Braddock Road, Alexandria, VA 22312

WASHINGTON: Washington State Science Talent Search, Dr. Paul A. Lepse, Chemistry Department, Seattle Pacific University, Seattle, WA 98119

WEST VIRGINIA: West Virginia Academy of Science, Joseph F. Glencoe, Jr., Department of Biology, Box 31, West Virginia Wesleyan College, Buckhannon, WV 26201

WISCONSIN: Wisconsin Science Talent Search, Prof. James Merkel, Associate Professor of Physics and Astronomy, University of Wisconsin-Eau Claire, P-241, Eau Claire, WI 54701

WYOMING: (See Colorado-Wyoming)