



For Use Tuesday, January 18, 1994

The 53rd Annual Science Talent Search

1994 Semifinalists

Westinghouse Science Scholarships

Administered by
Science Service
1719 N Street N.W.
Washington, D.C. 20036
(202) 785-2255

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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 53 years of its existence.

Science Service, dedicated to advancing the public understanding of science on a broad front, is proud to administer the annual Science Talent Search. Educators, scientists, engineers and journalists across America have enthusiastically cooperated in this annual activity which is the pinnacle event for high school seniors interested in science and engineering.

1994 SEMIFINALISTS

The achieving of semifinalists status 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 semifinalist list is distributed to all universities and colleges in the United States. Each of those selected as a semifinalist 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 140 females and 160 males.

From this group of 300 semifinalists, 40 students are chosen as finalists for the Washington trip (March 9-14, 1994) where \$205,000 in scholarships will be announced. The finalists are announced after the distribution of this list and their names will be published in *SCIENCE NEWS* of January 29, 1994. A copy will be sent upon request.

THIS LISTING IS ORGANIZED BY THE HIGH SCHOOL
THE SEMIFINALIST ATTENDS. THE STUDENT'S NAME,
AGE, HOME ADDRESS AND PROJECT TITLE FOLLOW.

ALABAMA

Athens

Athens High School

Thiessen, Kristofer Jack (16) 202 Grove Lane 35611

Protein Crystal Growth -- Simulated Microgravity Environment Using Agarose Gels in Two Novel Methods: Experimentation, Characterization, and Analysis: Five-Year Study

Huntsville

Huntsville High School

Dasarathy, Keshava Belur (16) 1313 Chandler Road 35801

Discriminational Analysis of Epidermal Lipids Characterized by FT-IR Spectra

Lee High School

Ogburia, Kemka Sorni (17) 3303 Barton Avenue 35810

Attachment of Pseudomonas aeruginosa to Various Conditioned Stainless Steel

Virgil I. Grissom High School

Relwani, Rachna Anand (17) 2500 Glen Echo Circle 35803
Analyzing Geometrical Patterns for the Development of Statistical Crystallography

Killen

Brooks High School

Delay, Eric Gardner (18) Route 4 Box 309-I 35645
Survival and Reproduction of Daphnia in Calcium-Buffered Acid Rain
Poole, Alex Clanton (17) Route 2, Box 96, Lexington 35648
Study of Leachate Contamination of a Fresh Water Stream

Mobile

Murphy High School

Dhawan, Rinku (17) 2900 Steeple Chase Court, S. 36695
Controlled Depolymerization Reactions of Polymeric Waste to Produce Liquid Fuels Using Supercritical Toluene (13C-Methyl Benzene): Evidence of the Solvent Cage Effect

Tallassee

Tallassee High School

Venable, William Benton (17) 705 Noble Road 36078
Photovoltaic FOPOD of Aqueous Leachate Plumes

Vestavia Hills

Vestavia Hills High School

Chung, David Shau-Hwa (17) 2560 Dolly Ridge Road 35243
New Protein Crystallization Model Using Agarose Gel in Microdialysis Cell
Desilva, Tivanka Sanjea (17) 1712C Vestawood Court, Birmingham 35216
Monoclonal Anti-Idiotypic Antibodies Modulates Immune Response of Encephalitogenic Rat T Cell Line to Specific Myelin Basic Protein Peptide and Superantigens

ARIZONA

Phoenix

Central High School

Gluck, Natalie Alexandra (18) 707 East Kaler Drive 85020
Prognostic Value of Aberrantly Expressed Epidermal Growth Factor Receptor in Human Malignant Gliomas

ARKANSAS

Little Rock

Central High School

Baquial, Jennifer Gene (17) 1205 Glenda Drive 72205
Modulation of Nitric Oxide Synthase May Account for Anticonvulsant and Analgesic Activities of Cu(II)2(3,5-Diisopropylsalicylate)₄
Chen, Eric Evan (16) 1411 Stonehenge Place 72212
Separation of Polycyclic Aromatic Hydrocarbons by Charge-transfer Chromatography

Sheridan

Sheridan High School

Tanner, Lisa Anne (17) Route 5 Box 348 72150
Formation of 4-Vinyl Guaiacol as a Result of Yeast Contamination in Sealed Frozen Orange Juice

CALIFORNIA

Alhambra

Alhambra High School

Kim, Riva Jane (17) 938 Berkebile Ct., Monterey Park 91754

Characterization of Choline Acetyltransferase Mutants in Drosophila melanogaster

Tran, Ngoc Boi (17) 331 S. 7th St. 91801

Sex Differences in Somatostatin Staining of Song-Control Nuclei in Zebra Finch Brains

Wang, Lulu Wen-Luh (17) 2515 Wetherhead Drive 91803

Systematics of Temperate Eastern Pacific Amphiodia Species (Echinodermata: Ophiuroidea): Three-Year Study

Arcadia

Arcadia High School

Hwang, Jerry (17) 1207 S. Ninth Avenue 91006

Selective Association of Chlamydia trachomatis With Human Cervical Epithelial Carcinoma Cells

Atherton

Menlo School

Schwartz, Elizabeth Margaret (16) 314 27th Avenue, San Mateo 94403

Kinetic Investigations of UDP-N-Acetylglucosamine Enolpyruvyl Transferase and its Inhibitor Phosphomycin

Beverly Hills

Beverly Hills High School

Kashani, Amir Hossien (17) 268 S. Lasky Drive, Apt. 101 90212

Modulation of Neurotransmitter Release by Muscle Stretch: Possible Calcium Interactions

Clovis

Clovis High School

Abdelal, Laila Helen (17) 8228 E. Paul Ave. 93611

Use of Nitrogen and Phosphorous as Enhancers of Microbial Oil Biodegradation: Four-Year Study

Davis

Davis Senior High School

Chuang, Teddy Kong (17) 39605 Primrose Place 95616

Opioid Receptor Gene Expression in Lymphocytes

Hawthorne

Hawthorne High School

Kaufmann, Tai F. (16) 4752 W. 141st Street 90250

Use of Water-Soluble, Metal-Coordinated Porphyrins as Fuel Cell-Catalysts

La Jolla

La Jolla High School

Wang, Eric Chunchieh (17) 2665 San Clemente Terrace, San Diego 92122

Kinetic and Structural Characterization of 3-Carboxybenzoxazole Decarboxylase Antibodies

Los Gatos

Los Gatos High School

Wu, Eddie Chon-Wai (17) 16060 Shannon Road 95032

Origin of Ascidian Vanadium: A Novel Vanadium-Binding Substance With Siderophore Properties in Ascidia nigra

Placentia

El Dorado High School

Wood, Ian Christopher (17) 313 Garfield Avenue 92670

Paleoecologic Factors Affecting Ammonited Distribution and Habitat: Evidence From the Jurassic Snowshoe Formation of East-Central Oregon

Sacramento

Mira Loma High School

Bazirgan, Omar Al-Kasem (17) 3612 Miami Street 95821

Infrared Spectra of Temperature-Induced Phase Transformations in Lead Zirconate Perovskite

Smith, Mark Oliver (17) 2140 Rockwood Drive 95864

Hydrogen and Oxygen Isotope Variations in Groundwater Along a North-South Transect Across Putah Creek, Yolo County, California

Rio Americano High School

Tayama, Darren Yukio (17) 6831 Appomattox Way, Carmichael 95608

Evaluation of Escherichia coli as a Host for Detection of coliphage in Wastewater

San Diego

Samuel F.B. Morse High School

Martinez, Angelica Maria (17) 6541 Barnhurst Drive 92117

Determining Target Sites for Muscle-Type-Specific Enhancers on the Myosin Heavy-Chain Gene in Drosophila

San Ramon

California High School

Senft, Jamie Riemann (18) 605 Bali Court 94583

Analysis of Naturally Occurring and Radiation-Induced Breakpoint Locations in Human Chromosomes 1, 2, and 4

COLORADO

Denver

South High School

Bechtold, Heather Ann (18) 2356 S. Gilpin Street 80210

Investigation of Prelamin A Expression in MCF7 Breast Cancer Cells

Englewood

Cherry Creek High School

Sheth, Rajen Arun (17) 8017 E. Geddes Avenue 80112-1877

Aerodynamic Benefits of Reduced Intervehicular Headway in Automated Vehicles: Two-Year Study

CONNECTICUT

Cheshire

Cheshire High School

Kentsis, Alex Emil (18) 28 Currier Way 06410

Sequencing, Characterization, and Evolutionary Comparison of Drosophila mauritiana and Drosophila simulans Spacer Region Between H2A and H2B Histone Genes

Ridgefield

Ridgefield High School

Kavasmaneck, Cyrus Percy (17) 284 Keeler Drive 06877

Interferon Induction in Inactivating Viral-Induced Infection: Study of the Costa Rican Vesicular Stomatitis Virus (VSV)

Wallingford

Choate Rosemary Hall

Peterson, Celeste Nora (17) 22 Shipyard Road, Middle Haddam 06456
Tracking the Lemur: A Trace Element Analysis of Lemur Hair

DELAWARE

Wilmington

Tower Hill School

Huang, Catherine Kailyn (17) 621 Norman's Lane, Newark 19711
Degradation of Mono-Chlorophenols by a Sonochemical Process

FLORIDA

Coral Gables

Coral Gables Senior High School

Nguyen, Phuonglien (17) 7500 S.W. 53 Court, Miami 33143
Effects of Experimental Injury on Long-Term Potentiation in Rats

Coral Springs

Taravella J P High School

Cohn, Stephanie Jill (17) 9962 NW 1st Court 33071
Connective Tissue Disorders: Predisposition or Environmental Acquisition?

Crystal River

Crystal River High School

Cossey, Megan Eileen (17) 9855 W. Deepwoods Drive 34428
Study of Period Changes in Eclipsing Binary Systems

Ft. Lauderdale

Cardinal Gibbons High School

Brown, Christina Early (17) 1925 N.E. 32nd Avenue, Fort Lauderdale 33305
Effects of Atmospheric Pollutants on Dollarweed
Fauve, Natalie Yvette (17) 4110 NE 26th Avenue, Fort Lauderdale 33308
Effects of Drought Stress on Various Crops Related to Insect Damage

Gainesville

Eastside High School

Cinereski, Stephanie Ann (17) 805 N.W. 36th Terrace 32605
Correlation Between Sunspots and Solar Flares

Lakeland

Lake Gibson High School

Rajendran, Pamini (17) 238 Village Crest Ct. 33809
Word-Stem Completion Priming for Novel Words in Global Amnesia

Melbourne

Central Catholic High School

Snyder, Nicolle Renee (18) 2635 Raintree Lake Circle, Merritt Island 32953
Enhancement of Dewatering Through Use of Electro-Osmosis

Mulberry

Mulberry Senior High School

Parrish, Deborah Shannon (17) 5004 Dorman Road, Lakeland 33813
Evaluation of Entomopathogenic Nematodes as Biological Control Agents for Pest Mole Crickets

Pompano Beach

Ely High School

Zippin, Jonathan Hale (17) 4110 N.W. 73rd Avenue, Lauderhill 33319
Effect of Key Environmental Factors on Viability of Sphaeroma terebrans in Pond Apple Slough

Titusville

Titusville High School

Hatoum, Esma Issam (17) 2261 Christine Drive 32796
Neutralization of Ozone Layer Chlorine-Containing Compounds

Vero Beach

Vero Beach Senior High School

Hanisak, Kimberly Anne (17) 6345 Fourth Place 32968
The Effects of Duration and Intensity of Thermal Stress on Cnidarians
 Lee, Wendy (17) 2766 1st Place 32968
*Carbon Dioxide Enhancement Versus Iron Fertilization: Phytoplankton as a
 Global Warming Control*

GEORGIA

Atlanta

Benjamin E. Mays High School

Taliaferro, Sumayah Jamila (17) 2009 Sandbrook Court 30331
Bioremediation of Toxic Heavy Metals Using a Mixed Microbial System

Westminster Schools Girls High School

DeLong, Laura Kendra (17) 995 Ivy Falls Drive N.W. 30328
Time Course and Local Specialization of Axonal Development in Tissue Culture

Chamblee

Henderson High School

Simon, Katrina Michelle (17) 5753 Manassas Run, Stone Mountain 30087
Effect of Skin Bleach Hydroquinone on Mammalian Cells: Investigation of Chromosome Aberrations and Polyploidy Cells Induced by Hydroquinone

Colquitt

Miller County High School

Lane, Kayln Tiffany (17) P.O. Box 636, Donalsonville 31745
Does Wearing Time Affect Bacterial Build-Up on Disposable Contact Lenses?

Lithonia

Shiloh High School

Alchermes, Terrilyn (17) 4382 Vineyard Trail 30058
Efficiency of Hemp and Its Environmental Benefits

Watkinsville

Oconee County High School

Brooks, Matthew Bryan (17) 1081 Essex Road 30677
Integer Partitions and t-Dissection of F_{2k}

HAWAII

Honolulu

The Kamehameha Schools

Hanakahi, Wendy Fumie (17) 45-575 Keole Street, Kaneohe 96744
Analysis of Sugar Binding Specificity in Single Binding Domains of Ricin B Chain

ILLINOIS

Aurora

Illinois Math & Science Academy

Huang, Philip Suhan (17) 437 S. Dryden Place, Arlington Heights 60005
*Identifying Mutations in Coronavirus Polymerase Sequences Responsible for
 Altering Enzyme Function*

Chicago

Lincoln Park High School

Mallah, Amer M. (17) 3950 N. Lake Shore Drive 60613

Detection of Cystinuria by HPLC Method

Weinstein, Jill Morros (17) 613 W. Fullerton Parkway 60614

Differential Antimicrobial Activity of Garlic Compounds

Evanston

Evanston Township High School

Jacover, Evan Michael (17) 1409 Lincoln Street 60201

Cellular Automata Simulation of an Immune Response to Acquired Immune Deficiency Syndrome

Skokie

Niles North High School

Hsiao, Katy (17) 3913 Birchwood Avenue 60076

Efficiency of Bacillus coagulans and Bacillus thuringiensis as Biopesticides Against Corn-Rootworm Larvae

INDIANA

Muncie

Indiana Academy for Science, Math and Humanities

Coffing, Charles Lorne (18) 16697 SR 38 E, Noblesville 46060

Design and Development of a 4π Cubic CsI (TI) Detector Array

IOWA

Cedar Falls

Northern University High School

Kar, Arindam (18) 1926 Hilton Drive 50613

Effects of Cation-Exchange Resins on Toxins in a Continent Jejunal Reservoir for Dialysis

KANSAS

Prairie Village

Shawnee Mission East High School

Stiffelman, Oscar Benjamin (17) 5210 W. 69th Street 66208

Tyrosine Phosphorylation of Beta-Catenin

Shawnee Mission

Shawnee Mission South High School

McCue, Molly Elizabeth (18) 9119 Somerset Drive, Overland Park 66207

Characterization of a Cytolysin of Fusobacterium necrophorum: Three-Year Study

LOUISIANA

Baton Rouge

Scotlandville Magnet High School

Butler, Alicia Cantrelle (17) 6446 West Sheridane Court, Greenwell Springs 70739

Fluorescence Photophysical Measurements on Various Photosensitizers

- Natchitoches Louisiana School for Math Science and the Arts
 Pandya, Aashish Mahesh (17) 1101 Sioux, Deridder 70634
In vitro Assessment of Mitoxantrone and Tamoxifen Combination in Multidrug-Resistant Breast Cancer Cells
- MAINE**
- Waldoboro Medomak Valley High School
 Kelly, Morgan Wolcott (16) P.O. Box 176, Washington 04574
Mutations in the Scaffolding Protein of Bacteriophage P-22
- MARYLAND**
- Baltimore Bryn Mawr School
 Kalish, Jennifer Melissa (17) 7102 Rockland Hills Drive 21209
Molecular Genetic Approach to Understanding Aluminum Toxicity in Eukaryotes
- Burtonsville Paint Branch High School
 Preston, Sarah Louise (17) 3304 Lyncrest Court 20866
Effects of Co-Culturing Rat Olfactory Cells on the Expression of Structural, Membrane, and Extracellular Matrix Proteins as Determined by Immunofluorescent Labeling
- Ellicott City Centennial High School
 Hsiao, James (17) 5013 Castle Moor Drive, Columbia 21044
Characterization of a Microdissected Library Clone Mapping Near the Usher's Disease Locus and Carrying a Polymorphic Tetranucleotide Repeat
 Shukla, Amita (17) 10024 Century Drive 21042
Antibacterial Effects of Gall-Nut Quercus infectoria oliv on Plaque Bacteria as Basis for Use in Preventing Periodontal Disease
- Gaithersburg Quince Orchard High School
 Newbury, Brian Dale (17) 16532 Sioux Lane 20878
Simulation of Crater Formation by Impacts of Micrometeorites on Icy Moons
- Oxon Hill Oxon Hill High School
 Lucas, John William (17) 4511 Poppe Place, Temple Hills 20748
Radiohalos - A Key to the Past?
- Silver Spring Montgomery Blair High School
 Huang, Bruce K. (17) 8838 Sleepy Hollow Lane, Potomac 20854
Localization of Vasopressin and Oxytocin mRNAs in Human Hypothalamus by Hybridization Histochemistry
 Jun, Jonathan Che-Sun (17) 7900 Springer Road, Bethesda 20817
Design of Peptides for Mimicking Conformational Epitopes
 Lo, Mindy S. (16) 8700 Hidden Hill Lane, Potomac 20854
Binding of AIDS-Associated Mycoplasma Membrane Proteins to PHA-Activated Human Peripheral Blood Lymphocytes

Schiff, Ann Deborah (17) 8103 Hawthorne Ct., Bethesda 20817
Development of a Tetrazolium Assay to Determine Viability of Vesicular-Arbuscular Mycorrhizal Spores
 Tripathi, Manish (17) 2512 Countryside Drive 20905
Two-Dimensional Computer Model of the Propagation of Electrocardiac Impulses

MASSACHUSETTS

Andover Phillips Academy
 LeClair, Patrick Royce (17) R.R. 1, Box 187, New Effington, S.D. 57255
Ferromagnetic-Ferromagnetic Tunneling and the Spin-Filter Effect

Belmont Belmont High School
 Blumberg, Andrew Justin (17) 84 Richardson Road 02178
Spatial Pattern Classification Using Algorithmic and Neural Network Methods

Brookline Maimonides School
 Hammer, Jessica (17) 101 Homer St., Newton 02159
Acquisition of Cognition: Prosodic Cues in Verbs of Mental State

Canton Canton High School
 Zahajszky, Janos (17) 353 Bolivar Street 02021
Effect of Dispersant Corexit 9527 on #2 Heating Oil Toxicity on Artemia salina

Falmouth Falmouth High School
 Bothner, Margaret Chalmers (17) 77 Belvidere Road 02540
Radon in Falmouth Homes and the Adsorption of its Radioactive Daughters by Secondary Cigarette Smoke
 Brodsky, Samuel Alan (17) 50 Turner Road, East Falmouth 02536
The Leaching of Poisonous Wood Preservatives from Chromated Copper Arsenate Pressure-Treated Lumber

Hingham Hingham High School
 Smith, Amy Marie (17) 33 Park Circle 02043
Can Polypropylene or Hi-Impact Polystyrene Replace Wood in Violin Construction?

Lexington Lexington High School
 Ou, Yvonne (17) 12 Stimson Avenue 02173
Search for a Low Cost, Environmentally Safe, Interim Road Deicer: Evaluation of CMA/NaCl Mixtures on Deicing Effectiveness, Grass Growth, and Corrosion
 Proujansky-Bell, Jonah (17) 7 James Street 02173
Identification of Bacteria by Analysis of Reflectance and Transmittance Spectra
 Tsung, Michael I-Hsiang (17) 28 Carriage Drive 02173
Neem Seed as a Natural Pesticide

Randolph Randolph High School
 Monteith, Barnas George (17) 290 Oak Street 02368
Can Shared Derived Microstructural Traits be Found in Dinosaurian and Avian Eggshells?

Swampscott

Swampscott High School

Shazeer, Noam Mordechai (17) 20 Rock Avenue 01907

Computerized Analysis of Polysomnograph Data to Diagnose Obstructive Sleep Apnea

MICHIGAN

Detroit

Cass Technical High School

Hollings, Darius Dewitt (17) 1376 East Grand Blvd. 48211

Synthesis, Characterization, and Low Temperature Thermolysis of Polyfunctional-3,5 Metal dionate Ceramic Precursors: Application of Molecular Engineering to Structure-Property-Reactivity Relationships

Northville

Northville High School

Murphy, Edward Michael (17) 41505 Wheatly Drive 48167

Degree of Violence in Music Affects the Number of Negative Terms Used in Story Completion

Okemos

Okemos High School

Dhaliwal, Avninder Singh (17) 1816 Mirabeau 48864

Structure Activity Relationship of Local Anesthetic Cocaine-Analogs on Serotonin-Induced Contraction in Rat Aorta

Rochester Hills

Rochester High School

Lee, Ian Yu (16) 60 Cross Creek Boulevard, Rochester 48306

Growth and Analysis of Single and Polycrystals of C-60

Southfield

Southfield Senior High School

Chowdhury, Saroj Kanti (17) 19161 Goldwin 48075

*Secondary Effects of Cephalosporin, Tetracycline, and Penicillin Type Antibiotics on the Myocardial Cells of *Daphnia pulex**

MINNESOTA

Minneapolis

Blake School Northrop Campus

Chklovski, Timothy A. (17) 1328 NE Lake Street #422, Hopkins 55343-8230

Mental Capability for Discerning Patterns and Registered Differences by Sex, Age, and Academic Performance

Rochester

John Marshall High School

Reed, Evan John (17) 8720 85th Street, N.W., Pine Island 55963

Mechanism for Variable Star Behavior

St. Cloud

St. Cloud Technical High School

VanBuren, Princessa Victoria (17) 3001 Co Road 146, Clearwater 55320

Vegetative Uptake of Arsenic and Cadmium by Two Legumes and Two Grasses Grown in Gold Tailing at Four Fertilizer Rates

Winona

Winona Senior High School

Sherman, Steven Daniel (18) 1075 Marian Street 55987

Effect of Winglets on Drag of Aircraft Wings

MISSISSIPPI

Jackson Saint Andrew's Episcopal School
Subramony, Anupama (17) 2246 East Manor Drive 39211
Effects of Ultra-Violet Light on Protein Kinase C Activity in Lymphocytes

MISSOURI

Carl Junction Carl Junction R-I High School
Wilson, Wesley Dale (17) Route 3, Box 765-4, Joplin 64801-9803
Effects of a Landfill on Heavy Metal Content in Stream Sediment

Joplin Joplin High School
Talley, Jason Patrick (17) 837 N. Byers 64801
Effects of Sludge on Primary Food Crops

Thayer Thayer R-2 Jr-Sr High School
Franz, William Ryan (18) Route 1, Box 1055 65791
Quantitative Analysis of Lead Levels in Soil Leached From Lead Paint With Respect to Distance and Direction From Source

MONTANA

Helena Helena High School
Anderson, Forrest Newell (18) 1726 - 5th Avenue 59601
Pyrolytic/Catalytic Chemical Recycling of Plastic Waste

NEBRASKA

Cambridge Cambridge Public School
Jones, Michael Thomas (18) 920 Nasby Street 69022
An Early Irvingtonian Vertebrate Fauna from Furnas County, Nebraska

NEW HAMPSHIRE

Exeter Phillips Exeter Academy
Burke-White, William Whitney (17) 10 Chestnut Street, Apt. 2302 03833
Alternative Initiation in tnpA mRNA Yields at Least Two DNA-Binding Proteins: tnpA and a C-Terminal Protein Lacking 244AA from the N-Terminal
Mariwalla, Kavita (16) 17 Phaeton Drive, Melville, N.Y. 11747
Novel Pathway for the Uptake of Bile Acid Taurolithocholate by Isolated Rat Hepatocytes

NEW JERSEY

Franklin Lakes Ramapo High School
Chu, Erik Chinch (17) 44 Wild Duck Road, Wyckoff 07481-3330
Effects of Excitatory and Inhibitory Connections in the Optimization of a Respiratory Central Pattern Generator

Iselin John F. Kennedy Memorial High School
Kim, Pei-Yi (17) 113 Trieste Street 08830-1421
Analysis of Relative Energies of Twisted Bicyclic Bridgehead Lactams

Lincroft High Technology High School
Ritter, Justin Prescott (17) 107 Lovett Avenue, Little Silver 07739-1420
Probability of Occurrence of Eclipsing Binary Stars in the Taurus Star-Forming Region

Millburn Millburn High School
Cheung, Sunny Chi Fung (17) 2 Browning Road, Short Hills 07078-1114
Response of Rhodotorula rubra to Electromagnetic Fields

Morristown Delbarton School
Shen, Edward Jou (16) 9 Annabelle Lane, Florham Park 07932
Mechanisms of Oxidative Stress-Induced Ca^{2+} Release from Rat Liver Mitochondria

Newark Science High School
Baptista, Ana Isabel (18) 12 Schalk Street 07105
How to Decrease Smoke Pollution from Wood-Burning Fireplaces

Princeton Junction West Windsor-Plainsboro High School
Litowitz, Jason Marshall (17) 8 Chandler Court, Plainsboro 08536
Diffusion Properties of a Plasma in Response to an rf-Induced Current Profile in a Tokamak Fusion Reactor

Saddle Brook Saddle Brook High School
Safin, Daniel Stanley (17) 3 Dyer Place 07662
Algae Explosion: Causes of an Influx of Algae in Lake Parsippany

Somerville Immaculata High School
Ellis, Paul Joseph (17) 38 Hillcrest Road, Martinsville 08836
Borsuk's Conjecture in the Third Dimension

Warren Watchung Hills Regional High School
Karam, Edmund Thomas (18) 20 Hyde Circle, Watchung 07060
Anti-Chromatin Antibody Production in Canine Systemic Lupus Erythematosus

Wayne Wayne Valley Senior High School
Cheng, Edward K. (17) 66 Winding Way 07470-5958
Analysis and Improvement of Thin Film Superconductors

NEW MEXICO

Montezuma Armand Hammer United World College
Remtulla, Aly (18) P.O. Box 425 87731
Effect of GR-X on Plant Development and Gibberellin Biosynthesis

NEW YORK

Batavia Batavia High School
Hallman, Heidi Ferstl (18) 206 Naramore Drive 14020
Comparison Study of Seedling Recruitment In Two Planted Regrowth Areas on the Atherton Tableland in North Queensland

- Bayside Benjamin Cardozo High School
 Ahn, Peter Hyung (17) 47-12 243rd Street, Douglaston 11362
Computer Models of a Reservoir Metabolic Pathway in Relation to the Quest for Synergy in 2-Drug Combinations
 Hong, Christina Tak-Kei (17) 202-35 Foothill Avenue, Apt. A26, Hollis 11423
Effect of Low-Frequency Electric and Magnetic Fields on Gene Expression in Saccharomyces cerevisiae
 Hung, Julie (17) 9-22 College Place, College Point 11356
Adjustment and Assimilation of Vietnamese Amerasians to the United States Based on Assessments of Their Self-Esteem and Depression
- Bellmore W.C. Mepham Senior High School
 Kahoud, Jennifer Lynn (17) 2527 Beltagh Avenue 11710
Interleukin-10 Downregulates an Invertebrate Immune Response
- Bohemia Connetquot High School
 Wanser, William John (17) 278 Seminole Street, Ronkonkoma 11779
Absorbing Excess Carbon Dioxide Emissions With Ulva lactuca
- Brentwood Academy of Saint Joseph
 Wokhlu, Anita (17) 27 Crabapple Lane, Commack 11725
Improved Synthesis of Isobenzofulvene Iron Tricarbonyl
- Bronx Bronx High School of Science
 Browne, Edward Jamil (17) 75-43 Kessel Street, Forest Hills 11375
Simulation of the Molecular Dynamics of H Comb Polymers in Two Dimensions
 Chang, Jae Jin (17) 144-16 25th Drive, Flushing 11354
Functional and Phenotypic Analysis of Potential Pathogenic T-cells in Rheumatoid Arthritis
 Choi, Won (17) 39-48 65th Place, Woodside 11377
Does Increased Intracellular pH Confer Chemotherapeutic Drug Resistance to Tumor Cells?
 Eng, Phillip Kin-Keung (17) 142-35 38th Avenue, Flushing 11354
Transport and Dispersion of Newtonian and Non-Newtonian Fluids Through Geologic Media
 Hsiau, Ching-Wen (17) 32-31 154th Street, Flushing 11354
Mechanism of c-kit Receptor Down-Regulation in Mast Cells: Roles of Receptor Kinase/Tyrosine⁸²¹ Autophosphorylation and Phosphatidylinositol-3' Kinase
 Kurian, Lisa (17) 75-27 249th Street, Bellerose, Queens 11426
Immunohistochemical Determination of Estrogen and Progesterone Receptors in Cervical Cancer as Correlated to Menstrual Status
 Lieberman, Raquel Limor (17) 70-18 Groton Street, Forest Hills 11375
Influences of Enzyme Activity Effectors on Fluorescence of Single Tryptophan Residue in F₁ ATPase of Bacillus firmus OF4
 Lui, Eric (17) 79-60 78th Ave., Glendale 11385
Investigation of the Role of Core Lipids Triglyceride and Cholesteryl Ester in the Regulation of ApoB Protein Secretion From Cultured Liver Cells
 Mathews, Robin (17) 1862 Willoughby Avenue, Ridgewood 11385
Investigation Into Ascorbic Acid Inhibition of 8-OHO-Adenine Formation in Hydrogen Peroxide-Treated Escherichia coli
 Mukai, Kanae (17) 60-20 Little Neck Parkway, Little Neck 11362
Molecular Cloning and Characterization of GPB1, a G Protein β Subunit Gene in Arabidopsis thaliana

- Nash, Rachel Jean (17) 38-23 217th Street, Bayside 11361
Hobby Participation Among Adolescents: A Longitudinal Study
- Ng, Michael (17) 59-23 41st Avenue, Woodside 11377
Multiple Synaptic Actions of an Identified Serotonergic Modulatory Neuron (Metacerebral Cell) and its Contribution to Behavioral Plasticity in Aplysia
- Ossowski, Talia Anita (17) 72-12 Harrow Street, Forest Hills 11375
Distinct Effects of Retinoids on Two Tumor Cell Lines: Potential Importance for Cancer Therapy
- Park, Kevin S. (17) 163-47 21st Avenue, Whitestone 11357
Comparison of Surface and Satellite Temperature Data Sets: To Understand Slight Differences in Measurements Which May Have a Larger Impact on Global Warming
- Parwani, Vivek (17) 896 Hewlett Drive, North Woodmere 11581
Effects of Anti-Inflammatory Agents Dexamethasone and BL016 on Post-Traumatic Interleukin-6 Production by Cultured Human Astrocytes
- Quan, Emily B. (17) 25-87 49th St., Astoria 11103
Altered Post-Traumatic Metabolism of Amyloid Precursor Protein Does Not Involve Holoprotein Upregulation
- Selip, Raena Aimee (16) 200 East 94th Street, Apt. 517, New York 10128
Chemical and Mechanical Degradation of Ultra High Molecular Polyethylene Components in Total Knee Replacements
- Sills, Debra Lynn (17) 88-11 63rd Drive, Rego Park 11374
Experience of Anxiety in Late Adolescence: Multi-Dimensional Analysis
- Tartakovsky, Flora (17) 65-35 108 St., Queens 11375
Major Epitope of Gp210 Recognized by Autoantibodies From Patients With Primary Biliary Cirrhosis: Implications for Disease Pathophysiology and Clinical Diagnosis
- Xue, Fei (17) 2015 Hering Avenue 10461
Novel Chromatographic Techniques for Separation of Brain Steroids
- Yang, Grace (17) 253-15 60 Avenue, Little Neck 11362
Molecular Analysis of Evolutionary Divergence Between Two Asian Populations Using the DIS80 Locus
- Ying, Yu-Lan (17) 64-44 218 Street, Bayside 11364
Mutations in the HIV-1 LTR Which May Correlate with AIDS Progression
- Zeng, Joanna Qian (18) 504 East 81 Street, Apt. 5B, New York 10028
Intrinsic Resistance to Methotrexate (MTX) Associated With p53 Mutation and Reversal of this Resistance by Sequential Treatment of MTX and Taxol in Human Soft Tissue Sarcoma Cell Lines

Fieldston School

- Andersen, Jesper Sparre (18) 1161 York Avenue, Apt 2E, New York 10021
Detection of Myos in Exchange Between Cardiac Thick Filaments

Brooklyn

Brooklyn Technical High School

- Kalantzis, Stella Nektaria (17) 2223 E. 15th St. 11229
Study of Stress Levels due to the Disparity between Commute Crime and Neighborhood Crime
- Skarbinski, Patricia Susan (17) 136 Freeman Street 11222
Comparative Analysis of the Sexual Attitudes and Activity Between Seventeen Year-Olds From Divorced or Separated Families and Seventeen Year-Olds From Intact Families
- Terebessy, Karin Julia (17) 115A Second Place 11231-4101
A Descriptive Study on Bias Toward or Against Bisexuals Based on Sexual Orientation and the Correlation Between Sexual Orientation and the Creative Arts

Edward R. Murrow High School

Muller, Tamas (17) 1237 E. 72nd Street 11234
Complexation of Glucose by α - and β -Cyclodextrin

James Madison High School

Sinelnikov, Alex Olegovich (17) 1757 Bath Ave., 2nd Fl. 11214
Elevated Rapid Transit Structures: Potential Sources of Soil Lead Contamination

Midwood High School at Brooklyn College

Abraham, Sybil Elizabeth (17) 2649 E. 6th Street 11235
Analysis of Phase Structure in Polyaniline Blends
Carrera, Louis Alexander (16) 805 Ocean Parkway 11230
Volume Regulation of Cultured Bovine Corneal Endothelial Cells Under Hypertonic Challenge

Chu, Andy (17) 2310 E. 24th Street 11229
RNA Phage Conformation on its Viral Protein Expression

Drakes, Thandi Palesa (17) 454 Vermont Street 11207
Variiegated Hair Color in Tabby Cats

Minkova, Mariya (17) 1717 Avenue P, 3rd Floor 11229
Quantum Phenomena in Artificial Semiconductor Microstructures

Perdomo, Eleizer (17) 8404 Bay Parkway 11214
Increasing Globin Synthesis of Globin Using an Adeno-Associated Viral Vector and Induction Agents

Rakoff, Nahdum Seth (17) 1401 Ocean Avenue, Apt. 6B 11230
Role of Molecular Mimicry, an Immunological Phenomenon, in Predisposition to Experimental Allergic Encephalomyelitis (EAE) by Semliki Forest Virus in SJL/J Mice

Rozenberg, Marina (17) 2357 E. 19th Street 11229
Effect of an Inhibitor of Oncoprotein AP-1 on the Human Leukemia Cell Line K562

Sang, Jennifer (17) 2340 Burnett Street 11229
Isolation of Unique Human Neutrophil Plasma Membrane BH2-Antigen (BH2-Ag.)

Saukin, Tamara Anna Marie (17) 139 Kent Street 11222
Optimization of Methane Gas Production Through Co-Disposal in Landfill Environments

Shainbart, Cliff Wayne (17) 1260 East 73rd Street 11234
Shell Shape and Paleoenvironment in Upper Cretaceous Baculitid Ammonites From the Western Interior of the United States

Sosnowski, Irene (17) 2033 78th Street, Apt. 5 11214
Discovery of a Novel Receptor Protein and its Functional Role in Elevating Calcium Levels in Cells of the Cardiovascular System

Tibrea, Minodora Christina (18) 4812 14th Avenue 11219
Effects of γ -Aminobutyric Acid (GABA) Upon Long-Term Potentiation in the CA1 Region of Rat Hippocampus

Yu, Catherine (17) 3306 Avenue N 11234
Effect of Enzymes Cellulase, Amyloglucosidase, & Bacterial α -amylase and Metal-Ion Activators Ca^{2+} & Mg^{2+} on Production of Ethanol

Buffalo

City Honors School

Boguslavsky, Julia (18) 178 Kenville Road 14215
Stimulation of Nitric Oxide Production in Macrophages by Lipopolysaccharide and Interferon

Cedarhurst

Hebrew Academy of the Five Towns & Rockaway

Novick, Michael Tzvi (17) 35 Wood Lane South, Woodsburgh 11598
To Burn or Not to Burn: Use of Computer-Enhanced Stimuli to Encourage Sunscreen Use

Lawrence High School

- Brooks, Michael Keith (17) 135 Sutton Place South, Lawrence 11559
Study of Free Radical Formation
Horowitz, Sara Brooke (17) 1639 Bay Boulevard, Atlantic Beach 11509
Plant Defense Mechanism: Indicator of Plant-Responsive Communication

Dix Hills

Half Hollow Hills High School East

- Kim, Peter (17) 9 Brothers Court 11746
Melting and Freezing of Small Cu and Au Clusters
Teplitzky, Samantha Joy (17) 1 Blossom Street 11746
Elicitation and Antimicrobial Activity of Phytoalexins From the Brassicaceae

Half Hollow Hills High School West

- Friedlander, Douglas Keith (17) 37 Buttonwood Drive 11746
Determination of Critical Excitation Energy of the Xe + La System by Z- Distribution Analysis
Herz, Brian Robert (17) 63 Hunting Hill Drive 11746
Fluorescent Spectroscopic Analysis of Tumor Tissue in Mice: Evaluation of Free Radical Oxidation

Flushing

Francis Lewis High School

- Choe, Kristen (18) 61-15 163rd Street 11365
Comparison of Food Plant Effect on Larval Fitness in Dryadula phaeusa Butterflies
Li, Ruofan (18) 75-11 184 St., Fresh Meadows 11366
Investigating the Nature of T-Complex Testis-Expressed-2 (Tctex-2) Protein in Mouse Sperm
Vernet, Sandra (17) 138-15 230th Street, Laurelton 11413
Another Hurdle to Overcome: Female Students' Attitudes Toward Use of Computers

Townsend Harris High School/Queens College

- Magdi, Sally (17) 11-44 30 Road, Astoria 11102
Retention of Information Through the Incorporation of Figurative Language Into Scientific Passages
Moy, Alison Ting-Wah (16) 29-16 169th Street 11358
Are Chinese-American Men More Discriminated Against in the Job Market Than Chinese-American Women?
Zheng, Shimin (18) 77-14 113 St. Apt. 6H, Forest Hills 11375
Nanoscale Patterning on Silica Wafers Using Diblock Copolymers

Forest Hills

Forest Hills High School

- Savizky, Ruben Mario (17) 102-40 62nd Avenue, Apt. 7N 11375
Synthesis of Chiral Phase-Transfer Catalysts

Garden City

Waldorf School

- Staropoli, John Francois (17) 165 Surrey Commons, Lynbrook 11563
Interpreting Ecomorphology of Paleoniscoids From the Bear Gulch Limestone

Hewlett

George W. Hewlett High School

- Chou, Janet Sue (17) 225 Bayberry Drive South, Hewlett Harbor 11557
Aging and Urinary Excretion of Epidermal Growth Factor

Jamaica

Jamaica High School

- Lalsingh, Anne Indira (17) 87-50 125 Street 11418
Effects of Intrinsic and Extrinsic Motivation on Procrastination

- Jericho Jericho Senior High School
Hohwald, Heath Walter (17) 3 Fams Court 11753
Development of a Balloon Dilatation Catheter for New Treatment of Benign Prostatic Hyperplasia
- Long Island City William C. Bryant High School
Kibria, Rubyat (17) 31-14 42nd Street, Astoria 11103
Counteractive Effect of Gibberellic Acid on the Stem Growth of Glycine maxsoja (soybean) Plants
- Manhasset Manhasset Junior-Senior High School
Chiu, Maria (17) 45 Walnut Lane 11030
Cross-Cultural Differences in Learning Styles of Secondary School Students in Taiwan and the U.S.A.
- Manhattan The Brearley School
Jhanwar, Yuliya Samiksha (17) 430 East 63rd Street, Apt. 1J 10021
Allelic Losses of Chromosome 17, p53 Mutations, Gene Amplification, and Their Possible Clinical Implications in Human Ovarian Cancer
- Hunter College High School
Lin, Jennifer Yu-Fe (17) 133-36 41st Road, Apt. 1A, Flushing 11355
Cloning and Analysis of a Component, Grb2, in Human Insulin-Like Growth Factor 1 Receptor Signal Transduction
- La Guardia High School of Music and Art
Martin, Alexis Zeiff (17) 56-28 Main Street, Flushing 11355
In vitro Production of Neurons by Precursor Cells From Adult Human Brain
- Manhattan Center for Science and Math
McKoy, Steve Andrew (17) 1161 Stratford Avenue #3H 10472
Heat Shock Protein: Gp96 and the Optimal Number of Immunizations Required for Effect Vaccination Against Live Tumor Challenges
- Martin Luther King, Jr. High School
Oeser, Jamel Lamonte (17) 605 F.D.R. Drive 10002
Loofah Sponges and Other Exfoliative Devices as Reservoirs and Vehicles in the Transmission of Potentially Pathogenic Bacterial Species to the Human Skin: An Occult Public Health Problem
- Ramaz School
Cohen, Marc (17) 155 East 34th Street 10016
How Safe Are Our Foods? DNA Adduct Formation in Fruits
- Stuyvesant High School
Bailer, Brett F. (17) 47 Commerce Street, Staten Island 10314
Identification of a Root Specific NAD(P)H Dependant Glutamate Synthesis by Physiological and Molecular Approaches
- Chai, Eunice (17) 85 Columbia Street 10002
Limiting the Real Velocity of the Superluminally Expanding Jet of Quasar 3C273
- Chen, Johnson (17) 50-36 190th Street, Fresh Meadows 11365
Deficiency Mapping of an Enhancer of nod^{DTW}, a Mutant Allele of a Kinesin-like Gene Involved in Drosophila melanogaster Female Meiosis
- Cheong, Yen-Wen (17) 360 Cabrini Boulevard 10040
Cloning of the Mouse Glutamate Receptor-2 Flop Region
- Cheung, Bonnie (17) 63 Avenue A 10009
Effect of Antibacterial Protein Nisin in Foods Contaminated With Pathogenic Bacterium Listeria monocytogenes

- Chue, Jason (17) 205-04 33rd Avenue, Bayside 11361
Form vs. Function: Correlation Between the Optimized Zona-Free Hamster Egg Sperm Penetration Assay and the Kruger Morphological Classification
- Doshi, Vatsal Suryakant (16) 133-24 Sanford Ave. Apt. 5K, Flushing 11355
Isolation and Characterization of Mutants of Mycobacterial Phages and Luciferase Reporter Phages
- Farkas, Dora (17) 10 River Road 10044
Statistical Analysis of Interdependence of Temperature and Humidity Trends in the Atmosphere With Regard to Possible Contribution to the Greenhouse Effect
- Fei, Michelle Tse-ching (17) 195-08 56th Avenue, Fresh Meadows 11365
Fish Feeding Behavior in the Hudson River: Relationship to PCB Bioaccumulation
- Greenspan, Michael Benjamin (17) 154 Girard Street 11235
Common Developmental Pathways Involving Rough eye, escargot and gene x
- Hakim, Lenora Katherine (17) 33-05 150 Street, Flushing 11354
Isolation of a Novel Gene Induced in Transformation
- Hsu, Edward (18) 252-67 Brattle Avenue, Little Neck 11362
Effect of Helium/Argon Sputtering Gas Combinations in RF Magnetron Sputtering of Boron
- Hsu, Meier (17) 246 Fanning Street, Staten Island 10314
Mapping Isozymes of Aspartate Aminotransferase Using CAPS Gene Markers in Arabidopsis thaliana
- Huang, Li Ting (17) 454 68th Street, Brooklyn 11220
Inhibition of Nuclear Localization in Heat-Shocked Cells
- Jiang, Leaf Alden (17) 562 West 162 Street, New York City 10032
Fresnel's Formulas and Snell's Law Extended to a Nonlinear Interface
- Li, Ying Jun (17) 1860 East 12th Street, Brooklyn 11229
Analysis of Polymer Segmental Mobility in Poly(propylene oxide) (PPO) and Poly(propylene glycol) (PPG) Using Proton Nuclear Magnetic Resonance
- Punyasena, Surangi (17) 2610 Glenwood Road, Brooklyn 11210
Role of Prior Dominance in Subsequent Aggressive Encounters in Female OB morph Pseudotropheus zebra
- Qazi, Sadia (17) 144-77 41st Avenue, Flushing 11355
Analysis of Singlet Oxygen Production in Marine Environments as Related to Solar Irradiance and Humic Acid Concentration
- Roditis, Vasilios (16) 23-71 32nd Street, Astoria 11105
Use of Regenerates Oligonucleotide Primers in a Polymerase Chain Reaction to Identify Two Component Regulatory System Gene Segments From Mycobacterium tuberculosis
- Sgambati, Lori Denise (17) 31-65 138th Street, Flushing 11354-2640
Comparison of Sentence Processing in Native vs. Non-Native Speakers of Japanese and English
- Shen, Edward (17) 82-84 160th Street, Jamaica 11432
Identification of a Novel Female Sterile Mutation in Drosophila melanogaster by Complementation Analysis
- Sin, Susie (17) 6310 20th Avenue, Brooklyn 11204
Psychiatric Disorders and Cognitive Deficiencies in Children and Adolescents with Lyme Borreliosis
- Skittone, Lisa Susan (17) 1932 Bogart Avenue, The Bronx 10462
Chemotaxis of Langerhans Cells Into the Central Cornea of C3H/HeJ Mice
- Wong, Brion (17) 79-10 34 Avenue Apt. 7Y, Jackson Heights 11372
Quantitative Analysis of Efficiency of Short-Term Biofeedback Techniques as Measured Through Frontalis Muscle Tension and Arterial Pulse Rate
- Wong, David (17) 1170 62nd Street, Brooklyn 11219
Dynamics of Modulated Solid-State Lasers

Yamada, Kaori Margaret (18) 105 W. 77th Street 10024
Effects of a "Recognition" Technique on Assessment of Mathematical Abilities in African-American and Latino Preschool Children

New City

Clarkstown High School North

Lai, Kenny Ching (17) 15 Sandusky Road 10956
Effect of a PAF Receptor Antagonist on Vascular Reactivity

New Hyde Park

Herricks Senior High School

Barnett, Rena Hope (17) 34 Kings Lane, Manhasset Hills 11040-1210
Effects of Stormwater Runoff on the Long Island Sound Wetlands
Shah, Jinesh Nathubhai (17) 212 Robby Lane, Manhasset Hills 11040-1232
Amplification of Antigen Detection Sensitivity by Comparison of the Detection Efficiencies of Immunohistochemical Techniques, Immunohistochemical Method Enhancement, and Immuno-Polymerase Chain Reaction: Two-Year Study

Niskayuna

Niskayuna High School

Keats, Rachel Anne (17) 1913 Baker Avenue, Schenectady 12309
Effect of Trichomes and Beetle Feeding Damage on Striped Cucumber Beetles

Oceanside

Oceanside High School

Levine, Andrew Marc (17) 78 Thompson Avenue 11572
Effects of Etching Time and Choice of Etchant on Shear Bond Strengths of Enamel and Composite Surfaces

Old Westbury

The Wheatley School

Bagner, Jessica Lynn (17) 216 Auburn Street, East Williston 11596
Effects of Fechner's Subjective Colors on Benham's Artificial Spectrum Top

Plainview

Plainview-Old Bethpage J.F.K. High School

Cheng, Olivia Jing Yee (17) 95 Roundtree Drive 11803
Synthesis and Characterization of Ruthenium Complexes With Covalently Bound Electron Acceptors

Pleasantville

Pleasantville High School

Newman, Erica Anna (17) 23 Iroquois Road 10570
New Method for Studying the Assembly and Optical Properties of Normal and Glycated Eye Lens Proteins

Port Jefferson

Earl L. Vandermeulen High School

Miller, Caela Rebecca (17) 207 Bayview Terrace 11777-1304
Photuris versicolor Larval Lantern: Model for Testing Interaction of Octopaminergic Pesticides and Octopamine Receptors

Port Washington

Paul D. Schreiber Senior High School

Blechman, Jason Grant (17) 57 Morewood Oaks 11050
Analysis of Pit Gas Using a Gas Chromatograph and a Mass Spectrometer

Queens Village

Martin Van Buren High School

James, Joe (17) 82-53 225th Street, Floral Park 11004
Effects of EmF Radiation on the Phenotype Expression of Drosophila melanogaster
Lukin, Jarid B. (17) 82-49 212th Street, Hollis Hills 11427
Grade Inflation in High Schools: Changes that have Occurred in the Past Ten Years

Rochester

Brighton High School

Brown, Winton Goodhand (17) 243 Buckland Ave. 14618
Re-evaluation of Interferometric Plasma Density Profiles Incorporating Refractive Effects

Roslyn Heights

Roslyn High School

Dube, Niti (17) 80 Chestnut Drive, Roslyn 11576
Using a Modified Atmosphere Packaging System to Measure the Changing Rates of Ethylene Biosynthesis and Carbon Dioxide Production for Tomato Fruit During the Climacteric

Shanies, Tabitha Amity (17) 106 Deer Run 11577
Does Asthma Therapy Comply With Recommended Standards or Contribute to Excess Morbidity and Mortality in a Multi-Ethnic, Medically Indigent Population?: Pilot Study

Setauket

Ward Melville High School

Gulati, Sheila May (17) 29 Bob's Lane, East Setauket 11733-3004
Wet Atmospheric Deposition of Nutrients to Long Island Sound

Hod, Todd Eldad (17) 16 Sheppard Lane, Stony Brook 11790
Structural Analysis of an RNA-Protein Complex

Paul, Thomas A. (17) 17 Settlers Way 11733
*Expression of Mammalian Oncogene PEBP2/CBF β in *Drosophila melanogaster* Development*

Rijssenbeek, Job Thomas (17) 15 Bayles Avenue, Stony Brook 11790-2121
Synthesis, Structural Analysis, and Ion-Exchange Properties of Novel Tin Sulfides: TMA-SnS-I

Schwartz, Miguel James (17) 7 Silver Beech Court, Poquott 11733
Physical Aggression in a High School Dating Population

Sternnglanz, Seth Paul (17) 12 Mills Road, Stony Brook 11790
Induction of Potassium Channels in PC12 Cells by Nerve Growth Factor

Teleman, Aurelio Amilcare (17) 10 Park Street, Setauket 11733
Propagation of a Laser Beam With a Spatially Uniform Profile

Tong, Raymond K. (17) 44 Kool Place, Terryville 11776
Potential Anti-Thrombotic Inhibitors Based on Amino Acid Arg-Gly-Asp Sequence

Staten Island

Curtis High School

Brighina, Jr., Saverio (17) 98 Piave Avenue 10305
Comparative Study Between Fresh Kills Leachate and Simulated Leachate on the Environment

Susan E. Wagner High School

Phaphant, Nirada (17) 62 Sandalwood Drive 10308
Production of Chromosomal Breaks in L929 Cells by Doxorubicin and Argon-Ion Laser Irradiation

Tottenville High School

Hou, Wendy (17) 30 East Tenaflly Avenue 10312
Role of Excitatory Amino Acids in Cell Migration

Williamsville

Williamsville High School North

Hamlen, Kevin William (17) 39 Doral Court, East Amherst 14051
A Study of Factors Influencing the Perception of Musical Quality

NORTH CAROLINA

- Cary Cary High School
Bruck, Isaac Samuel (16) 1301 Larkhall Court 27511-5274
Partial Purification and Characterization of Anti-Plant Tumor Compounds Extracted From Madagascar Periwinkle and Tests of the Compounds in vitro and in vivo
- Charlotte Providence Day School
Bowen III, James Thomas (18) 2925 Foxfire Road 28270
Data Transfer Optimization

OHIO

- Geneva Geneva Secondary School
Perala, Norman Reid (17) 600 Eastwood Street 44041
Do In-Use Bar Soaps Harbor Microorganisms and Can Transfer of Microorganisms to Skin Surfaces Occur During Handwashing?
- Kent Theodore Roosevelt High School
Baker, Jonobie Dale (17) 5525 Allyn Road, Mantua 44255
Designing and Implementing HYPERBIRD: A 2-D Hyperbolic, 3-D Euclidean, and 4-D Euclidean Geometric Visualization Computer System
- Lancaster Fairfield Union High School
Peters, Shanan Eugene (18) 3208 Old Mill Road 43130
Occurrence and Paleocological Significance of the Cornulites of Waldron Shale
- Toledo Maumee Valley Country Day School
Chaudhuri, Rakhi (17) 5752 Cresthaven 43614
Gap Junctional Intercellular Communication in Mouse Lung Epithelial Cells

PENNSYLVANIA

- Oley Oley Valley High School
Rhoads, Michael Leon (17) 609 Oley Road 19547
Photoreactions of C₄₀-carotenes and Corresponding in vivo Protection Mechanisms
- Philadelphia Central High School
Kiefer, Daniel George (17) 4202 Saint Denis Drive 19114
Effects of Percoll Discontinuous Density Gradients vs SpermPrep II vs Sephadex G-50 Gel Infiltration on Semen Parameters
- Springside School
Menu, Padmini A. (18) 952 Van Sant Lane, Ambler 19002
Cooperative Relaxation and Kauzmann Paradox in Supercooled Liquids: Renormalization Group Approach
- State College State College Area High School
Tu, Peng-Chu Benjamin (16) 2399 Shagbark Court 16803
Mechanism of Antibiotic Action of 1-chloro-2,4-dinitrobenzene and its Applications in Isolation and Characterization of Temperature-Sensitive Human Glutathione S-Transferases

RHODE ISLAND

Providence

Classical High School

Magyar, John Stedman (17) 51 Forbes Street 02908

Atomic Absorption Study of Copper in Atlantic Ribbed Mussels (Geukensia demissa) in Narragansett Bay in Relation to Their Environment

SOUTH CAROLINA

Greer

Riverside High School

Schilf, Karen Elizabeth (17) 104 Meadowcreek Court 29650

Effects of Car Emissions on Life and Movement of Paramecium caudatum: A Ciliated Organism

SOUTH DAKOTA

Sisseton

Sisseton High School

Staub, John Laurence (18) 706 E. Walnut Street 57262

Children + Hands-On Learning = Interest

TENNESSEE

Nashville

Martin Luther King, Jr. Magnet High School

Sanders, Shawn D'wight (17) 3214 Resha Lane 37218

Norformyl Analogues of the Anti-HIV Compound 2,3 diveratryl-3-chloropropenal

Oak Ridge

Oak Ridge High School

Greenbaum, Michael Philip (17) 972 West Outer Drive 37830

Upper Limit for the Effect of 60 Hz Magnetic Fields on Bioluminescence From Photobacterium Vibrio fischeri

TEXAS

Clute

Brazoswood High School

Ho, Thai Huu (17) 54 Orchid Court, Lake Jackson 77566

Biodegradability of Household Plastics Using Aspergillus niger as a Model Microbe

College Station

A&M Consolidated High School

Dhar, Nikhil Kumar (17) 404 Princeton Circle 77840

Effects of Home Remedies on Escherichia coli and Streptococcus equi

Denton

Texas Academy of Math and Science

Bolin, Jennifer Carole (17) 2600 Braemar Lane, Highland Village 75067

Synthesis of an Unsymmetrical Polycyclic Compound Using Catalytic Hydrogenation

Harpavat, Sanjiv (17) 921 Angela Drive, Lewisville 75067

Identification of G Proteins in A. suum Muscle Cell Membrane Using Chemiluminescent Detection and ADP Ribosylation

Ikerd II, William Fulton (18) 801 North Austin 76201

Preparation and Characterization of the Next Generation Ultra-Sharp Tips for the Scanning Tunneling Microscope

- Katy James E. Taylor High School
 Schaudt, Katherine Leigh (18) 21602 Park York Drive 77450
 Predicting Hurricanes in the North Atlantic Ocean
- San Antonio Tom Clark High School
 Mak, Grace Zee (16) 9 Cotswold Lane 78257
 Various Factors Affecting the Frequency of Ear Infections
- UTAH**
- Bountiful Viewmont High School
 Crowley, David Ian (18) 520 North Davis Boulevard 84010
 Identification of Strk, a Schistocerca americana Gene Coding for a Tyrosine Kinase Receptor Protein
- Orem Orem High School
 Farmer, David L. (17) 464 South 520 East 84058-6441
 Magnetic Field Dependence on the Inhibition of Monoamine Oxidase B by (Aminomethyl) trimethylsilane
- VIRGINIA**
- Alexandria Thomas A. Edison High School
 Figueroa, Diego Francisco (17) 4304 Javins Drive 22310
 Performance of the Duckweed Genera Lemna and Spirodella in Nutrient Uptake for Protein Production and Effluent Renovation
 Mills, Kenna Rael (17) 6433 Carriage Drive 22310
 Key for the Presumptive Preliminary Identification of Bacteria in Temperature-Dependent Compost
- Thomas Jefferson High School for Science & Technology
 Bansal, Ankush Kumar (17) 8933 Triple Ridge Road, Fairfax Station 22039
 Effect of Temperature on Transductional Efficiency of Retroviral Vectors
 Cheung, Kelvin Leonard (17) 5266 Navaho Drive 22312
 Orientation-Dependence of Grain-Boundary Critical Currents in High- T_c Superconductors
 Dinh, Minh Hien Truong (17) 7110 Evanston Road, Springfield 22150
 Effects of DNA Damage on the Phosphorylation and Activation of cdc2 by Regulatory Kinases at G₂/M Checkpoint in Human Lymphoma Cells
 Nelson, Bergen Ballard (17) 2031 Turtle Pond Drive, Reston 22091
 Localization and Characterization of a Human RNA-Binding Protein Gene With a CAG Repeat
 Paravastu, Anant Krishna (17) 6333 Brocketts Crossing 22310
 Thermodynamics and Kinetics of the Formation of the Aluminum-Xylenol Orange Complex
 Sarvis, Robert Christopher (17) 4713 Major Court 22312
 Investigation of Trees in Lattices
 Vandiver, Amy (17) 5401 Colchester Meadow Lane, Fairfax 22030
 Infra-Red Remote Sensing of Arenal Volcano, Costa Rica
 Yadav, Kabir (17) 4412 Airlie Way, Annandale 22003-3501
 Neuropeptide Regulation of Proteolytic Activity in the Central Nervous System

Yang, Bob (17) 12898B Grays Pointe Road, Fairfax 22033
Comparison of Direct-Mapped vs. Set-Associative Cache Architectures in a Multi-Tasking Environment
 Zacharia, Ian George (17) 7630 Burford Drive, Mc Lean 22102
Study of the Pendant Drop: Theoretical Model Based on Computational Analysis

Arlington Washington-Lee High School
 Lynch, Erin Margaret (17) 31 North Jackson Street 22201-1051
Phase Dependence of the Chaotic Zone of a Chaotically Forced Pendulum

Daleville Lord Botetourt High School
 Sprinkle, Jason Dean (18) Route 2, Box 159, Buchanan 24066-9165
Sludge and the Heavy Metals

New Castle Craig County High School
 Brammer, Kathryn Lynn (18) Rt 1, Box 665 (P.O. Box 187) 24127-0187
Use of Fungal Assays to Detect Toxicity of Organic Pollutants

Newport News Homer L. Ferguson High School
 Cheung, Felix Ho-Ming (17) 113 James Landing Road 23606-2052
Optimization of Use of Small, Side-on Photomultiplier Tubes

Richmond Douglas S. Freeman High School
 Huff, Thomas Hammett (17) 9706 River Road 23233
The Effect of Antisense Oligonucleotides on Production of the α Chain of the High Affinity F_{ϵ} Receptor

WASHINGTON

Kirkland Lake Washington High School
 Donnelly, Fritz George (17) 18320 NE 25th Street, Redmond 98052
Phonetic-Semantic Comparison of Hawaiian and Finnish Languages Among Others
 Hanlon, Amy Denise (17) 13717 NE 81st St., Redmond 98052
Determining Hydrocarbon Levels at Service Stations
 McCrumb, Daniel Howard (17) 11428 NE 104th Street 98033-5011
Assessment of Glacier Terminus Positions on Glacier Peak, Washington

Vashon Vashon Island High School
 Ivaska, Erik Nathaniel (17) 14735 Bethel Lane S.W., Vashon Island 98070
Study of Shinglemill Creek's Potential for Successfully Supporting a Salmon Population

WEST VIRGINIA

Charleston George Washington High School
 Chang, William Gee (17) 34 Brittany Woods Road 25314
Practical Security of Nonorthogonal States in Quantum Cryptography

WISCONSIN

Cedarburg

Cedarburg Senior High School

Reddy, Harsha Shankara (16) W75 N766 Tower Avenue 53012

Effect of Egg and Larval Densities on Survival Rates in Four Genotypes of Drosophila melanogaster

Glendale

Nicolet High School

Sager, Raechal Elizabeth (17) 9016 N. Regent Road, Bayside 53217

Effects of Gravitational Changes on Brassica rapas: Two-Year Study

PUERTO RICO

Miramar

Academia Del Perpetuo Socorro

Berio, Maria del Carmen (17) Washington #20 Cond Caribe, San Juan 00907

Ecological Impact of Dichloromethane: Effect on Respiration and Lung Tissue of Nephila clavipes

Finalists of the 53rd Annual Westinghouse Science Talent Search

Designed to discover and develop scientific, mathematical, and engineering ability among high school seniors, the Science Talent Search is conducted annually by Science Service in partnership with the Westinghouse Electric Corporation.

The forty finalists of the 53rd Annual Science Talent Search, among whom \$205,000 in Westinghouse Science Scholarships will be distributed, represent about 2.4 percent of those who completed entries in this scientific and educational competition.

These 16 females and 24 males are awarded an all-expenses-paid trip to Washington, D.C. to attend the Science Talent Institute, March 9 through 14, 1994. Here ten of the finalists will be selected by the board of judges to receive one of the following four-year Science Scholarships: one \$40,000 (\$10,000 per year), one \$30,000 (\$7,500 per year), one \$20,000 (\$5,000 per year), three \$15,000 (\$3,750 per year), four \$10,000 (\$2,500 per year). The remaining 30 contestants will be given Westinghouse Science Scholarships of \$1,000 each.

The finalists are 16 to 18 years of age and come from 31 cities in 21 states. They were picked by the judges from among 1645 contestants who completed their entries by writing a report on their scientific research and submitting it along with an official entry form and supporting documents. Completed entries were received from 43 states, the District of Columbia, and Puerto Rico.

THIS LISTING IS ORGANIZED BY THE HIGH SCHOOL THE FINALIST ATTENDS. THE STUDENT'S NAME, AGE, HOME ADDRESS AND PROJECT TITLE FOLLOW.

ALABAMA Tallassee

Tallassee High School
Venable, William Benton (17) 705 Noble Road 36078
Photovoltaic FOPOD of Aqueous Leachate Plumes

CALIFORNIA La Jolla

La Jolla High School
Wang, Eric C. (17) 2665 San Clemente Terrace, San Diego 92122
Kinetic and Structural Characterization of 3-Carboxybenzisoxazole Decarboxylase Antibodies

COLORADO Englewood

Cherry Creek High School
Sheth, Rajen Arun (17) 8017 E. Geddes Avenue 80112-1877
Aerodynamic Benefits of Reduced Intervehicular Headway in Automated Vehicles: Two-Year Study

DELAWARE Wilmington

Tower Hill School
Huang, Catherine Kailyn (17) 621 Norman's Lane, Newark 19711
Degradation of Mono-Chlorophenols by a Sonochemical Process

FLORIDA Vero Beach

Vero Beach Senior High School
Hanisak, Kimberly Anne (17) 6345 Fourth Place 32968
Effects of Duration and Intensity of Thermal Stress on Cnidarians

MARYLAND Baltimore

Bryn Mawr School
Kalish, Jennifer Melissa (17) 7102 Rockland Hills Drive 21209
Molecular Genetic Approach to Understanding Aluminum Toxicity in Eukaryotes

MASSACHUSETTS Brookline

Maimonides School
Hammer, Jessica (17) 101 Homer St., Newton 02159
Acquisition of Cognition: Prosodic Cues in Verbs of Mental State

Canton

Canton High School
Zahajsky, Janos (17) 353 Bolivar Street 02021
Effect of the Dispersant Corexit 9527 on #2 Heating Oil Toxicity on Artemia salina

Falmouth

Falmouth High School
Bothner, Margaret Chalmers (17) 77 Belvidere Road 02540
Radon in Falmouth Homes and the Adsorption of its Radioactive Daughters by Secondary Cigarette Smoke

Lexington

Lexington High School
Ou, Yvonne (17) 12 Stimson Avenue 02173
Search for a Low Cost, Environmentally Safe, Interim Road Deicer: Evaluation of CMA/NaCl Mixtures on Deicing Effectiveness, Grass Growth, and Corrosion

MICHIGAN Detroit

Cass Technical High School
Hollings, Darius Dewitt (17) 1376 East Grand Blvd. 48211
Synthesis, Characterization, and Low Temperature Thermolysis of Polyfunctional-3,5 Metal dionate Ceramic Precursors: Application of Molecular Engineering to Structure-Property-Reactivity Relationships

MINNESOTA St. Cloud

St. Cloud Technical High School
VanBuren, Princessa Victoria (17) 3001 Co Road 146, Clearwater 55320
Vegetative Uptake of Arsenic and Cadmium by Two Legumes and Two Grasses Grown in Gold Tailing at Four Fertilizer Rates

Winona

Winona Senior High School
Sherman, Steven Daniel (18) 1075 Marian Street 55987
Effect of Winglets on Drag of Aircraft Wings

MISSOURI Joplin

Joplin High School
Talley, Jason Patrick (17) 837 N. Byers 64801
Effects of Sludge on Primary Food Crops

MONTANA Helena

Helena High School
Anderson, Forrest Newell (18) 1726 - 5th Avenue 59601
Pyrolytic/Catalytic Chemical Recycling of Plastic Waste

NEBRASKA Cambridge

Cambridge Public School
Jones, Michael Thomas (18) 920 Nasby Street 69022
An Early Irvingtonian Vertebrate Fauna from Furnas County, Nebraska

NEW HAMPSHIRE

Exeter

Phillips Exeter Academy

Burke-White, William Whitney (17) 10 Chestnut Street, Apt. 2302 03833
*Alternative Initiation in *tnpA* mRNA Yields at Least Two DNA-Binding Proteins: *tnpA* and a C-Terminal Protein Lacking 244AA from the N-Terminal*

NEW YORK

Bronx

Bronx High School of Science

Choi, Won (17) 39-48 65th Place, Woodside 11377
Does Increased Intracellular pH Confer Chemotherapeutic Drug Resistance to Tumor Cells?

Tartakovsky, Flora (17) 65-35 108 St., Queens 11375

Major Epitope of Gp210 Recognized by Autoantibodies From Patients With Primary Biliary Cirrhosis: Implications for Disease Pathophysiology and Clinical Diagnosis

Yang, Grace (17) 253-15 60 Avenue, Little Neck 11362

*Molecular Analysis of Evolutionary Divergence Between Two Asian Populations Using the *DIS80* Locus*

Brooklyn

Edward R. Murrow High School

Muller, Tamas (17) 1237 E. 72nd Street 11234

Complexation of Glucose by α - and β -Cyclodextrin

James Madison High School

Sinelnikov, Alex Olegovich (17) 1757 Bath Ave., 2nd Fl. 11214

Elevated Rapid Transit Structures: Potential Sources of Soil Lead Contamination

Midwood High School at Brooklyn College

Minkova, Mariya (17) 1717 Avenue P, 3rd Floor 11229

Quantum Phenomena in Artificial Semiconductor Microstructures

Flushing

Townsend Harris High School/Queens College

Zheng, Shimin (18) 77-14 113 St. Apt. 6H, Forest Hills 11375

Nanoscale Patterning on Silica Wafers Using Diblock Copolymers

Garden City

Waldorf School

Staropoli, John Francois (17) 165 Surrey Commons, Lynbrook 11563

Interpreting Ecomorphology of Paleoniscoids From the Bear Gulch Limestone

New York

Hunter College High School

Lin, Jennifer Yu-Fe (17) 133-36 41st Road, Apt. 1A, Flushing 11355

Cloning and Analysis of a Component, Grb2, in Human Insulin-Like Growth Factor 1 Receptor Signal Transduction

La Guardia High School of Music and Art

Martin, Alexis Zeiff (17) 56-28 Main Street, Flushing 11355

In vitro Production of Neurons by Precursor Cells from Adult Human Brain

Martin Luther King, Jr. High School

Oeser-Sweat, Jamel Lamonté (17) 605 F.D.R. Drive 10002

Loofah Sponges and Other Exfoliative Devices as Reservoirs and Vehicles in the Transmission of Potentially Pathogenic Bacterial Species to the Human Skin: An Occult Public Health Problem

Stuyvesant High School

Chen, Johnson (17) 50-36 190th Street, Fresh Meadows 11365

*Deficiency Mapping of an Enhancer of *nod^{PTW}*, a Mutant Allele of a Kinesin-like Gene Involved in *Drosophila melanogaster* Female Meiosis*

Setauket

Ward Melville High School

Hod, Todd Eldad (17) 16 Sheppard Lane, Stony Brook 11790

Structural Analysis of an RNA-Protein Complex

Rijssenbeek, Job Thomas (17) 15 Bayles Avenue, Stony Brook 11790

Synthesis, Structural Analysis, and Ion-Exchange Properties of Novel Tin Sulfides: TMA-SnS-I

OHIO

Toledo

Maumee Valley Country Day School

Chaudhuri, Rakhi (17) 5752 Cresthaven 43614

Gap Junctional Intercellular Communication in Mouse Lung Epithelial Cells

PENNSYLVANIA

State College

State College Area High School

Tu, Peng-Chu Benjamin (16) 2399 Shagbark Court 16803

Mechanisms of Antibiotic Action of 1-chloro-2,4-dinitrobenzene and its Applications in the Isolation and Characterization of Temperature Sensitive Human Glutathione S-Transferases

SOUTH DAKOTA

Sisseton

Sisseton High School

Staub, John Laurence (18) 706 E. Walnut Street 57262

Children + Hands-On Learning = Interest

TEXAS

Katy

James E. Taylor High School

Schaudt, Katherine Leigh (18) 21602 Park York Drive 77450

Predicting Hurricanes in the North Atlantic Ocean

UTAH

Bountiful

Viewmont High School

Crowley, David Ian (18) 520 North Davis Boulevard 84010

*Identification of *Strk*, a *Schistocerca americana* Gene Coding for a Tyrosine Kinase Receptor Protein*

Orem

Orem High School

Farmer, David L. (17) 464 South 520 East 84058-6441

Magnetic Field Dependence on the Inhibition of Monoamine Oxidase B by (Aminomethyl) trimethylsilane

VIRGINIA

Alexandria

Thomas A. Edison High School

Figueroa, Diego Francisco (17) 4304 Javins Drive 22310

*Performance of the Duckweed Genera *Lemma* and *Spirodella* in Nutrient Uptake for Protein Production and Effluent Renovation*

Thomas Jefferson High School for Science and Technology

Sarvis, Robert Christopher (17) 4713 Major Court 22312

Investigation of Trees in Lattices

WISCONSIN

Glendale

Nicolet High School

Sager, Raechal Elizabeth (17) 9016 N. Regent Road, Bayside 53217

*Effects of Gravitational Changes on *Brassica rapas*: Two-Year Study*

