HONORS GROUP
IN
THE 29th ANNUAL
Science Talent Search®
for the
Westinghouse Science Scholarships
and Awards
1970

SCIENCE CLUBS OF AMERICA
Administered By Science Service
1719 N STREET N. W. WASHINGTON, D. C. 20036
The Meaning of Honors in the Science Talent Search

The achieving of Honors in the Science Talent Search, is an evidence of science ability and interest which can 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 utilizing a list forwarded by the American Council on Education.

All boys and girls awarded Honors in the Science Talent Search are considered so outstanding that any institution of higher learning will be justified in considering their abilities carefully.

In past years members of the Honors Group have made creditable records in the colleges and universities to which they have been admitted.

From the list of 300 honor awards, 40 are being chosen as winners of the Washington trip. Among these $67,500 in scholarships and awards will be distributed. The list of winners is being announced subsequently to the distribution of this list and will be published in Science News of January 31, 1970, and it will be sent upon request accompanied by a self-addressed stamped envelope.

Each of those winning honors is being furnished with multiple applications intended to accompany applications for college admissions and scholarships, but a listing in this pamphlet should be accepted as an equivalent certification.

The proportion of boys and girls in this list is determined by the ratio of boys and girls entering the contest. Listed are 85 girls and 215 boys. The girls determine their own chances in the Science Talent Search in accordance with the number that enter. Of the Honors Group, 59.5% of the boys and 70.0% of the girls rank in the upper 5% in their high school classes.

The Annual Science Talent Search

The Science Talent Search was the pioneering endeavor to discover at the senior high school year level those who have the potentials to become the research scientists 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 has become an institution and tradition due to approval from the educational world and the creditable records of winners in colleges, universities and professional positions.

In a real sense the annual Science Talent Search is more than a scholarship contest. It is a major step toward making scientific talent available for important tasks in our civilization.

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 twenty-eighth Science Talent Search by the Westinghouse Educational Foundation, an organization endowed by the Westinghouse Electric Corporation for the promotion of education and science.

Science Service, engaged in the interpretation and popularization of science on a broad front, is proud of administering, through Science Clubs of America, the annual Science Talent Search. From the newspapers, educators and scientists of America there has been enthusiastic cooperation in this annual activity that means so much to high school seniors interested in science. The Science Talent Search is a continuing opportunity and responsibility of the more than 25,000 science groups and more than 500,000 members affiliated with Science Clubs of America.

FOR RELEASE: WEDNESDAY AFTERNOON, JANUARY 21, 1970

Honors Group

in the Twenty-ninth Annual Science Talent Search

* indicates girl
HOME ADDRESS is underlined
H. S. indicates High School
AGE of winner follows name
Title of project report submitted is on next line

ALABAMA

Birmingham

*Combs, Audrey Elizabeth 17 Springdale H. S. Rt. 6 Box 443 35217
Glucose Requirements of Chlorella emersoni in Asym. Growth

Decatur

Griffith, Michael Lynn 18 Austin H. S. 1012 - 8th Ave. 35601
Artificial Nuclear Disintegration of Lithium Atoms

*Thrasher, Maricell Gail 17 Austin H. S. 1002 Eagle Ave. 35601
Effect of Electric and Magnetic Fields on Germination and Seedling Growth of Ryegrass and Garden Beans

*Williams, Patricia Lynn 17 Austin H. S. 1613 3rd Ave. 35604
Color Perception in the Canine

Tuscaloosa

Tetley, Whitney Rayce 14 Tuscaloosa H. S. 5th Ave. E. 35401
Provenance of Igneous Rocks in Terrace Deposits of Tuscaloosa County, Alabama

ALASKA

Anchorage

Kangas, Stephen Allen 17 A A. Dimond H. S. 710 Lake Otis Pkwy. 99502
Tonic Sound Reproduction

Hendrickson, Robert Anthony 17 East High St. 1048 Adler Dr. 99504
The Use of Radioisotopes for Pain Relief Stimulation

Watson, George Edward 17 West Anchorage H. S. 1443 W. Northern Lights
Study of the Growth and Development of Salmo Hirundo Through a Semi-Closed System

ARIZONA

Phoenix

Carriker, Richard Grady 17 Brophy College Preparatory School Underwater Vision 820 W. Kier Dr. 85201

Kurth, Wayne Raymond 17 East H. S. 3124 E. Garfield St. 85008
Response of Euglenoids to a Magnetic Field

Tucson

Mall, Anthony Barton 16 Requa H. S. 4937 E. 2nd St. 85711
Relation Between Mathematical Formulas and Marine Mollusk Shell Growth

ARKANSAS

Harrison

Ferguson, Gregory Wayne 17 Harrison H. S. 718 W. South 72601
Seasonal Rainfall and Radial Growth of Shortleaf Pine

*Adcock, Karen Diane 16 Arkansas H. S. Rt. 1 Box 25C 75501
Beetle susceptibility as a Pharmacologic Test Subject

Swinnery, Wanda Diane 17 Arkansas H. S. 3124 Hickory 75501
Comparative Study of Air Pollutant Levels in Five Areas of Texarkana, Arkansas

TEXARKANA

Diatomys, Dennis Pete 17 Savauma H. S. 901 La Reina St. 92801
Testing the Degree of Retention of Germination-Readiness and Light-Sensitivity of Photochrome After Drying

CALIFORNIA

Angeles

*Combs, Audrey Elizabeth 17 Springdale H. S. Rt. 6 Box 443 35217
Glucose Requirements of Chlorella emersoni in Asym. Growth
KARWEK, John Henry 16 Radford H.S. 901-B Halse Dr., P.O. Shafter 06558
Reliability Between the Sedimentation Coefficient and Electrophoresis Migration Rate of Relichococcus RNA
*Linda, Cheryl Line 17 Roosevelt H.S. 2908 Burrough St., 06822
Photoductive Response of Minuta paludica

Watauga
Agnes, Robert 17 St. Anthony H.S. 956 Kuni Pl., Kankakee, IL 60961
Fungal Ecology of the Shores of Haizawala

ILLINOIS

Barry
Fennell, James Edward 17 Barry H.S. R.R. 1, New Salem 62037
The Phenomenon of Oligoanence

Chicago
Feiden, Robert 17 Lane Technical H.S. 1059 N. Drake Ave. 60651
Basic of Photography
Haas, Ronald Price 17 Lane technical H.S. 3147 N. Spaulding 60618
Homeomorphisms
Weinberg, David Arthur 17 Sullivan H.S. 1/13 W. Walton Ave. 60626
Repeated Summation of Polynuclear Sequences

Dolton
Czeisler, Charles Andrew 17 Thornridge H.S. 17 Robin Ln., South Holland 60473
Quantitative and Theoretical Analysis of the Botanical

Evanston
Addison, Roger Nathan 17 Evanston Twp. H.S. 1900 Lee St. 60202
Identification of Simple Metallic Ion in Solution
Through Potography and Computer Analysis
Carlson, Walter Carter 16 Evanston Twp. H.S. 2 Milburn Park 60201
Relationship Between H+ and OH- Ion Concentration and the Electrical Conductivity of Solutions

Highland Park
*Eliot, Rhonda Lauren 17 Highland Park H.S. 2903 Summit Ave. 60035
A Study of the Series Interferometer

Joilet
*Greger, Nancy Gay 17 Joilet Twp. H.S. West 402, Box 231, Plainfield Effects of Magnetism on Hydroponic Plants and Seeds 60444

La Grange
Hammerschmidt, Raymond Earl 17 Lyons Twp. H.S. 900 Sherwood Dr., La Grange Park 60525
Synthesis of Sulfur Containing Amino Acids and Related Investigations of the Sulfuric Acid Process

Lake Forest
Ksander, Scott Louis 17 Lyons Twp. H.S. 1000 Newberry Ave., Lake Park 60525
Computer Program for Simulating Space Flight

*Vivona, Louise Frances 17 Lyons Twp. H.S. 1013 Homestead Rd., 60525
Investigation into Light Transmission

Marshall
*Maurin, Melody Louise 17 Marshall H.S. 604 Chestnut St. 62441
Educated Worms

Norman
*Beaton, Christine Marie 17 University H.S. 915 Broadway 62761
A Study of a Virus Isolated in Ureaplasta capillata and Related Investigations of Ureaplasta capillata

Oak Lawn
Litton, James Robert, Jr. 17 Oak Lawn Community H.S. 878 S. Cicero Amino Acid Content and Regenerative Dec., Oak Lawn 60456
Properties of Trichoplax adhaerens and ciliates

Moffet, Mark Douglas 17 Oak Lawn Community H.S. 3901 S. Sprout 60453
Hydronic Electromagnetic Radiation Emissions From Species of Trichoplax and Echinoderm Fishes

Shikle
Garland, Merrick Brian 17 Niles Twp. H.S. West 4456 Lunt, Lincolnwood Peroxidase Enzyme System Control of Hormonal Concentration

McIntosh, Dennis James 17 Niles Twp. H.S. West 8931 N. Marion Ave., Morton Grove 60053
Occlusion Observation and Reduction

McLennan, Robert Kenneth 17 Niles Twp. H.S. West 8931 N. Marion Ave., Morton Grove 60053
Repair of Bacterial RNA Through Photoactivation

Wiltmette
Dotson, William Robert 17 Loyola Academy 20 Granville, Park Ridge A High Density Holographic Image Storage and Retrieval System

INDIANA

Hammond
Morre, Kenneth Duane 18 O. P. Morton H.S. 7508 Missouri Ave. 46323
Infrared Study of the Environment of Exchangeable Ammonium on Clay Surfaces

Saint John
Rieter, Philip Andrew 17 Lake Central H.S. 1606 W. 101St Ave., Crown Point 46307
Mutualism Between Chlorolysosaurus and Chlorophyceae

South Bend
Mann, Roger Neill 17 James Whitcomb Riley H.S. 1116 E. Milton St. Effects of Varying Concentrations of Salt and Different Ions on Oviposition in Aedes aegypti

IOWA

Albia
Dicks, Philip Duane 18 Albia Community H.S. 213 2nd Ave. E. 52531
Oxidative Polymorphs Used in a Plant Bioregenerative Life Support System

Bagley
Brooks, Nathan Marc 17 Yate Dam Reservoir Community School N.E.-Benzyl-1-L-lysine Bromomethyl Ketone, Site Bagley 50026
Specific Inhibitor for Aspergilluspilositum B

Brown, Richard Henry 17 Thomas Jefferson H.S. 928 W. Broadway 51501
Geographic Voting Trends in the United States From 1868 to 1968

KANSAS

Topeka
Reynolds, Robert Gregory 17 Topeka West H.S. 141 Meadow Ln. 66606
Response of Selected Bacteria to Dermal Freezing and Thawing

Bardstown
Florence, Gregory Goodin 17 Nelson County H.S. 2222 S. 40004
Some Chemical and Biological Aspects of the Bacterial Pigment Prodigiosin

Lexington
Rees, Douglas Charles 17 Tales Creek H.S. 2845 Beatty Dr. 40502

MARYLAND

Baltimore
Rogers, Philip Louis 17 Baltimore Polytechnic Institute 8300 Pease Ave. Effects of Space Environment on Material Mechanics 21215

MITER, Lawrence Goodell 16 Milford H.S. 3617 Latham Rd. 21207
Relationship Between Interstellar Nuclease Tryptophan and Nuclease Acid Synthesis in Escherichia coli

*WATKINS, Elizabeth 17 Pasqua Sr. H.S. 8171 Mahoan Rd. 21224
Impact Detector: A Mechanical and Analytical Study

Bethesda
*WADJER, Lisa Renée 17 Bethesda-Chevy Chase H.S. 8426 Donnayville Statistical Analysis of Temperature Variations With Distance

Potomac
Morris, Glenn Steven 17 Wismar Highfields H.S. 11806 Tilton Dr. 20854
Methods of Measurement of DNA Levels in Blood Plasma

Silver Spring
King, Peter James 16 Springbrook H.S. 810 Bradford Ave. 20904
Automatic Determination of Heavy Metal Water Pollutants

Landes, Robert Harold 17 Springbrook H.S. 10410 Royal Rd. 20903
Reactions of Fresh Water Algae to Salinity Changes

Rochester
Radcliffe, Mark Folsom 17 Springbrook H.S. 12305 Clifton Rd. 20904
Wheaton
Fritz, Lawrence Charles 17 Wheaton H.S. 2904 Radius Rd. 20902
Teritary System of Phenolic Acid, Fumaric Acid and Tribolyl Phosphite.

Boxford
*Campbell, Nancy Lee 17 Masconomet Regional H.S. 56 Ipswich Rd. 01924
Effects of Patterns of Feeding on the Pigeon.

Brantree
Saltel, Gordon Oliver 17 Brantree H.S. 29 Colby Rd. 02184
Nitrigen Liquefier.

Bedford
Hartwell, Stephen James 17 Dedham H.S. 57 Orchard St. 02022
Feeding Patterns of Polycystonitrile.

Granby
Charriere, Michael Paul 17 Granby Jr., Sr. H.S. 12 High St. 01933
Sierra, Allan Jeffrey 17 New Bedford H.S. 99 E.Clinton St. 02772

Newton Centre
Eastagh, Shean Reicher 17 Newton South H.S. 15 Frances St. Newton
Formation of Ammonia in Interstellar Space. 02461

Ann Arbor
*Hinderer, Marilyn Joan 17 Ann Arbor Pioneer H.S. 2665 East Ave. 48104
Effects of Varying Conditions on Artificial Cultures Production.

Ullman, William John 17 Ann Arbor Pioneer H.S. 1330 Granger Ave. 48104
Effects of Varying Conditions on Artificial Cultures Production.

Detroit
Harden, Roger Arthur 17 Catholic Central H.S. 14008 Marion 48239
Synthesis and Reduction of 2-phenylethylen.

Smythe, Robert Allen 17 Osborn H.S. 26819 Glengarry 48205
Photometric Spectrophotometric Examination of the Cepheid Variable Alpha Ursae Minor.

Lansing
Gallagher, Gary Edward 17 Eastern H.S. 220 E. Randolph 48906
Portage
Purification of a Unknown Antibiotic by Column Chromatography.

Wiessner, Charles Allen 17 Portage Central H.S. 10613 S. Westnedge
X-ray Diffraction Analysis of Diammonium Formate. 49001

Trenton
*Morrison, Diane Rebecca 17 Trenton H.S. 2645 Dunning 48182
Measurement of Hydroxyproline-Rich Glycoproteins

Warren
Francis, Gene Leonard 17 Paul K. Cousino Sr. H.S. 11175 Gerald 48093
Solid Phase Synthesis of the Peptide Hormone Bradicadin.

Saint Cloud
*Sayl, italianiah Jim 17 Technical H.S. 45 Woodhill Rd. 56304
Erosion: How It Happens and What It Does.

Mississippi
Clarksdale
Meers, Richard Andrew 17 Coahoma County H.S. Box 615 Lula 38644
Interactions of X-rays and Neutrons With Crystalline Structure.

Shaw
Jones, Arthur Louis 17 Shaw H.S. RFD 2 Box 232-A 38773
Growth Inhibition of Hydrogen Oxidizing Bacteria Under Homogeneous Field of Low Paramagnetic Strength.

Missouri
*O'Fallon, John Joseph 17 St. Louis Priory School 2000 Fireborn Dr. 63131
Mechanism of the Catalytic Action of Cobalt Oxide on the Decomposition of Hydrogen.

Chateau
Headsly, Franklin Charles 18 Chateau H.S. 3077-7th Ave. S.W. 59422
Nature of the Origin of Replication of DNA.

Montana

New Jersey

Cresskill
Cresskill Richard John 17 Cresskill H.S. 18 Burns Pl. 07626
Effects of Temperature and Concentration on the Conductivity of Electrolytic Solutions.

Long Branch
*Nisula, Eileen Jean 17 Long Branch H.S. 340 Hollywood Ave. 07740
Chromatographic Fluid Patterns for Leaf Species of the Gentian Ace.

Mahwah
Koll, Beatrice Richard 17 Mahwah Regional H.S. 16 Donna Pl. 07437
Toxic and Mutagenic Effects of Bacterial Fungi Phytotranstone.

New Brunswick
Leahman, John T. 17 New Brunswick Sr. H.S. 20 Hilt St., Milltown 08850
Introduction to Cultures of Normal Human Lactocytes.

Podunk
Podunk, Barbara Anne 17 New Brunswick H.S. 786 Louis St. 08901
Chitotase Activity in Soils.

Baldwin
Baldwin, Janet Lynn 17 Baldwin Sr. H.S. 1631 Oak St. 11510
Effects of Ethylene on Plant Photosynthesis and Respiration.

Bayside
Salti, Herbert Warren 17 Bayside H.S. 160-17 37th Ave., Whitestone
Visual Magnitudes of Extended Nebulous Objects

Brentwood

Brookhaven
Beitel, Joseph Michael 17 Bellport Sr. H.S. 414 Water St., Bellport 11713
Analysis of Diet for Determining Owl Diet and Mammal Diet.

Brooklyn

Schoen, Helen Joy 16 Canarsie H.S. 1031 E. 110th St. 11236
Application of Computer Techniques to Game Theory.

Kruger, Albert Aaron 17 Erasmus H.S. 3578 Fiske St., New York 11203
Utilization of Ethene Oxide in the Die in the Air

Barnes, Mary Mary 17 Bishop A. Kearney H.S. 1309 82nd St., Study of Tumors Induced in Plants With Agrobacterium luxetum.

Gallagher, Leonard M. 17 James Madison H.S. 2618 E. 29th St. 11235
Effect of Radiation on the Stability of Benzene-1,4-Diyl Dioxide.

Trayford, Paula 17 Midwood H.S. 146 E. 119th St. 11230
Synthesis and Solution Characterization of Transition Metal Complex of Bisulphite Cobalt.

Worcester, Larry Atwood 16 Parker College, Institute 10 Plaza St. 11238
Effect of Radiation on the Stability of Benzene-1,4-Diyl Dioxide.

Saat, Andrew Kim 17 Polytechnic Preparatory Country Day School 1706 E. 19th St. 11236
Teaching the Mentality Retarded to Teach the Mentality Retarded.

Berechtein, Charles William 16 Yeshiva University H.S. 2166 Bronx Park Flip Side of Flumont.
On the Origin of Replication of DNA.

Dublin, Alan Jay 16 Yeshiva University H.S. 140-50 Ash Ave., Flushing
Bacterial Type Sequences With Continued Fractions.

Fremont, William Leo 16 Yeshiva University H.S. 1244 Grand (Courts)
Application of Ratios in the Triangle.

*Gates, Diane Frances 17 Maryvale Sr. H.S. 20 Isabella Rd. 14253
Investigation of Parameters in a Solid State Laser.

Buff, Joseph Jonathan 15 Far Rockaway H.S. 357 Fernside Pl. 11231
Extension of the Curvature of Plane and Plane Equations to Functions of Quaternion Variables.
Salisbury
*Holshouser, Deborah Gait 17 East Rowan Sr. H.S. Rt. 5, Box 472  28144
Factors Affecting Cosmic Ray Intensity

NORTH DAKOTA
Beach
Cameron, David Altisher 17 Beach H.S. 1st Ave., S.E.  58621
Did the Climate Change Near a Palaeocene Ruin?
Fargo
Pavlic, Mark Joseph 17 Fargo H.S. 1720 - 10th St., S.  58102
Coordination of Uranium(IV) with Peridolone-1-Oxides
Ericson, Roger Alan 17 South H.S. 1222 - 13 1/2 St., S.  58102
Synthesis of Some Novel and Acetyllyl Compounds of Platinum and Palladium

HAZELTON
*Engleman, Cheryl Marie 17 Hazelton H.S. Rt. 2  58544
Serum Neutralization Experiments on Infectious Bovine Rhinohorae virus

OHIO
Centerville
Sheppard, James Robert 17 Centerville H.S. 79 Colonial Ln., Dayton
Determination of the Stream Velocity of a High Temperature Arc Plasma Jet

Cincinnati
*Pearl, Virginia Bath 17 Oxford H.S. 1836 Forest Ave., Norwood  45212
Separation of Nitrosochromes in Nitrosochromic Polycycles
*Pascal, Mary Lee 17 Walnut Hills H.S. 6660 W. Farm Acres Dr.  45237
Inactivation of Nutrients and Antibiotics on Bacteria

Dayton
*Keen, Patricia Marie 17 Carroll H.S. 888 Grafton Rd.  45431
Typing Blood With Plant Lectins

electro
*Sowers, Kimberly Kay 17 Euclid Sr. H.S. 27591 G-Mills Ave.  44142
Cobalt-Amid Acid Complexes

Lancaster
*Mogil, Patricia Ann 17 Lancaster H.S. 1133 N. High St.  43130
Fluorescence and Soil Fertility

MILLERSBURG
Miller, Mat 18 West Holmes H.S. Route #1  44654
Spectrophotometric Analysis of Molecular Orbitals

Old Washington
Hatt, Richard Lee 17 Zane Trace H.S. 43718
Comparative Study of Lake Pollicates

Rocky River
*Muller, James Keith 17 Magnificant H.S. 22529 Laramie Dr.  44116
Prediction of the Vibrational Spectra of the Isocicacned Acetate

Westerville
*Moffitt, Cheryl Ann 17 Westerville H.S. 42 Glenwood Dr.  43004
Water Pollution in Alien Creek

OKLAHOMA
Ardmore
Dibrell, William Charles 17 Ardmore H.S. 1707 Essex 73401
Well, Here We Sit Again

Duncan
Akers, Steven Roy 17 Duncan H.S. 113 Fir St.  73533
Identification of Nematic Surfactants by Paper Chromatography

Schiff, Steven Howard 17 Duncan H.S. 2207 Spruce 73533
Isolation of Amino Acids and Ultra Wave Sounds on Seed Germination and Growth

Oklahoma City
Rogstad, Steven Hans 17 John Marshall H.S. 2816 Norman Place Dr.  73120
Cortisone Binding in the Rat Adrenal Cortex

Peterson, Gary Scott 16 Duncan City H.S. 3105 N. 70th St.  73116
Investigation of the Logarithmic Growth Patterns of Liebig's Bakers

Tulsa
Cox, Charles Parzetti 17 Memorial H.S. 716 E. 57th St.  74105
Anomalous Water: Verification of Its Existence
Randall, Kent William 17 Memorial H.S. 5249 S. Toledo  74135
Planar Plastic Devices
Word, Robert Earl 18 Memorial H.S. 2942 E. 56th St.  74105
The Binary Group

OREGON
Portland
McKee, Thomas Michael 17 Jefferson H.S. 7335 N. Greenwich 97217
Fossils and Fossils Found on the Lower Tertiary Clarno Formation, Oregon

Salem
Durst, Robert William 18 South Salem H.S. 1475 Cortina Dr., S.E. 97302
Photographic Techniques for Reaction Kinetics

PENNSYLVANIA
Allentown
Amey, Ronald Lee 17 William Allen H.S. 1923 Green St.  18104
Analytical Study of Balangis Alkaloid
Friedland, Peter Elliot 17 William Allen H.S. 2221 Washington St.  18104
Evolution of Mechanisms of Drug-Drug Interactions
Bianchi, Frank 17 William Allen H.S. 1712 4th St.  18105
Effect of Ultraviolet Radiation on the Antibody Response of the Mouse

BETHLEHEM
Herz, Donna Marie 17 Bethlehem Catholic H.S. 712 E. 5th St.  18015
The Effects of Ultraviolet Radiation on the Antibody Response of the Mouse

DONCECCHER
Donchev, Lorraine Teresa 17 Bethlehem Catholic H.S. 701 Fourth Ave.  18015
Effects of Sound on the Growth of Plants
Hoffert, Elizabeth Julia 17 Bethlehem Catholic H.S. 622 S. Bishopthorpe Rd.  18015
Traffic Noise in the Future

JABINSKY, Cynthia Gayle 17 Bethlehem Catholic H.S. 1388 Allentown Rd.  18015
Effect of a Reversal of the Magnetic Field and Ultraviolet Radiation on Yeast

TYLER, John Edward 17 Carlisle Sr. H.S. 791 Hamilton St.  17014
Boundary Conditions in Rotating Heats II

GREENSUN
Stephan, Ernie William, Jr. 17 Greensburg Central Catholic H.S. 105 Mission Rd., Latrobe
Crystal Growth in a Solid Solution

HOLIDAYSBURG
Scheine, Alexander 17 Holidaysburg Area Sr. H.S. 600 Schrader Ave.  15601
Factors for Separating Single and Double Londonal DNA

JOHNSTOWN
*Mack, Pamela Blanche 17 Johnstown H.S. 129 Schrader Ave.  15902
What Are the Advantages of an Ion Exchange Membrane Over a Liquid Electrolyte in a Hydrogen Fuel Cell?

*Sororitus, Patricia Louise 17 Bishop Convell H.S. 20 Jewell L. 16055
The Spectrum and the Radiant

FLOMA
Schmitz, Linda Ruth 18 Gateway Sr. H.S. 1315 Woodland Dr. 15149
Investigation of Algal Cultures for Use in a Closed Ecological System

MURRAYSVILLE
Witter, Robert Allen 17 Franklin Regional Sr. H.S. 2246 Evergreen Dr.
Chemical Analysis of a Buffalo Nickel Date Resistor

Newtown Square
Adelberg, Kenneth Joel 17 Marple-Newtown H.S. 814 N. Bobbin Rd.
Kinetics of Hemolysin Dehydrogenase

Rowan, Ronald 17 Marple-Newtown H.S. 403 Candlewood Rd., Newtown
Effect of Variations on Saturation and Light Waves on the 1990

WASHINGTON
Harris, Michael Howard 15 Central H.S. 1901 John F. Kennedy Blvd.,
Aspects of Two Non-Electric Pre-Metric Apl. 826 19103
Spaces
Mazer, Norman Allan 17 Central H.S. 8419 Strathmore Terrace 19111
Simple Continuous Fraction Representation of X

*Harris, Elizabeth Phyllis 15 Philadelphia H.S. 5112 Woodbine Ave.
Use of Behavior Modification in Establishing Verbal Behavior in the Mentally Retarded

Potstown
*Gurney, Geraldine Marie 17 St. Pius X H.S. 333 Jefferson Ave. 19644
Fluid Flip Flop

Pottsville
Borun, Kevin James 17 Nativity B.V.M. H.S. 433 Saran Ct.
Effect of Antidiuretic Hormone on Sweating Activity and Sweat Electrolyte Composition

TARBOLITON
Benedict, Roger Keith 17 Warrior Run H.S. 17 R. D. 91, Watertown
Electric Discharge Machining

RIODE ISLAND
Providence
Duckman, Howard Lloyd 17 Classical H.S. 21 James St.  02906
Convergence of Continued Fractions

WARWICK
Gilbert, Charles Francis 17 Pilgrim H.S. 144 Remington Rd.  02888
Do Local Seamounts Possess Antibiotics?

SOUTH CAROLINA
Spartanburg
Turner, James David 17 Spartanburg H.S. 1545 Skyline Dr.  29302
Holography
Aberdeen
*Gerber, Denise Dorene 17 Aberdeen Central H.S. 1024 N. Penn 57401
Preparation of alpha-Methyl-p-bromostyrene and a
Study of Transsterification
Mission
Larson, Peter L. 17 Todd County H.S. Mission 57555
Pantological Techniques

TENNESSEE

Johnson City
McQueen, David Ralph 17 Science H.S. 114 W. Chestnut St. 37601
Geologic Study of the Linker-Hudson Oil Field
Antoline, Fremont County, Wyoming
Memphis
*Youngs, Annalavonne 17 Central H.S. 1839 Leyton Cove 38127
Isolation and Classification of Microorganisms Using
Propylthiouracil as Sole Carbon Source
Bronson, Edward Charles 17 Christian Brothers H.S. 1506 Tucsan Way,
Speech Synthesis and Analysis
Germany 38038

TEXAS

Austin
*Reed, Sharon Lee 16 Stephen Austin H.S. 3502 Balcones Dr. 78731
Utilization of Storage Bodies During Germination
of a Corn Root Tip
Corpus Christi
Hobbs, Jeffrey Lee 17 W. B. Ray H.S. 1437 Casa Verde 78411
Anodic Oxidation Reactions
Dallas
Zipp, Richard Eliot 17, W. T. R. H.S. 4407 Mitt Run Rd. 75234
On the Number of n-th Roots in Finite Abelian Groups
El Paso
Lyon, Richard Francis 17 Austin H.S. 3502 Fillmore 79930
Panoramic Photography
Freeport
*Arms, Catherine Ellen 18 Brazosport H.S. Rt. 1, 118 Oakwood Dr.
Synthesis and Isolation of Syn-p-chlorophenyl-2-
Propyl thienophene
Hartingen
Williams, Richard Stanley 18 Hartingen H.S. 1602 Grimes Rd. 76550
Investigation of Saturated Solutes of Some Aqueous
Alkaloids
Houston
Gibson, Paul Thomas 17 Boss S. Sterling H.S. 7927 Red Robin 77034
Competition in Microplots of Sorghum bicolor (L.) Moench
Port Arthur
*Tomkins, Madeleine Lynn 17 Stephen F. Austin H.S. 2946 - 61st St.
Alarm Communicator in Lasius niger
77640
San Antonio
Trelle, Tomas 17 Alamo Heights H.S. 201 Cloverdale Ave. 78209
Measurement of the Axial Length of an Eye by Ultrasonic
Techniques
Bowden, Charles Howard 17 Highlands H.S. 811 Utopia 78023
Cytodynamic Effect of Vibratory Stresses
Dietert, Rodney Reynolds 18 Highlands H.S. 1606 Greer 78210
Determining a Relationship of Induced Spermagonial
Crossing Over in Male Drosophila melanogaster

UTAH

Salt Lake City
Gay, William Floyd 17 South H.S. 2246 Windsor St. 84105
Mathematical Model of Yeast Growth

VERMONT

Montpelier
Parker, William Peter 17 Harwood Union H.S. R. P. D. #2, Waterbury
Electrical Propagation Using Radio Frequency Excited
Low-Density Plasma
S. Burlington
*Hansen, Lene M. 18 South Burlington H.S. 3 Worth St. 05401
Inhibitors of Guanine Deaminase

VIRGINIA

Alexandria
May, Timothy Christopher 18 Thomas A. Edison H.S. 7708 Grovemont Ct.
Design of an Associate Net Exhibiting Spatiotemporal
Integration
Annandale
*Williams, Susan Jean 17 Annandale H.S. 4105 Chateclair Rd. 22003
The Fluxgate Magnetometer

Arlington
McLaughlin, Christopher Paul 17 Washington-Lee H.S. 3205 N. 20th St.
Analysis of Statistics on the Autoinfection Effect
Bedford
*Steele, Jean Evelyn 17 Washington-Lee H.S. 3218 N. 15th St. 22203
Bacterial Study of the Potomac River in Four Specific Areas
Brennan, Thomas Michael 18 Liberty H.S. Rt. 5, Box 257-A 22432
Mikowski Trianguintometry
Morgan, Franklin GII, Jr. 17 Liberty H.S. 918 Lake Dr. 22423
Gas Chromatographic Analysis of End Products of
Streptococcus lactis Variety Tardus

Charlottesville
Shoemaker, Gregory Allen 17 Lane H.S. 1715 Meadowbrook Rd. 22901
An Evaluation of the Potentiometric Measurement of
Using the Quantum Electrode
Sherrer, Carl Ervin 17 George C. Marshall H.S. 1091 Westlake Dr.
Definition Geometry
Vienna
*Weeks, Brenda Ann 17 Fort Defiance H.S. Rt. 4, Staunton 24401
Aberrations in Drosophila Chromosomes Induced by Radiation
Shick, Gayle Patterson 17 Fort Defiance H.S. Rt. 5, Box 322, Goochles
Development of an Inexpensive Schlieren Apparatus
24401
Manassas
Miller, Michael Sidney 17 Osborn Sr. H.S. 125 Impala Dr. 22110
Induced Mutation
Baumier, Scott Charles 17 Stonewall Jackson H.S. 339 Woodstock 22110
Electrophoresis Chamber and Experiments With the
Separation of Color Yees and Metal Ions
Max Meadows
Farris, Ann Holt 16 Fort Chiswell H.S. Rt. 1, Box 254, Draper 24324
Courthio Pattern of Eagle obsolete
McLean
Camacho, Robert Albert 17 McLean H.S. 6818 Felix St. 22101
Effect of the Degree of Supersaturation on the Relative
Growth of Crystal Faces
Elkins, James William, Jr. 17 McLean H.S. 1196 Oakview Dr. 22101
Measurement of Jupiter's Equatorial Diameter
Smith, Alan Douglas 15 McLean H.S. 6613 Denny Pl. 22101
Reaction Kinetics
Barry, Patricia Marie 17 Thomas Jefferson H.S. 3116 Grove Ave. 22231
Fluorescence Studies of the Dipeptide L-CysteinyL-L-
Tryptophan
Ridgeway
Parker, Curtis Lee, Jr. 15 Drewry Mason H.S. Rt. 6, Glen Ct. 22148
Techniques of Interplanetary Space Navigation
Saltville
*Comett, Catherine Ann 6 R. B. Worthy H.S. c/o U.S. Gypsum
24370
Physical Properties of an Epoxy
Waynesboro
Reese, William Thomas II 17 Waynesboro H.S. 2109 Davis Rd. 22960
Transmission and Reception of Amplitude-Modulated
Signals Without Sidebands

WASHINGTON

Des Moines
Trotter, William Douglas 18 Mt. Rainier H.S. 18529 Marine View Dr.
Analysis of Chromium(III) Complexes With
Seattle 98146
an m-DIA Ligand
Mercer Island
Kitten, Paul Driffield 17 Mercer Island H.S. 4140 Boulevard Pk. 98040
Port Townsend
Campbell, Neville May 17 Port Townsend H.S. 9208 Smith Way 98368
Investigation of Odd Perfect Numbers
Spokane
Aster, Erik Allen 18 Joel E. Ferris H.S. 3019 Texas 99203
Proof of a Mathematical Theorem on the Generation of
Langford's Numbers
Johnson, Stephen Craig 17 Joel E. Ferris H.S. E. 3104 - 11th Ave. 99202
Arrows Coelastic Orientation
Murphy, George Henry 17 Joel E. Ferris H.S. 3507 E. 22nd 99203
Manipulator Using a New Design Fluidic Amplifier
Thacker, Gary Charles Ferris 17 Joel E. Ferris H.S. 3308 E. 20th Ave.
Biosynthesis of Vitamin B1 in Candida albicans
99203

WISCONSIN

Racine
Effects of AC and DC Stimuli on the Growth Rates
53405
of Bean Plants
Washington Trip Winners of the Twenty-ninth Annual Science Talent Search for the Westinghouse Science Scholarships and Awards

The forty Washington trip winners of the 29th Annual Science Talent Search, among whom $67,500 of Westinghouse Science Scholarships and Awards will be distributed, represent about 1.9% of those who completed entries in this scientific and educational competition.

Designed to discover and develop scientific ability among high school seniors, the Science Talent Search is conducted annually for the Westinghouse Science Scholarships and Awards by Science Clubs of America, a Science Service activity, 1719 N Street, N.W., Washington, D.C. 20036.

Eleven girls and 29 boys (proportion determined by ratio of boys and girls completing entries) are being invited to Washington, D.C., for an all-expense trip February 25 through March 3, 1970, 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 $10,000 ($2,500 per year), two $8,000 ($2,000 per year), three $6,000 ($1,500 per year), four $4,000 ($1,000 per year). The remaining 30 contestants will be given Westinghouse Science Awards of $250 each.

The trip winners are 15 to 18 years of age and come from 28 cities in 15 states and the District of Columbia. They were picked by the judges from among 19,952 contestants of whom 2,075 completed their entries by taking a science aptitude examination, obtaining recommendations and writing a report on their science project. Completed entries were received from 50 states and the District of Columbia.

Of the 40 Twenty-ninth Annual Science Talent Search Winners, 33 ranked in the top 5% of their graduating class and 15 were first, second or third. Most of the winners are members of science clubs and many of them are club presidents or other officers. Most of their clubs are affiliated with Science Clubs of America. Girls accounted for 28.4% of the entries this year.
Washington Trip Winners

*indicates girls
H.S. indicates High School
AGE of winner follows name

HOME ADDRESS follows name of school

CALIFORNIA

Hollywood
*Eitfeld, Cindy 17 Hollywood H.S. 11511 Dona Teresa, Studio City 91604

Oceanlside
Winaslov, John William 17 Oceanside H.S. 1015 California St. 92154

CONNECTICUT

West Hartford
Kochanski, Thaddeus Paul 18 F. U. Conard H.S. 569 Penn St. 06107

DISTRICT OF COLUMBIA

Washington
*Rubin, Judith Shara 17 Woodrow Wilson H.S. 3308 McKinley St., N.W.

20015

FLORIDA

Fort Lauderdale
Morelli, Larry Joe 17 Nova H.S. 1440 N.W. 56th Ave., Lauderdale 33313

GEORGIA

Atlanta
*Biltingstey, Sue Ann 16 Briarcliff H.S. 1265 Christmas Ln. 30329

ILLINOIS

Dolton
Czeister, Charles Andrew 17 Thornridge H.S. 17 Robin Ln., S. Holland 60473

Highland Park
*Eltman, Rhonda Lauren 17 Highland Park H.S. 2903 Summit Ave. 60035

Oak Lawn
*Ittton, James Robert, Jr. 17 Oak Lawn Community H.S. 8765 S. Corcoran Rd., Hometown 60456

Skokie
McLeod, Dennis James 17 Niles Twp. H.S. West 8931 N. Marmac Ave., Morton Grove 60053

Zeman, Robert Kenneth 17 Niles Twp. H.S. West 6620 N. St. Louis, Lincolnwood 60646

Wilmette
Dotson, William Robert 17 Loyola Academy 20 Granville, Park Ridge 60068

IOHWA

Marshalltown
*Padesky, Christine Anne 16 Marshalltown Community H.S. 1109 W. State St. 50158

KENTUCKY

Lexington
Rees, Douglas Charles 17 Tates Creek H.S. 3405 Belvoir Dr. 40502

MARYLAND

Wheaton
Fritz, Lawrence Charles 17 Wheaton H.S. 2304 Radius Rd. 20902

MASSACHUSETTS

Newton Centre
Eastough, Steven Richard 17 Newton South H.S. 15 Frances St., Newton Highlands 02161

NEW YORK

Brooklyn
*Traktman, Paula 17 Midwood H.S. 1043 E. 9th St. 11230

Far Rockaway
Bull, Joseph Jonathan 15 Far Rockaway H.S. 257 Fernside Place 11691

*Degenfelder, Karen 16 Far Rockaway H.S. 461 Beach 57th St., Arverne 11692

Forest Hills
Ansar, Manouq 15 Forest Hills H.S. 64-09 102nd St. 11375

Getman, E. P. 17 Forest Hills H.S. 67-69 Alderton St., Rego Park 11374

Jamaica
Inagaki, Taito 17 Jamaica H.S. 24-70 77th Rd., Flushing 11367

New York
Bergman, Mitchell Craig 16 Bronx H.S. of Science 2255 Grand Concourse 10452

Fifer, Michael Alan 16 Bronx H.S. of Science 90-59 58th Ave., Elmhurst 11373

*Hu, Esther Ming 16 Bronx H.S. of Science 2440 Sedgwick Ave. 10468

Ng, Jeffrey 16 Bronx H.S. of Science 415 E. 90th St. 10028

Victor, Jonathan David 15 Horace Mann H.S. 300 W. 246th St. 10471