



****Press Release****

****Strict Embargo: Thursday, May 11, 2006, 9:00 P.M. Eastern Standard Time****
****DO NOT RELEASE UNTIL THIS TIME****

**Special Awards presented to Finalists of the
Intel International Science and Engineering Fair 2006 Presented by Agilent Technologies**

Indianapolis, Indiana, USA -- Science Service, in partnership with the Intel Foundation, this evening announced awards at the Intel ISEF 2006 Special Awards Ceremony sponsored by Lucent Technologies. Student winners are ninth through twelfth graders who earned the right to compete by winning top prize at a local, regional, state or national science fair. Special Awards are presented by over 70 scientific, professional and educational organizations and include scholarships, summer internships, book and equipment grants and scientific field trips.

The International Science and Engineering Fair is sponsored by Intel and has been administered by Science Service since its inception in 1950. Science Service is a non-profit organization dedicated to advancing the understanding and appreciation of science among people of all ages.

This information will be posted on the Science Service website at www.sciserv.org/isef immediately following the ceremony.

American Dental Association Foundation

For the best exhibit with application to dental research.

Award of \$1,000

MI301

Xylitol Xtreme Two: A Time Sequencing Study Assessing the Inhibitory Effect of Pentahydroxypentane (Xylitol) on the Bacterial Growth Curve of *Strep. mutans*.

Justin A. Johns, 18, Evangelical Christian School, Fort Myers, Florida

Christine E. Johns, 15, Evangelical Christian School, Fort Myers, Florida

ANATEK Electronics, LLC

The S. Barbara Katz Electronic Hardware Design Award will be presented to the Intel International Science and Engineering Fair participant who demonstrates outstanding talent and passion for the design and development of electronic hardware.

Award of \$1000

EN061

Marx Bank Driven Flash X-ray Generator: A Powerful Tool to Study High Speed Phenomena

Ross Alexander MacKinnon, 16, Stevenson School, Pebble Beach, California

This annual award is presented by ANATEK Electronics in honor of the late S. Barbara Katz who valued excellence in science, mathematics and the arts.

Acoustical Society of America

Award of \$1,000

CS028

A Novel Approach to the Automatic Recognition of Emotions in Natural Speech

Caroline Elizabeth Pietsch, 17, Ossining High School, Ossining, New York

Honorable Mention Award

EN029

Acoustic Localization, Detection, and Identification

Joseph Anthony Crivello, 18, University School of Milwaukee, Milwaukee, Wisconsin

EN040

Tracking the Sound: A Second Year Study on an Ultrasonic Train Wreck Avoidance System

Courtney Anne Rafes, 18, Northwest High School, Justin, Texas

ME036

Modeling Auditory Attention by Implementing IHC Movement into Frequency Selectivity of the Inner Ear: A Novel Approach to Stimuli Separation

Jonathan Blake Sellon, 18, Staples High School, Westport, Connecticut

Each winner will also receive a one-year ASA membership.

Agilent Technologies

Agilent Technologies, the presented by sponsor of the Intel International Science and Engineering Fair, offers eight paid summer internships at an Agilent site that aligns with the student and his/her background. These internships are a minimum of six weeks, not to exceed eight weeks. Agilent is committed to award four of these summer internships at Agilent sites outside of the United States.

Paid Summer Internship

BI057

The Ligands Slit2, SlitL2, and Their Putative Receptors Robo1 and Robo4 Are Selectively Expressed in Hematopoietic Stem Cells

Stephanie Jinyu Yaung, 18, Leland High School, San Jose, California

BI059

Investigation of Homopolymeric Runs in *C. elegans* Genome with Novel Model for Control Sequences

Hann-Shuin Yew, 17, The Harker School, San Jose, California

CH016

Optimizing a Catalyst for Elimination of Carbon Monoxide Exhausted from Gas Water Heater

Chen Wei Tsai, 16, The Affiliated Senior High School of NKNU, Kaohsiung, Taiwan, Chinese Taipei

- EN047 **High Speed Size-exclusion Chromatography Using Spherical Meso-structured Cellular Foam**
Shu Ren Sarah Ong, 18, Raffles Junior College, Singapore, Singapore
- EV061 **Recommendations for Developing a River Purifying System**
Minako Kohki, 16, Okinawa Prefecture Kaihou Senior High School, Shimajiri-gun, Okinawa, Japan
- ME066 **The Role of Keratins as Susceptibility Genes for Liver Disease in Afro-Americans**
Farnoosh Nik-Ahd, 17, California High School, San Ramon, California
- ME091 **Discovery of a Gene that Blocks Breast Cancer Cell Metastasis**
Tejal Ulhas Naik, 16, The Charter School of Wilmington, Wilmington, Delaware
- ZO018 **Analysis of Cotton Bollworm Response to Gossypol**
Yuqian Jiang, 17, Shanghai Weiyu High School, Shanghai, China

Agilent's worldwide community involvement programs, known collectively as Agilent Action, tangibly demonstrates the company's values and commitment to corporate citizenship. Agilent supports programs that are designed to increase students interest and achievement in science education, with an emphasis on women and populations under-represented in the technology industry. Agilent Action inspires minds and enriches lives in the communities where Agilent people live and work.

Albany College of Pharmacy of Union University

The Albany College of Pharmacy-Biomedical Sciences Excellence Award is presented to selected individual(s) demonstrating outstanding achievement in the area of biomedical sciences at the Intel International Science and Engineering Fair.

Scholarship Award of \$5000 per year for four years

- EN087 **Formulation and Development of a "Stomach-Friendly" NSAID [Ibuprofen Delivery System]**
Anuj Atul Shukla, 16, White Station High School, Memphis, Tennessee
- EV119 **Pyrethroids as Endocrine Disruptors: The Effect of Residual Pyrethroid Levels as Found in *L. esculentum* (Tomatoes) on the Abnormal Proliferation of MCF-7 Human Breast Cells**
Graham William Wakefield Van Schaik, 16, Spring Valley High School, Columbia, South Carolina
- ME037 **A Novel Non-invasive Method for the Early Detection of Malignant Melanoma**
Jason Bernard Clain, 16, Greenwich High School, Greenwich, Connecticut
- ME057 **T Cell Signaling in Disease Settings Following Allogeneic Bone Marrow Transplantation**
Melanie Yan-Yan Chow, 17, Rye High School, Rye, New York

Recipients must be admitted to the College in the Bachelor's degree program in pharmaceutical sciences. This annual \$5000 tuition scholarship is renewable for four years.

American Association for Artificial Intelligence

For the best projects in the area of Computer Science with an artificial intelligence component. Finalists in other areas with significant computer science components are also eligible.

Award of \$500

- CS015 **Facool: Convenient Internet Face Retrieval System**
Liu Liu, 19, Shanghai Datong High School, Shanghai, China
- CS024 **Statistical-based Adaptive Binarization for Document Imaging**
Nat Piyapramote, 17, Sarasit Phithayalai School, Banpong, Ratchaburi, Thailand
- CS028 **A Novel Approach to the Automatic Recognition of Emotions in Natural Speech**
Caroline Elizabeth Pietsch, 17, Ossining High School, Ossining, New York
- CS040 **Tough or Diabolical? An Analysis of Sudoku Difficulty Level**
Elsa Star Culler, 16, Lincoln Park High School, Chicago, Illinois
- CS041 **Three-dimensional Face Recognition from Video: Facial Surface Reconstruction and Analysis Using Tensor Algebra and Differential Geometry**
Justin Moore Solomon, 18, Thomas Jefferson High School for Science and Technology, Alexandria, Virginia
- CS302 **Combining Touch Screen and Scanner Input for Handwriting Recognition**
Alan Garrett Pierce, 16, School of Science and Technology, Beaverton, Oregon
Nathaniel John Broussard, 17, School of Science and Technology, Beaverton, Oregon
- CS306 **Leaf! What Are You?**
Hung-Ju Chen, 18, National Hsinchu Girls, Hsinchu City, Taiwan, Chinese Taipei
Min Ju Yang, 17, National Hsinchu Girls, Hsinchu City, Taiwan, Chinese Taipei
- CS318 **A New Algorithm to Minimize Factory Inefficiency Through Penalty Reduction**
Andrew David Gamalski, 17, Hamilton High School, Chandler, Arizona
Vinayak Muralidhar, 16, Corona del Sol High School, Tempe, Arizona
- EN029 **Acoustic Localization, Detection, and Identification**
Joseph Anthony Crivello, 18, University School of Milwaukee, Milwaukee, Wisconsin
- MA043 **Computer-aided Identification of Cancer from Photomicrographs by Entropy Analysis**
Lucia Mocz, 15, Mililani High School, Mililani, Hawaii

All winners will receive a certificate. Winners and their schools will also receive a one-year membership in the American Association for Artificial Intelligence, including a subscription to "AI Magazine".

American Association for Clinical Chemistry

For the projects that best demonstrate the use of Chemistry to diagnose diseased or abnormal states in humans and/or animals.

Award of \$1,000

ME013

Engineering of a Novel Inhibitor of Biofilm-Encapsulated Pathogens

Madhavi Pulakat Gavini, 16, Mississippi School for Mathematics & Science, Columbus, Mississippi

Award of \$500

BI071

X-Ray Crystallographic Investigation of RNA Pseudoknots as a Mechanism for Developing New Anti-viral Agents

Natalie Yang-Yang Zhang, 18, North London Collegiate School, London, United Kingdom

Award of \$300

ME071

A New Target to Fight Breast Cancer: hHb1-deltaN

Melissa Victoria Sussman, 17, Lawrence High School, Cedarhurst, New York

Honorable Mention Award \$50

BI306

Hydroxyurea and N-Acetylcysteine: The Effect on the Sickle Erythrocyte Proteome

Stephanie Anne Stoughton, 16, Shepton High School, Plano, Texas
Michael Yenting Wu, 16, Shepton High School, Plano, Texas

ME326

Dystrophic Skeletal Muscle Cell Membranes Patched by Ploxamer 407

Lalith Kumar Polepeddi, 17, Cherry Creek High School, Greenwood Village, Colorado
Michael McCord Polmear, 18, Cherry Creek High School, Greenwood Village, Colorado

MI302

Decreasing the Microbial Contamination of an Oak Wine Barrel by Improving the Sanitation of *Brettanomyces bruxellensis* Using 254nm Ultraviolet Light and an Ultrasonic Bath

Arnaud Georges Sillis, 17, Oregon Episcopal School, Portland, Oregon
Brian Furness Siperstein, 17, Oregon Episcopal School, Portland, Oregon
Keenan Joseph Ferar, 17, Oregon Episcopal School, Portland, Oregon

American Association of Physics Teachers and the American Physical Society

Top award winners receive a one-year AAPT and APS student membership, a certificate from both AAPT and APS, as well as subscriptions to AAPT "The Physics Teacher" Journal and other APS journals.

First Award of \$1,000

PH020

Development of an Inexpensive Raman System and a Littrow Spectrograph

Mary Masterman, 16, Westmoore High School, Oklahoma City, Oklahoma

Second Award of \$400

PH026

Cracking the Brazil Nut Effect

Meredith Ann MacGregor, 17, Fairview High School, Boulder, Colorado

Third Award of \$300

PH031 **Physics of a Simple Prototype for Static Magnetic Levitation**
Hamsa Padmanabhan, 16, Kendriya Vidyalaya Ganeshkhind, Pune, Maharashtra, India

Certificate of Honorable Mention

PH002 **A Compact Approach for the Real-time 3D Localization of Sounds**
David S. Holz, 17, Monarch High School, Coconut Creek, Florida

PH019 **Detection of Metal Fatigue and Defects by Electron Work Function Topography and Gradient**
Geoffrey Hubert Woo, 17, Palos Verdes Peninsula High School, Rolling Hills Estates, California

PH048 **Sensitivity of 1/f Noise to Chemical Constituents: A Study of Pentacene and Its Oxidative Impurity in Thin-Film Transistors**
Winston Xia Yan, 17, Thomas Jefferson High School for Science and Technology, Alexandria, Virginia

Each sponsoring teacher of a student who receives an AAPT and APS award also will receive a certificate.

American Astronomical Society and the Astronomical Society of the Pacific

The Priscilla and Bart Bok Awards are given jointly by the American Astronomical Society (AAS) and the Astronomical Society of the Pacific (ASP). The main criterion for selecting the two Bok Awards is scientific merit. Observational, instrumental, or theoretical projects are all eligible, as are interdisciplinary projects involving Physics, Mathematics, Computer Science, and Engineering, etc.

Priscilla and Bart Bok First Award of a \$5,000 scholarship

SP007 **Magic Mirror for Galaxy Clusters**
Hsin-Yu Chen, 18, Taipei First Girl High School, Taipei, Taiwan, Chinese Taipei

Priscilla and Bart Bok Second Award of a \$3,000 scholarship

SP022 **Group Analysis to Pattern Discovery in Stellar and Galactic Distributions**
Philip Mocz, 16, Mililani High School, Mililani, Hawaii

The awarded funds are intended to be used by the recipients to further their education and research efforts. \$1,000 is also awarded to their high school science departments for use in enhancing their science education programs. These awards are funded by a grant from the National Science Foundation and are subject to their approval.

American Chemical Society

The American Chemical Society is a self-governed individual membership organization that consists of more than 158,000 members at all degree levels and in all fields of chemistry. The organization provides a broad range of opportunities for peer interaction and career development, regardless of professional or scientific interests. The programs and activities conducted by ACS today are the products of a tradition of excellence in meeting member needs that dates from the Society's founding in 1876.

First Place Award of \$4,000

CH064 **Meth Busters: An *in situ* Test for Determining Methamphetamine History in Homes**
Jia Jennifer Wu, 18, Arkansas School for Mathematics, Sciences, & the Arts, Hot Springs, Arkansas

Second Place Award of \$3,000

- CH016 **Optimizing a Catalyst for Elimination of Carbon Monoxide Exhausted from Gas Water Heater**
Chen Wei Tsai, 16, The Affiliated Senior High School of NKNU, Kaohsiung, Taiwan, Chinese Taipei

Third Place Award of \$2,000

- CH050 **The Effects of Weathering and Substrate Preparation on Coating Integrity and Adhesion**
Jameson Keith Hackbarth, 18, L. V. Hightower High School, Missouri City, Texas

Fourth Place Award of \$1,000

- CH052 **Grass as Fuel**
Jeff K. Bean, 17, American Fork High School, American Fork, Utah

Honorable Mention Award

- CH012 **Identification of the Determinants of Antimalarial Drug Action**
Smita Mascharak, 16, Santa Cruz High School, Santa Cruz, California
- CH044 **A Novel Medicinal Metabolite from Extremophilic *Trichoderma virens* Found in the Silver Bow Creek System**
Kels Gordon Phelps, 17, Butte High School, Butte, Montana
- CH045 **Fabrication and Stabilization of Biocompatible Silver Nanoparticles for Potential Tumor-Imaging Applications**
Swathi Bhaskaran, 17, David H. Hickman High School, Columbia, Missouri
- CH049 **The Application of Gas Chromatography in Detecting Washed Checks**
Matthew Wayne Brown, 17, Roanoke Valley Governor's School, Roanoke, Virginia
- CH057 **The Influence of Reference Power on Calorimetrically Determined Thermodynamic Parameters**
Sara D. Niedbalski, 17, Marian High School, Mishawaka, Indiana
- CH308 **The Effects of Supercritical Carbon Dioxide on the Compatibilization and Crystallinity of Polymer Thin Films**
Christopher Donald Pynn, 17, Half Hollow Hills High School West, Dix Hills, New York
Zimra Payvand Ahdout, 17, Roslyn High School, Roslyn Heights, New York

All award winners and honorable mentions receive a t-shirt and a subscription to "Chem Matters". The sponsoring teachers and schools of the awardees also receive a certificate.

American Committee for the Weizmann Institute of Science

All expense paid trip for five weeks and scholarship to the Bessie Lawrence International Summer Science Institute at the Weizmann Institute of Science in Rehovot, Israel. The dates of the program are July 3-July 28.

- BI080 **Understanding the Molecular Causes of Cancer: The Role of MMSET in the Pathogenesis of Multiple Myeloma**
Kristie Mercedes Charoen, 17, Yorktown High School, Yorktown Heights, New York

The International Summer Science Institute provides students with an opportunity to work alongside top Weizmann Institute researchers, as well as to learn about life in Israel today.

American Geological Institute

AGI is pleased to recognize three projects that best reflect the study of Earth and the mission of AGI. Founded in 1948, AGI strives to increase public awareness of the vital role of the geosciences to mankind and society.

First Award of \$1,000

EA016

Sleuthing Epicenter Direction from Seismites, Cretaceous Wahweap Formation, Cockscomb Area, Grand Staircase-Escalante National Monument, Utah
Hannah Louise Wolf, 16, Parkland High School, Allentown, Pennsylvania

Second Award of \$250

EA302

Tracing Early Hominid Migrations in India: ESR Dating at Hathnora and Devni-Khadri
Maysun Mazhar Hasan, 17, Francis Lewis High School, Fresh Meadows, New York
Herman Suhail Khan, 16, Staten Island Technical High School, Staten Island, New York

Honorable Mention Award, a one year subscription to "Geotimes"

SP017

Investigating the Chemical Signatures of Meteorite Impacts
Terik Daly, 16, Oak Grove High School, San Jose, California

All three AGI student winners will receive a certificate and an AGI publication.

American Indian Science and Engineering Society

For the project that best represents the relationship between science, mathematics, technology, engineering and American Indian/Alaska Natives or Native Hawaiian Culture.

Award of \$1,000

BO040

Ohelo, Phase II: Identify BioActive Compound
Jessie Ann Ka'iulani Pa'ahana, 17, Kamehameha Schools, Kapalama Campus, Honolulu, Hawaii

Winner will also receive a plaque and an AISES denim shirt.

American Intellectual Property Law Association

First Award of \$1,000 and a certificate

BE031

Visual Illusions as Tools in Schizophrenia Research
Esther Pustil'nik, 18, Israeli Arts and Sciences Academy, Jerusalem, Israel

BI028

A Potential New Approach to Chemotherapy in Brain Tumours: Disruption of Connexin 43 Particle Arrangement to Cause Cell Death in Malignant Glioma
Yale Stern Michaels, 14, Grant Park High School, Winnipeg, Manitoba, Canada

Second Award of \$250 and a certificate

CH059

The Elimination of Volatile Organic Compounds Through the Use of Polyethyleneimine Nanofibers
James Zhen Wang, 18, Hoover High School, North Canton, Ohio

EV009 **The Useful DIMP Spring (Device for Improving the Mixing Process in Gasoline Engines)**
Sa'ed Younes Aldaraghme, 16, King Abdullah the Second School for Excellence,
Amman, Jordan

American Mathematical Society

Karl Menger Award of Excellence

First Award of \$1,000

MA036 **The Solution of the Dirichlet Problem with Rational Boundary Data**
Michael Anthony Viscardi, 17, Josan Academy, San Diego, California

Second Award of \$500

MA018 **A Fully Combinatorial Proof of the Chan-Robbins-Yuen Theorem**
Daniel Abraham Litt, 17, Orange High School, Pepper Pike, Ohio

MA032 **On the Reducibility of Cyclotomic Polynomials Over Finite Fields**
Brett Alexander Harrison, 17, Half Hollow Hills High School West, Dix Hills, New York

Third Award of \$250

MA002 **Novel Method of Computing Jacobi Symbols for Mersenne Numbers: Allowing for Generation of S Values for the Lucas-Lehmer Primality Test**
Anarghya A. Vardhana, 17, Jesuit High School, Portland, Oregon

MA017 **On Embeddability of Cubic Graphs with Rotations in the Torus**
Gleb A. Pogudin, 15, Gymnasim 6, Novosibirsk, Russian Federation

MA020 **Character Sums and Ramsey Properties of Generalized Paley Graphs**
Nicholas Michael Wage, 17, Appleton East High School, Appleton, Wisconsin

MA042 **A Finiteness Property for Integral Points in a Family of Conics**
Sohan Venkat Mikkilineni, 17, Detroit Country Day School, Beverly Hills, Michigan

Honorable Mention Award

MA015 **Extended Fault Tolerance of Hyper-star Graphs**
Meelap Vijay Shah, 17, Stoney Creek High School, Rochester Hills, Michigan

MA019 **Reinterpretation of the Theory of Graph Minors and the Study of a Special Case of Hadwiger's Conjecture**
Manuel Luis Rivera-Morales, 17, Colegio San Ignacio de Loyola, San Juan, Puerto Rico

MA045 **Criteria of Realization of Bouquets on the Plane and Tore**
Bakhytzhan Baizhanov, 17, Aktobe Kazakh-Turkish High School, Aktobe, Kazakhstan

A booklet on Karl Menger will be given to each winner.

American Meteorological Society

For the best exhibits in the area of atmospheric, oceanic and hydrologic sciences.

First Award of \$1,000

CS309

Using Eulerian Models to Determine Initial Conditions of Severe Weather

Gwyneth Rhiannon Glissmann, 15, Peak to Peak Charter School, Lafayette, Colorado
Robert Vaughan Glissmann, 18, Peak to Peak Charter School, Lafayette, Colorado

Second Award of \$500

SP012

The Influence of Topography on Martian Polar Clouds

Sukrit Ranjan, 18, Glenbrook North High School, Northbrook, Illinois

Third Award of \$250

EA004

ENSO Dampening of Atlantic Tropical Cyclone Activity via Thermal Wind

Alexander Abram Robel, 17, Maritime and Science Technology Academy, Miami, Florida

Honorable Mention Award

EA009

Impact of Emerging Arctic Ground Cover upon Albedo and the Acceleration of Global Warming

Krista BreAnn Pfeifer, 17, Latta High School, Ada, Oklahoma

EV021

The Effect of Pollution from Agricultural Burning on the Surface Tension of Water Droplets in Clouds

Danyelle Lee Evans, 14, James Bowie High School, Austin, Texas

EV051

The Urban Heat Island Affect in Cities with Populations Under 20,000

Travis J. Matheus, 16, Fernley High School, Fernley, Nevada

Winners receive a certificate, an AMS Journal/Bulletin Archive CD-ROM, and a one-year student membership to the AMS. The student membership includes a subscription to the "Bulletin of the American Meteorological Society" or "Weatherwise" magazine.

American Physiological Society

For the best projects in the physiological sciences which include cellular physiology, animal physiology and neurophysiology.

First Award of \$1,000

ME036

Modeling Auditory Attention by Implementing IHC Movement into Frequency Selectivity of the Inner Ear: A Novel Approach to Stimuli Separation

Jonathan Blake Sellon, 18, Staples High School, Westport, Connecticut

Second Award of \$500

ME048

Cellular and Molecular Mechanisms of Nicotine's Pro-angiogenesis Activity: Potential Impact on Different Disease Processes

Sarah S. Mousa, 18, Columbia High School, East Greenbush, New York

Third Award of \$500

ME031

Treatment of Age-related Macular Degeneration, Year Two: Effect of Intraocular Steroid on Choroidal Neovasculation and Vitreal Vascular Endothelial Growth Factor Level

Sabrina Lakshmi Prabakaran, 15, Canterbury School, Fort Myers, Florida

ME044

The Impact of Muller Cell Reactivity During Retinal Degeneration

Sheel Tyle, 14, Pittsford Mendon High School, Pittsford, New York

Winners will receive a certificate, a t-shirt, and a one-year subscription to APS publications.

American Phytopathological Society

First Award of \$1,000

MI033

Gene Clone and Secondary Structure Analysis of Mulberry Mosaic Wither Viroid

RuoChen Zhu, 18, The High School Attached to Tsing Hua University, Beijing, China

Second Award of \$700

MI050

Use of GFP to Analyze *Pseudomonas syringae* pv. *phaseolicola* 1448A in Plant Cells

Daniel Abraham Blumenthal, 18, Jones College Preparatory School, Chicago, Illinois

Third Award of \$500

BO007

Verifying Greenhouse Techniques Used to Test Potatoes for Susceptibility to Powdery Scab

Michaela K. Kaiser, 17, Sargent High School, Monte Vista, Colorado

Fourth Award of \$200

BO050

In Search of a Natural Treatment for *Puccinia hemerocallidis*, Phase III

Kyle James Yawn, 16, Warner Robins High School, Warner Robins, Georgia

All winners will receive a one year membership in the APS, which includes on-line access to all three APS journals, image database, and numerous educational materials.

American Psychological Association

For the best projects in the psychological sciences.

First Award of \$1,000

BE029

Word Segmentation in Language Acquisition: Assessing Ambiguities Between Word Offsets and Transitional Probabilities

Riana Juhn Betzler, 17, The Fox Lane High School, Bedford, New York

Second Award of \$500

ZO032

The Role of Serotonin Pathways in Mouse Compulsive-like Behavior: Implications for the Study of Obsessive-Compulsive Disorder

Harpreet Kaur Sangha, 17, West Valley High School, Fairbanks, Alaska

Third Award of \$250

BE030

Attention in the Brain: A Study of Cognitive Control Using Functional Magnetic Resonance Imaging

Maggie Delano, 17, Ossining High School, Ossining, New York

Honorable Mention Award

- BE040 **Atypical Visual Behaviors as Early Indicators of Autism in Children**
Maya Nina Wolpert, 18, Hathaway Brown School, Shaker Heights, Ohio
- BE318 **The Effects of CNS Stimulants and SSRIs on the Formation of Conditioned Long Term Memory and Learning Behaviors in Sleep Deprived Wildtype *Drosophila melanogaster***
Mary Martha Ferrari Douglas, 17, Manhasset High School, Manhasset, New York
Alison W. Liu, 16, Manhasset High School, Manhasset, New York
- CS028 **A Novel Approach to the Automatic Recognition of Emotions in Natural Speech**
Caroline Elizabeth Pietsch, 17, Ossining High School, Ossining, New York

All APA winners will receive a certificate and a one year APA student membership.

American Society for Horticultural Science

First Award of \$1,000

- BO007 **Verifying Greenhouse Techniques Used to Test Potatoes for Susceptibility to Powdery Scab**
Michaela K. Kaiser, 17, Sargent High School, Monte Vista, Colorado

Second Award of \$500

- CH056 **The Preservative Effects of Various Saccharides on *Rosa hybrida***
Allison Marie Lange, 17, Noblesville High School, Noblesville, Indiana

Third Award of \$250

- BO004 **Seeing Red: Tomato Production Response to Reflective Red Wavelengths**
John Jacob Register, 15, Austin High School, Austin, Minnesota

Each awardee and his/her school will receive a one-year subscription to ASHS's "HortScience" and "Hort Technology" plus a mounted certificate.

American Society for Microbiology

For the most outstanding project in the Microbiological Sciences, a \$1000 scholarship award, a one year student membership in the Society including monthly membership magazine "ASM News" and access to members-only web resources; and the book, "Intimate Strangers".

Award of \$1,000

- MI054 **Compartmentalization of Gene Expression in a Sporulating Coccus, *Sporosarcina ureae***
Mamatha Chetlur Chary, 16, Central High School, Philadelphia, Pennsylvania

American Society of Pharmacognosy

For projects involving the study of natural products that are in any relevant category areas including Biochemistry, Botany, Chemistry, Medicine, Microbiology and Zoology.

First Award of \$500

- CH041 **Satureja Darwinii: Determination of Biologically Active Compounds in Its Essential Oil**
Vanesa Elizabeth Racigh, 17, Colegio Provincial de Educacion Polimodal No. 1, Pierda Buena, Santa Cruz, Argentina
- CH044 **A Novel Medicinal Metabolite from Extremophilic *Trichoderma virens* Found in the Silver Bow Creek System**
Kels Gordon Phelps, 17, Butte High School, Butte, Montana

American Speech-Language-Hearing Association

Award of \$1,000

- BE024 **Sounds into Syllables™ II Windows to the World of Childhood Autism**
Kayla Cornale, 16, Assumption Roman Catholic Secondary School, Burlington, Ontario, Canada

Award of \$500

- ME036 **Modeling Auditory Attention by Implementing IHC Movement into Frequency Selectivity of the Inner Ear: A Novel Approach to Stimuli Separation**
Jonathan Blake Sellon, 18, Staples High School, Westport, Connecticut

Award of \$250

- ME090 **That Little Voice Inside Your Head**
Erin Marie Fischell, 18, High Technology High School, Lincroft, New Jersey

Winners also receive a certificate, a career information pamphlet and a subscription to the "Journal of Speech and Hearing Research".

American Statistical Association

First Award of \$1,000

- EA011 **An Estimation of Heavy Metal Contamination in Soil Using Reflectance Spectroscopy and Partial Least Squares Regression**
Caaminee Mayank Pandit, 18, Noblesville High School, Noblesville, Indiana

Second Award of \$500

- SP017 **Investigating the Chemical Signatures of Meteorite Impacts**
Terik Daly, 16, Oak Grove High School, San Jose, California

Third Award of \$250

- BE301 **Determination of Gender and Age by Thumbprints, Year Two**
Meryl Adelman Hulteng, 15, Wilsonville High School, Wilsonville, Oregon
Shannon Marie Cassidy, 16, Wilsonville High School, Wilsonville, Oregon

Honorable Mention Award

MA043 **Computer-aided Identification of Cancer from Photomicrographs by Entropy Analysis**
Lucia Mocz, 15, Mililani High School, Mililani, Hawaii

All students receive one-year subscriptions of "STATS" and "Chance". Their schools will also receive a one-year school membership in the American Statistical Association.

American Veterinary Medical Association

First Award of \$1,000

EV301 **Decline of the North American Lesser Scaup, Phase Two: Chromium and Selenium in Foods**
Matt Moraco Weegman, 17, Winona Senior High School, Winona, Minnesota
Mitch Dale Weegman, 17, Winona Senior High School, Winona, Minnesota

Second Award of \$700

ME059 **Postnatal Development, Behavior, and Motor Function in Growth Restricted Offspring**
Antoinette Shani Dawson, 17, Murrah High School, Jackson, Mississippi

ME320 **The Growth of Pathogenic or Allergenic Fungi in the *Columba livia* Excrement, Phase III**
Legna Figueroa, 15, Maria Davila Semidey, Patillas, Puerto Rico
Darlene Torres, 16, Natividad Rodriguez Gonzalez School, Arroyo, Puerto Rico

ZO020 **A Versatile Hunter: Giant Wood Spider Adjusts Web Structure and Silk Properties When Encountering Different Prey**
Yi-Chi Chao, 18, The Affiliated Senior High School of NTNU, Taipei, Taiwan, Chinese Taipei

ZO066 **The Role of Kelp Herbivores on the Pacific Northwest Intertidal Trophic Cascade**
Laurie Lea Fletcher, 17, Gold Beach High School, Gold Beach, Oregon

All winners will also receive a plaque.

Ashtavadhani Vidwan Ambati Subbaraya Chetty (AVASC) Foundation

For projects that display outstanding creativity, ingenuity and have the potential to alleviate the human condition or mark a substantive advance in the scientific field.

First Award of \$1,000 U.S. Savings Bond

BI065 **A New Spin on Wound Healing Scaffolds: Physical and Molecular Optimization**
Amardeep Singh Grewal, 17, Detroit Country Day School, Beverly Hills, Michigan

EN134 **Preparation and Characterization of a Superparamagnetic Polymer Nanocomposite for Biomedical Applications**
Nicole Rachelle Brenner, 18, Lawrence High School, Cedarhurst, New York

Second Award of \$500 U.S. Savings Bond

- CH025 **A Novel Chlorophyll-based Nanocrystalline Photoelectrochemical Cell: A Promising Approach to Hydrogen Production via the Light-driven Redox of Seawater**
Nilesh Tripuraneni, 15, Clovis West High School, Fresno, California
- CS017 **Building a Power-Optimized MIPS Pipeline**
Vidya Ganapati, 18, Sunset High School, Portland, Oregon
- EN078 **Glabenator: An Advanced Alternative and Augmentative Communication Device**
Apurv Mishra, 16, Dayanand Anglo Vedic Public School, Bhubaneswar, Orissa, India
- MA020 **Character Sums and Ramsey Properties of Generalized Paley Graphs**
Nicholas Michael Wage, 17, Appleton East High School, Appleton, Wisconsin
- ME036 **Modeling Auditory Attention by Implementing IHC Movement into Frequency Selectivity of the Inner Ear: A Novel Approach to Stimuli Separation**
Jonathan Blake Sellon, 18, Staples High School, Westport, Connecticut
- MI031 **Use of a Paramyxovirus to Reduce Tumor Development *in vivo* and Kill Transformed Cells *in vitro***
Nandini Sarma, 16, Shawnee Mission East High School, Prairie Village, Kansas
- PH043 ***In vitro* Identification of Cancerous Tumors by Raman Spectroscopy**
Shannen Alexei Adcock, 18, Little Rock Central High School, Little Rock, Arkansas
- SP005 **Implementing a Novel Program for Forecasting Latitude/Longitude Locations and Movement Rates of Sunspots and Active Solar Magnetic Regions, Year Three**
Elyse Autumn Hope, 18, Oregon Episcopal School, Portland, Oregon

Equivalent award available for non-U.S. winners. AVASC Foundation is an educational and medical service foundation dedicated to recognizing academic talent and providing services to the needy.

Association for Computing Machinery

First Award of \$1,000

- CS024 **Statistical-based Adaptive Binarization for Document Imaging**
Nat Piyapramote, 17, Sarasit Phithayalai School, Banpong, Ratchaburi, Thailand

Second Award of \$500

- CS010 **Stereovision Correspondence Using Wavelet Based Dynamic Programming**
Alex Conway Buchanan, 18, Myers Park High School, Charlotte, North Carolina

Third Award of \$300

- CS015 **Facool: Convenient Internet Face Retrieval System**
Liu Liu, 19, Shanghai Datong High School, Shanghai, China

Honorable Mention Award of \$200

- CS017 **Building a Power-Optimized MIPS Pipeline**
Vidya Ganapati, 18, Sunset High School, Portland, Oregon

CS041 **Three-dimensional Face Recognition from Video: Facial Surface Reconstruction and Analysis Using Tensor Algebra and Differential Geometry**
Justin Moore Solomon, 18, Thomas Jefferson High School for Science and Technology, Alexandria, Virginia

CS048 **Musical Instrument Recognition on Monophonic Musical Phrases**
Huseyin Alp Gurkan, 19, Galatasaray High School, Istanbul, Turkey

All winners will receive complimentary ACM Student Memberships for the duration of their undergraduate education (ACM's Student Portal Package, which also includes ACM's Digital Library).

Association for Women Geoscientists

The mission of the society is to encourage the participation of women in the geosciences, to exchange educational, technical and professional information, and to enhance the professional growth and advancement of women in geosciences.

Award of \$1,000

SP019 **The Dust Devils Did It: Wind Erosion and Transport in Gusev Crater Mars**
Julie Emily Walker, 15, Leonardtown High School, Leonardtown, Maryland

Award of \$100

EA016 **Sleuthing Epicenter Direction from Seismites, Cretaceous Wahweap Formation, Cockscomb Area, Grand Staircase-Escalante National Monument, Utah**
Hannah Louise Wolf, 16, Parkland High School, Allentown, Pennsylvania

EA020 **Analysis of Simulated Slip-Stick Earthquake Motion**
Katherine Marie Hushebeck, 18, Notre Dame Academy, Park Hills, Kentucky

All award winners will also receive a certificate, an AWG winners' group photograph, an AWG t-shirt and a student membership in the AWG organization which, includes a newsletter subscription.

Bureau of Reclamation/U.S. Department of the Interior

For exhibits related to water resources development and management, including hydroelectric and electric power generation, engineering design, construction materials, irrigation, water management and conservation, water quality, fisheries and aquatic ecology and wetlands.

First Award of \$1000

PH034 **Alternative Energy Converter**
Denilson Luz Freitas, 18, Colegio Opcao de Ensino, Vitoria da Conquista, Bahia, Brasil

Second Award of \$600

ZO022 **A Device for Determining the Gender of Salmon Using Morphological Characteristics, Phase Four: Age & Morphological Differences Between Male & Female Kokanee Salmon**
Susannah Lee Clary, 14, Los Lunas High School, Los Lunas, New Mexico

Third Award of \$400

EA003 **Breakthrough Substitutions of Synthetic Polymers with Natural Chitosan for the Prevention of Soil Erosion**
Dhanur Damodar, 15, duPont Manual Magnet High School, Louisville, Kentucky

Honorable Mention Award

- EV019 **Boards and Branches, Year Five: A Continued Multivariable Study of Snow Interception for Water Conservation**
Erica Elizabeth David, 16, Pinedale High School, Pinedale, Wyoming
- EV028 **Long Term Monitoring of the Rio San Jose Watershed**
Kendra Ann Valdez, 17, Grants High School, Grants, New Mexico

Each student receives a certificate of achievement from the Bureau of Reclamation.

China Association for Science and Technology

Award winners will receive a paid trip to China for a week to attend the 21st China Adolescents Science and Technology Innovation Contest to be held in Macao in August. The award includes round trip flights, accommodations and activities for the students.

Trip to China to attend the CASTIC

- CH031 **A Concept of Remote Group Participation Illustrated by Glycosylations with 6-chloro-6-deoxy-glucosyl Donors**
Andrey M. Tsedilin, 16, Moscow Chemical Lyceum #1303, Moscow, Russia
- CH047 **Date Rape Drugs: Can They Be Detected?**
Anne Marie Larissa Child, 15, Westdale Secondary School, Hamilton, Ontario, Canada
- EN053 **Free Energy in Your Own Back Yard**
Brian Joseph Sutterer, 17, Terre Haute North Vigo High School, Terre Haute, Indiana
- EN061 **Marx Bank Driven Flash X-ray Generator: A Powerful Tool to Study High Speed Phenomena**
Ross Alexander MacKinnon, 16, Stevenson School, Pebble Beach, California
- ZO033 **Glycogen Induces Extension of Pharynx During Feeding in Planarians**
Seira Shimoyama, 17, Urawa Daiichi Girls High School, Urawa-City, Saitama Prefecture, Japan

Coalition for Plasma Science (CPS)

This award will be given to the best project in the broad area of plasmas. Plasma-related topics include, but are not limited to, lighting, display, materials processing, space physics, terrestrial phenomena (lighting, aurora, etc.), fusion, and basic plasma science. Criteria include overall scientific merit, understanding of problem, and approach to the topic.

Award of \$1000

- PH028 **Where Under the Sun Are You?**
Sarah Lynn McCuskee, 14, Campbell Collegiate, Regina, Saskatchewan, Canada

Cook Group Incorporated

The awards will be presented to outstanding projects with a focus on medical and health sciences that also demonstrate exceptional passion, creativity and ingenuity in the areas of biomedical engineering; and medical science with application to the maintenance of health and the prevention and treatment of disease.

Scholarship Award of \$2,000 and Summer Internship (including housing) valued at approximately \$5,000.

- BE021 **Visualizing Graphical Information for the Visually Handicapped: A Low-cost Haptic Feedback Display**
Ahmad Shakir Manshad, 16, Las Cruces High School, Las Cruces, New Mexico
- ZO070 **Cell Proliferation Is Episodic and Pulsatile During Growth of Zebrafish Fins**
Isha Himani Jain, 15, Freedom High School, Bethlehem, Pennsylvania

Founded in 1963, COOK® is the world's largest privately held manufacturer of medical devices with international headquarters in Bloomington, Indiana and is a leading designer and global distributor of minimally invasive medical device technology for diagnostic and therapeutic procedures.

Drexel University

For projects in the categories of Computer Science, Engineering, Medicine and Health and Physics.

Tuition Scholarship of \$105,000

- CS027 **Quantitative Analysis of Music in MP3**
Will Rowan Fletcher, 16, Hellgate High School, Missoula, Montana
- EN021 **Point and Click, Literally, Phase II**
Christopher D. Messick, 16, Sargent High School, Monte Vista, Colorado
- EN095 **The Development of Gradient-based Computational Fluid Dynamics Applications**
Robert Michael Parrish, 16, Chamberlain High School, Tampa, Florida
- MA037 **Generalized $3x+1$ Dynamical Systems Under Semi-group Action**
Daniel Zi Wang, 16, Plano Senior High School, Plano, Texas
- ME011 **Mercury Release from Palladium-Containing Dental Amalgam After Bleach Exposure**
Emma Caroline Jeffries, 17, Columbia River High School, Vancouver, Washington
- ME038 **Micro-pathology Lab Chip for Detecting Molecular Lesions of Glioblastoma**
Carol Yoon Joo Suh, 17, Palos Verdes Peninsula High School, Rolling Hills Estates, California
- ME050 **The Correlation Between the Transcription Factor of HIF-1 α and the Reduction in Proliferation Index**
Andrew Allen Gilbert, 16, Northern Utah Academy for Math, Engineering and Science, Roy, Utah
- PH019 **Detection of Metal Fatigue and Defects by Electron Work Function Topography and Gradient**
Geoffrey Hubert Woo, 17, Palos Verdes Peninsula High School, Rolling Hills Estates, California

Scholarships are renewable for up to 5 years pending maintenance of a 3.0 GPA and full-time status. Each scholarship is valued at \$105,000. Scholarships will go into effect upon admission to the University.

Endocrine Society

First Award of \$1,000

- ME046 **Can Light Be Used to Detect Blood Sugar Levels? Year Two**
Julie Krystine Loza, 16, Kouts High School, Kouts, Indiana

Second Award of \$500

- BI018 **Effect of Dietary Sugars (Glucose and Fructose) on the Production of Reactive Oxygen Species in Fat Cells**
Yevgen Yuri Sautin, 15, Eastside High School, Gainesville, Florida
- EV119 **Pyrethroids as Endocrine Disruptors: The Effect of Residual Pyrethroid Levels as Found in *L. esculentum* (Tomatoes) on the Abnormal Proliferation of MCF-7 Human Breast Cells**
Graham William Wakefield Van Schaik, 16, Spring Valley High School, Columbia, South Carolina

Honorable Mention Award

- BO037 **Production of Interleukin-13 (IL-13) in Transgenic Plants of Immunotherapy for Type 1 Diabetes**
David Jueyu Wang, 17, A.B. Lucas Secondary School, London, Ontario, Canada
- ME316 **The Effects of Variations in Dietary Fat Intake Using *Caenorhabditis elegans* as a Model Organism for Fat Storage**
Whitney Strine Quackenbush, 16, Manhasset High School, Manhasset, New York
Erin Nicole D'Agostino, 15, Manhasset High School, Manhasset, New York
- ME321 **Effects of Plasticizer DEHP on Reproduction and Reproductive Fitness**
Sameer Gorav Gupta, 17, Central High School, Macon, Georgia
Brice Alfred Bongiovanni, 18, Central High School, Macon, Georgia
- ZO070 **Cell Proliferation Is Episodic and Pulsatile During Growth of Zebrafish Fins**
Isha Himani Jain, 15, Freedom High School, Bethlehem, Pennsylvania

All winners will receive a certificate, a book on the endocrine system and a T-shirt.

Florida Institute of Technology

Florida Institute of Technology is the only private technological University in the south eastern United States and is rated by the Princeton Review as the best private college in Florida. Florida Tech, located on the Space Coast near Kennedy Space Center, offers full undergraduate and graduate programs in engineering, science, psychology, business, and aeronautics.

Scholarship Award of \$12,500 per year, renewable annually

- BE027 **Cerebral Dominance: Does It Affect Academics?**
Jenna Kathryn Johnson, 16, Burnsville High School, Burnsville, Minnesota
- CH002 **Discovery of Compounds Active Against *Staphylococcus aureus* from the Marine Sponge *Choristida***
Sheena Bhalla, 16, Lincoln Park Academy, Fort Pierce, Florida
- CH073 **Jitterbuzz: The Dance of the Teenage Caffeine Addict**
Christine Marie Wrolson, 17, Trinity Christian High School, Williston, North Dakota

- CS008 **Testing the Efficient Market Hypothesis with Artificial Neural Networks and Genetic Algorithms**
Benjamin Louis Brinkopf, 17, Canterbury School, Fort Myers, Florida
- EA001 **Storm Warning: Is There a Predictable Correlation Between the North Atlantic Oscillation and Tropical Cyclone Activity?**
John Christopher Turner, 17, Lincoln High School, Tallahassee, Florida
- EN045 **Research, Engineering, and Design of a Hard Surface Sailer, Part II**
Christopher Brennan Long, 16, Angels Rest Homeschool, Pearisburg, Virginia
- EN126 **Characterizing the Structural Stability of Model Buildings Through the Use of a Biaxial Shaker for the Purpose of Structural Optimization, Phase Three**
Jonathan Brooks Bell, 17, R. Nelson Snider High School, Fort Wayne, Indiana
- EN349 **The Effects of Supercritical Carbon Dioxide (scCO₂) on the Segregation of POSS Nanoparticles and on the Metallization of PS and PMMA Thin Films**
Brienne Ashley Kugler, 17, Jericho High School, Jericho, New York
- EN349 **The Effects of Supercritical Carbon Dioxide (scCO₂) on the Segregation of POSS Nanoparticles and on the Metallization of PS and PMMA Thin Films**
Jamie Erin Rosengard, 17, Half Hollow Hills High School West, Dix Hills, New York
- MA051 **Topology, Topology**
Ralph F. Jennings III, 16, Southside High School, Atlanta, Georgia
- PH026 **Cracking the Brazil Nut Effect**
Meredith Ann MacGregor, 17, Fairview High School, Boulder, Colorado
- PH036 **Factors Affecting Hydrogen Production**
Tyler John Parisien, 16, Turtle Mountain Community High School, Belcourt, North Dakota

Florida Tech is offering 12 tuition scholarships of \$50,000 each to be distributed over four years.

Geological Society of America

The Society will award prizes for science and engineering projects investigating the earth and related sciences. The winners and their schools will receive a free subscription to "GSA Today", the GSA monthly newsletter. Projects will be judged on their demonstration of a high level of understanding of earth science concept(s), how the earth is a system, and use of innovative methods to explain concepts.

Award \$1,000

- EA302 **Tracing Early Hominid Migrations in India: ESR Dating at Hathnora and Devni-Khadri**
Maysun Mazhar Hasan, 17, Francis Lewis High School, Fresh Meadows, New York
Hermain Suhail Khan, 16, Staten Island Technical High School, Staten Island, New York

Award \$750

- EV085 **Deadly Waters: A Twelve Month Water Quality Study of a Newly Erupted Sulfur Spring and Its Longitudinal Effect on Diamond Fork Creek, Phase IV**
Shannon L. Babb, 18, American Fork High School, American Fork, Utah

Award \$250

EA301

Waves of Destruction, II: Calculating Wave Intrusion on Coastal Regions

Scott Edward Hasbrook, 15, Highland East Junior High School, Moore, Oklahoma
Nathan Tyler Hasbrook, 15, Highland East Junior High School, Moore, Oklahoma

IEEE Foundation

The IEEE Foundation-supported Presidents' Scholarship is awarded by the IEEE, which is the world's largest technical professional society, with over 365,000 members in more than 150 countries. For outstanding achievement in the area of engineering, this award is a \$10,000 scholarship.

The IEEE Foundation Presidents' Scholarship Award of \$10,000

EN027

3D Silhouette Laser Scanning: The Digital Reconstruction of Real-World Objects into Point Clouds

Brandon Lee Reavis, 16, Cody High School, Cody, Wyoming

The winner also receives an engraved brass and walnut plaque and framed certificate.

IEEE Computer Society

First Award of \$700

CS004

Creating an Online Study Session Network

Daniel Jonathan Parrott, 18, Bartlesville High School, Bartlesville, Oklahoma

Second Award of \$500

CS018

Compiler Design

Kristopher Kyle Micinski, 15, Decatur High School, Decatur, Texas

EN021

Point and Click, Literally, Phase II

Christopher D. Messick, 16, Sargent High School, Monte Vista, Colorado

Third Award of \$350

CS026

MD-OS Operating System

Denis V. Mandrov, 16, School #117, Omsk, Russia

CS033

Deyabu: Reading and Writing Interface for the Blind

Maria Estela Godinez, 16, CBTis No.139, San Francisco del Rincon, Guanajuato, Mexico

Team First Award of \$500 for each team member

EN308

Head Control Input Device for PC

Desai Chen, 17, High School Affiliated to Fudan University, Shanghai, China
Haotian Liu, 18, High School Affiliated to Fudan University, Shanghai, China

Team Second Award of \$400 for each team member

CS315

CAE: Computer Analysis of Exercises, Part II

Alicia Renee Andrade, 18, Wachusett Regional High School, Holden, Massachusetts
Jacqueline Elise Mooney, 18, Wachusett Regional High School, Holden, Massachusetts

Team Third Award of \$300 for each team member

Winners will receive a framed certificate, and a one-year free subscription to the CS magazine of their choice. A winners group photo will also be published in an issue of "Computer" magazine.

Instituto Tecnológico y de Estudios Superiores de Monterrey

This five-year scholarship is equivalent to approximately \$45,000.00 USD.

90% Paid Tuition Scholarship Award

EV123

Releasing Seawater from Salt by Multiplication of Solar Rays

Maritza Esquivel, 17, Eagle School Antofagasta, Antofagasta, Chile

International Amateur-Professional Photoelectric Photometry

The Richard D. Lines Special Award in Astronomy is presented to a student whose project best reflects the mission of the IAPPP (collaboration between amateurs, students and/or professionals) as well as in observational and/or instrumental astronomy.

Scholarship Award of \$5,000

SP014

Radio Interferometry Using 2 NASA RadioJOVEs at 20.1 MHz with Software Implementation in Java

Hieu Huu Tran, 16, Southside High School, Greenville, South Carolina

The award funds are intended to be used by the recipient to further their educational and research efforts. \$1,000 is also awarded to their high school science departments for use in enhancing their science education program. These awards are funded by a grant from the National Science Foundation and are subject to their approval.

Mu Alpha Theta, National High School and Two-Year College Mathematics Honor Society

The Mu Alpha Theta Award of \$1,000 is given to the most challenging, thorough, and creative investigation of a problem involving modern mathematics. Components of the investigation may include, but are not limited to, mathematical proof, mathematical modeling, statistical analysis, visualization, simulation, and approximation.

Award of \$1,000

CS041

Three-dimensional Face Recognition from Video: Facial Surface Reconstruction and Analysis Using Tensor Algebra and Differential Geometry

Justin Moore Solomon, 18, Thomas Jefferson High School for Science and Technology, Alexandria, Virginia

MA036

The Solution of the Dirichlet Problem with Rational Boundary Data

Michael Anthony Viscardi, 17, Josan Academy, San Diego, California

National Anti-Vivisection Society

For the project that best promotes scientific advancement through methods that do not harm animals, that works to replace live animals with non-animal methodologies or for animal-based research that benefits animals using non-invasive techniques or in an observational setting.

College Fund of \$5,000

BI009

The Function of a Novel Apoptosis Regulating Protein, XAF-1C, in Breast Cancer Cells

Charles William Dyer, 17, Caddo Parish Magnet High School, Shreveport, Louisiana

College Fund of \$2,000

BI063

A Novel Role for Telomerase in Stem Cell Differentiation

Anneke Ellen Schwob, 17, Boston Latin School, Boston, Massachusetts

College Fund of \$1,000

BE012

Animal Caring: An Educational Proposal

Anelise dos Santos Klein, 18, Fundacao Liberato Salzano Vieira da Cunha, Novo Hamburgo, Rio Grande do Sul, Brasil

For more information on the specific guidelines for this award, visit the National Anti-Vivisection Society's website.

National Collegiate Inventors and Innovators Alliance/The Lemelson Foundation

Prizes are awarded for creativity, technological innovation and commercial promise. The National Collegiate Inventors and Innovators Alliance will award prizes in 11 different categories. Five prizes will recognize innovation and invention that addresses critical basic human needs: health, water, food, shelter, and transportation. An additional six prizes will be awarded to one project in each of the following areas: Engineering, Physics, Chemistry, Environmental Science, Microbiology, Medicine & Health and Computer Science.

Scholarship Award of \$1,000

CH067

Nano Electrochemical Sensor Fabrication Using Conical Carbon Nanopipettes

Suhail Malhotra, 16, duPont Manual Magnet High School, Louisville, Kentucky

CS305

Reconstruction of Three-dimensional Objects from Video Films

Thomas Buenger, 17, Heinrich-Hertz-Oberschule, Berlin, Germany
Tobias Grelle, 18, Heinrich-Hertz-Oberschule, Berlin, Germany

EN069

Cornboard

Philip John Schmidt, 18, Fenelon Falls Secondary School, Fenelon Falls, Ontario, Canada

EN082

A New Technology for Portable Constructional Beams and a Process for Their Production and Use with Application to Third World and Displaced Population

Micah Lathaniel Toll, 17, Cedar Crest High School, Lebanon, Pennsylvania

EV017

Microbiological Reduction of Glycerin in Biodiesel

Rachel Nicole Levron, 17, Colquitt County High School, Moultrie, Georgia

ME058

360° Steerable Catheter Utilizing Nitinol Wire

Josh Paul Jones, 18, Wilcox-Hildreth Public School, Wilcox, Nebraska

ME090

That Little Voice Inside Your Head

Erin Marie Fischell, 18, High Technology High School, Lincroft, New Jersey

MI021

Inhibiting *Clostridium perfringens* in Poultry via Extract Usage, Phase II

Joseph Robert Stunzi, 16, Clarke Central High School, Athens, Georgia

MI308

The Effect of Electrode Materials on the Efficiency of a Microbial Fuel Cell

Jessica Hee Park, 14, Gig Harbor High School, Gig Harbor, Washington
Veronica Leigh Winget, 15, Gig Harbor High School, Gig Harbor, Washington

- PH034 **Alternative Energy Converter**
Denilson Luz Freitas, 18, Colegio Opcao de Ensino, Vitoria da Conquista, Bahia, Brasil
- PH303 **Elastomeric Grating for Wavelength Switching in Optical Communication Systems**
Maria Katrina Derez Guevara, 17, Philippine Science High School - Main Campus,
Quezon City, Philippines
Ace Fredric Resurreccion Palabrica, 17, Philippine Science High School - Main Campus,
Quezon City, Philippines
Nicole Andrea San Agustin Yazon, 16, Philippine Science High School - Main Campus,
Quezon City, Philippines

National Ground Water Association

Award of \$500

- EV085 **Deadly Waters: A Twelve Month Water Quality Study of a Newly Erupted Sulfur Spring and Its Longitudinal Effect on Diamond Fork Creek, Phase IV**
Shannon L. Babb, 18, American Fork High School, American Fork, Utah

Award of \$250

- EV040 **Radionuclides in the Miocene Aquifers of Coastal Georgia, Phase II**
Sherrie Alyssa Hall, 16, Cedar Shoals High School, Athens, Georgia

Award of \$200

- EV069 **There's Something in the Water: Nitrate Levels Through the Seasons**
Robert Allen Manduca, 18, Century High School, Rochester, Minnesota

Winners will receive a plaque and their abstract will be published in the journal "Ground Water", a one-year student membership in the NGWA and the school will receive a matching grant good towards purchases from the NGWA ground water science library.

National Taiwan Science Education Center

Trip to Taiwan to attend the Taiwan International Science Fair in February 2007.

- PH020 **Development of an Inexpensive Raman System and a Littrow Spectrograph**
Mary Masterman, 16, Westmoore High School, Oklahoma City, Oklahoma

- PH026 **Cracking the Brazil Nut Effect**
Meredith Ann MacGregor, 17, Fairview High School, Boulder, Colorado

This award includes round trip ticket, food, accommodations and activity expenses for each student.

North American Benthological Society

For projects related to the "benthos" - organisms living at the bottom of streams, lakes, estuaries and oceans. All winners receive a one-year membership in the Society and a subscription to the "Journal of the North American Benthological Society".

Award of \$500

- EV006 **Tributary Impact, Three Points of Interest: A Field and Laboratory Study of Honey Creek and Its Tributary, Cave Springs Branch**
Molly Katheryn Steen, 16, Grove High School, Grove, Oklahoma

Award of \$300

MI310

Effects of Stream Hydrodynamics and Water Filtration Plant Discharges on the Colonization, Diversity and Biomass of Aquatic Fungi at Rio Sabana in Luquillo, Puerto Rico

Zacha M. Ortiz-Correa, 17, Casiano Cepeda High School, Rio Grande, Puerto Rico
Esteban Hernandez, 17, Casiano Cepeda High School, Rio Grande, Puerto Rico
Sylvanna D. Savona-Silva, 19, Colegio Sonifel, Fajardo, Puerto Rico

Award of \$200

EV085

Deadly Waters: A Twelve Month Water Quality Study of a Newly Erupted Sulfur Spring and Its Longitudinal Effect on Diamond Fork Creek, Phase IV

Shannon L. Babb, 18, American Fork High School, American Fork, Utah

Honorable Mention Award

BO309

Algae from Serra da Gardunha Contribution for Their Knowledge

Dora Sofia Martins Henriques, 17, Escola Secundaria com 30 Ciclo do Fundao, Fundao, Portugal

Ana Ines Batista loureco Rondao, 18, Escola Secundaria com 30 Ciclo do Fundao, Fundao, Portugal

Andreia Catarina Parreira Costa Martins Raimundo, 17, Escola Secundaria com 30 Ciclo do Fundao, Fundao, Portugal

EV028

Long Term Monitoring of the Rio San Jose Watershed

Kendra Ann Valdez, 17, Grants High School, Grants, New Mexico

EV044

The Effects of Variable Fish Communities on Type 4 and Type 5 Wetland Characteristics in Polk County

Megan Marie Miller, 15, Lincoln High School, Thief River Falls, Minnesota

EV106

Biological Implications of Sediment Concentrations of Mercury Near Olin Chlor-alkali Facility, Phase Three: Savannah River

Lauren Wooten Smith, 17, John S. Davidson Fine Arts School, Augusta, Georgia

EV329

Effect of Land Use on Water Chemistry and Macroinvertebrates in Three Watersheds

Richard C Lee, 14, Cookeville High School, Cookeville, Tennessee

Christine Weizer Li, 18, Cookeville High School, Cookeville, Tennessee

ZO047

Regeneration Anomalies in Planaria Subjected to Various Phthalate Esters

Jessica Leann Baker, 18, Seneca High School, Seneca, Missouri

All winners receive a one-year membership in the Society and a subscription to the "Journal of the North American Benthological Society".

Oregon State University

Scholarship Award for Oregon State University of \$5,000 per year for four years will be offered to 14 individuals in a range of Intel ISEF categories. An additional scholarship award of \$2,000 per year for four years will be given to students who enroll in the OSU College of Engineering.

Tuition Scholarship of \$5,000 per year for four years

BE045

Sponj: The Educational Software Suite for CP Children

Sinchan Banerjee, 16, Clear Lake High School, Houston, Texas

- BI003 **Oligomer Base Adduction and Cleavage After Epoxide Treatment**
Lindsey Marie Hubley, 17, Woods Cross High School, Woods Cross, Utah
- BO022 ***M. sativa*, a Sustainable and Natural Technique for the Remediation of Heavy Metal Contamination**
Keely Ann Goodgame, 17, San Jon High School, San Jon, New Mexico
- CH024 **A Novel Approach in Preparation of Dye-sensitized Solar Cell**
Kyung-ha Lee, 18, Oregon Episcopal School, Portland, Oregon
- EA012 **Identification of Conditions that Affect the Resolution of the Global Positioning System (GPS)**
Natasha Hasbah Gail, 17, Rough Rock Community School, Chinle, Arizona
- EN082 **A New Technology for Portable Constructional Beams and a Process for Their Production and Use with Application to Third World and Displaced Population**
Micah Lathaniel Toll, 17, Cedar Crest High School, Lebanon, Pennsylvania
- EN151 **Operator Injury Mitigation Using Electronic Sensing, Mechanical Braking, and Decoupling Devices in Hand-held Circular Saws**
Erin F. Eppard, 17, Thunderbird High School, Phoenix, Arizona
- EV115 **Effectiveness of Strobe Lights, Sound Frequency, and Lasers in Reducing Salmon Entrainment Through Hydropower Turbines**
Alexa A. Carey, 17, Gold Beach High School, Gold Beach, Oregon
- EV313 **A Simulative Study of the Exxon Valdez Oil Spill and Its Detrimental Effects on Marine Organisms as Determined by the Bioluminescent Capabilities of the Dinoflagellate**
Cole Thomas Streiff, 18, Oregon Episcopal School, Portland, Oregon
Matthew Aaron McKinney, 18, Oregon Episcopal School, Portland, Oregon
- ME002 **Medicinal Mushrooms in Southern Oregon**
Claire Elizabeth Glasgow, 16, Henley High School, Klamath Falls, Oregon
- ME028 **Laughter: The Best Medicine? Effects of Laughter on Blood Glucose Levels in Comparison to Exercise**
Kendra Malia Ho Ching, 17, Kahuku High School, Kahuku, Hawaii
- PH020 **Development of an Inexpensive Raman System and a Littrow Spectrograph**
Mary Masterman, 16, Westmoore High School, Oklahoma City, Oklahoma
- PH026 **Cracking the Brazil Nut Effect**
Meredith Ann MacGregor, 17, Fairview High School, Boulder, Colorado
- ZO029 **Utilizing Science to Promote Sustainable Economic Development in Our Tribal Community: Protein Metabolism in Tilapia Fish for Optimal Growth, Year Three (*Oreochromis* Hybrids)**
Annette Joy Mendivil, 17, Casa Grande Union High School, Casa Grande, Arizona

Students must enroll full time and maintain a 3.0 cumulative GPA.

Patent and Trademark Office Society

Awards in eight subject categories: Earth Science, Engineering, Physics, Chemistry, Microbiology, Medicine and Health, Computer Science, and Space Science.

Grand Award of \$1,000

EN036 **Low Cost Nanowire-based Gas Sensor Test Platform for Military and Civilian Applications**
Trevor Elliot Powers, 19, Christian Academy of Louisville, Louisville, Kentucky

First Award of \$200

BI048 **Antioxidant Protection Against Vascular Cholesterol-Induced Injury to Vascular Cells**
Christina Josefa van Lier, 18, Hathaway Brown School, Shaker Heights, Ohio

CS026 **MD-OS Operating System**
Denis V. Mandrov, 16, School #117, Omsk, Russia

EV095 **Quantification, Removal and Recovery of APFO from Contaminated Drinking Water with a Concomitant Endocrinological and Epidemiological Assessment**
Kelydra Elizabeth Welcker, 17, Parkersburg South High School, Parkersburg, West Virginia

ME058 **360° Steerable Catheter Utilizing Nitinol Wire**
Josh Paul Jones, 18, Wilcox-Hildreth Public School, Wilcox, Nebraska

MI016 **Comprehensive Bacterial Identification and Analysis Software: Protecting the Armed Forces and Improving Health Care Worldwide**
Benjamin Albert Schwank, 18, James Madison High School, Vienna, Virginia

PH019 **Detection of Metal Fatigue and Defects by Electron Work Function Topography and Gradient**
Geoffrey Hubert Woo, 17, Palos Verdes Peninsula High School, Rolling Hills Estates, California

SP010 **Earth Eclipse Effect on GPS Satellite Orbits**
Daniel Kaleonahe Apau Jachowski, 17, West Potomac High School, Alexandria, Virginia

Second Award of \$150

CH045 **Fabrication and Stabilization of Biocompatible Silver Nanoparticles for Potential Tumor-Imaging Applications**
Swathi Bhaskaran, 17, David H. Hickman High School, Columbia, Missouri

CS018 **Compiler Design**
Kristopher Kyle Micinski, 15, Decatur High School, Decatur, Texas

EA004 **ENSO Dampening of Atlantic Tropical Cyclone Activity via Thermal Wind**
Alexander Abram Robel, 17, Maritime and Science Technology Academy, Miami, Florida

EN021 **Point and Click, Literally, Phase II**
Christopher D. Messick, 16, Sargent High School, Monte Vista, Colorado

- EV057 **Sun-Tracker: An Automated Blind System**
Raymond Claud Chassevent, 16, Lake View Academy, Fountain Inn, South Carolina
- ME013 **Engineering of a Novel Inhibitor of Biofilm-Encapsulated Pathogens**
Madhavi Pulakat Gavini, 16, Mississippi School for Mathematics & Science, Columbus, Mississippi
- MI021 **Inhibiting *Clostridium perfringens* in Poultry via Extract Usage, Phase II**
Joseph Robert Stunzi, 16, Clarke Central High School, Athens, Georgia
- PH025 **Laser Photonics Activated Robotic Hand**
Lydia Arnold, 17, Audenshaw School, Manchester, Tameside, United Kingdom

Grand Award includes a framed copy of the first patent granted in the United States of America.

Ricoh

The \$25,000 Ricoh Sustainable Development Award will go to the entries, selected from among all award categories, whose principles and technical innovations offer the greatest potential for increasing our ability to grow environmentally friendly and socially responsible businesses.

Scholarship Award of \$25,000

- EA003 **Breakthrough Substitutions of Synthetic Polymers with Natural Chitosan for the Prevention of Soil Erosion**
Dhanur Damodar, 15, duPont Manual Magnet High School, Louisville, Kentucky
- EN035 **Power for the Poor**
Pieter Christiaan Berning Luyt, 17, Harriston School, Harrismith, Free State, South Africa

The Ricoh Sustainable Development Award - for ideas that balance the economic and social needs of today with the environmental needs of tomorrow.

SPIE-The International Society for Optical Engineering

For the best project in the area of Optics and Photonics Engineering.

Award of \$1,000

- PH020 **Development of an Inexpensive Raman System and a Littrow Spectrograph**
Mary Masterman, 16, Westmoore High School, Oklahoma City, Oklahoma

Award of \$200

- EN017 **Designing an Optical Sensor to Easily Decipher the Relative Longevity of a High Pressure Sodium Light Through Spectral Analysis**
Carl Anthony Turner, 16, New Prague Senior High School, New Prague, Minnesota

Winners receive a one-year student membership with all benefits.

Showboard, Inc.

For the best use of scientific method on a project display board, taking into account structure, scientific method, titles and overall appearance of project display.

First Award of \$1,000

EN341

CSI: Controlled Spherical Intelligence

Benjamin Poss Gulak, 16, Hillfield Strathallan College, Hamilton, Ontario, Canada
Alexander Jason Molloy, 17, Hillfield Strathallan College, Hamilton, Ontario, Canada

Second Award of \$100

EV088

Danger in the Air! How Damaging is Particulate Matter?

Jared Keith Willis, 15, Wetumpka High School, Wetumpka, Alabama

Third Award of \$50

BI002

Lead to Gold...Plants to Plastics: Which Agricultural Resource Will Satisfy the 'Triple Bottom Line'?

Casey Jo Freeman, 18, Mid-Buchanan High School, Faucett, Missouri

Sigma Xi, The Scientific Research Society

For the team projects that best exemplify the interdisciplinary aspects of scientific and engineering research.

Award of \$1,000

EV304

Fifty-percent More Efficient Environmentally Clean Wind Energy Source

Roman Evgenovich Levin, 15, Zaporizhzhya City Council Gymnasium 28,
Zaporizhzhya, Ukraine
Maxym Anatoliyovich Dmytrenko, 17, Zaporizhzhya City Council Gymnasium 28,
Zaporizhzhya, Ukraine
Yevgen Yuriyovich Zaytsev, 16, Zaporizhzhya City Council Gymnasium 28,
Zaporizhzhya, Ukraine

Award of \$600

BE318

The Effects of CNS Stimulants and SSRIs on the Formation of Conditioned Long Term Memory and Learning Behaviors in Sleep Deprived Wildtype *Drosophila melanogaster*

Mary Martha Ferrari Douglas, 17, Manhasset High School, Manhasset, New York
Alison W. Liu, 16, Manhasset High School, Manhasset, New York

Award of \$300

EA302

Tracing Early Hominid Migrations in India: ESR Dating at Hathnora and Devni-Khadri

Maysun Mazhar Hasan, 17, Francis Lewis High School, Fresh Meadows, New York
Herman Suhail Khan, 16, Staten Island Technical High School, Staten Island, New York

Each member of the winning teams will receive a certificate of recognition and a one-year subscription to "American Scientist". The school library of each winning team member will also receive a one-year subscription to "American Scientist".

Society for Technical Communication

Distinguished Team Award of \$1,000

- EN323 **Versatile Color Identification and Luminance Contrast Determination Using a Triluminant Source**
Ian Preston Cannon, 17, Redeemer Baptist School, North Parramatta, New South Wales, Australia
Rickystan Batane Savaiko, 19, Redeemer Baptist School, North Parramatta, New South Wales, Australia

Excellence Team Award of \$250

- ME307 **The Cytotoxic Implications of Titanium Dioxide Nanoparticle Penetration into Dermal Fibroblast Cells**
Lauren Amanda Sipzner, 17, Yeshiva University High School for Girls, Holliswood, New York
Jaimie Stettin, 17, Yeshiva University High School for Girls, Holliswood, New York

Merit Team Award of \$100

- ZO310 **Sexual Selection in *Drosophila*: A Behavioral, Morphological, and Geographic Study**
Benjamin Alan Pollack, 17, Plainview-Old Bethpage John F. Kennedy High School, Plainview, New York
Abhinav Khanna, 17, Plainview-Old Bethpage John F. Kennedy High School, Plainview, New York

All winning students' high schools will also receive a one-year subscription to "Intercom".

Society of Environmental Toxicology and Chemistry

Awards are given to the best projects in environmental toxicology and chemistry. In addition, all winners will receive a certificate of recognition and a student membership in SETAC.

First Award of \$500

- EV085 **Deadly Waters: A Twelve Month Water Quality Study of a Newly Erupted Sulfur Spring and Its Longitudinal Effect on Diamond Fork Creek, Phase IV**
Shannon L. Babb, 18, American Fork High School, American Fork, Utah

Second Award of \$250

- EV007 **Evaluating the Synergistic Effects of Lead, Cadmium, Zinc, and Manganese on Selected Cellular Models**
Kristen Elaine Fenska, 18, Miami High School, Miami, Oklahoma

Third Award of \$100

- EV302 **Association of Fungi for Remediation of Oil Polluted Soil**
Alina A. Baliuta, 16, Gymnasium #1 Named After F.Scorina, Minsk, Belarus
Lubov V. Makuta, 17, Gymnasium #1 Named After F.Scorina, Minsk, Belarus

Student Membership in SETAC

- BE312 **Difference in Behavior of Lake Apopka Area Children Whose Parents Were Directly or Indirectly Exposed to Pesticides**
Grant Fabian Chernoby, 17, Lake Brantley High School, Altamonte Springs, Florida
Shahin Pourkaviani, 16, Lake Brantley High School, Altamonte Springs, Florida

- CH037 **Is Pea Flour an Effective Bio-Insecticide Against the Stored Grain Pests?**
Hamza Sheikh, 15, Head Start School, Islamabad, Punjab, Pakistan
- EV042 **Behavioral Effects of the Herbicide Metolachlor on the Perception of Chemical Stimuli and Winner-effect in Environments with and without Plants**
Matthew Brian Newcomb, 18, Peachtree Ridge High School, Suwanee, Georgia
- EV095 **Quantification, Removal and Recovery of APFO from Contaminated Drinking Water with a Concomitant Endocrinological and Epidemiological Assessment**
Kelydra Elizabeth Welcker, 17, Parkersburg South High School, Parkersburg, West Virginia

Society of Exploration Geophysicists

For projects that display excellence related to the geophysical sciences.

Distinguished Achievement Award of \$1,000 and a trip to the SEG International Exposition and Annual Meeting.

- EN126 **Characterizing the Structural Stability of Model Buildings Through the Use of a Biaxial Shaker for the Purpose of Structural Optimization, Phase Three**
Jonathan Brooks Bell, 17, R. Nelson Snider High School, Fort Wayne, Indiana

Award of Merit of \$400

- EA005 **Pleistocene Debris Flow Deposition into an Active Graben Near Emery, Utah**
Nicole Marie Hovat, 17, Carbon High School, Price, Utah
- EA016 **Sleuthing Epicenter Direction from Seismites, Cretaceous Wahweap Formation, Cockscomb Area, Grand Staircase-Escalante National Monument, Utah**
Hannah Louise Wolf, 16, Parkland High School, Allentown, Pennsylvania
- SP017 **Investigating the Chemical Signatures of Meteorite Impacts**
Terik Daly, 16, Oak Grove High School, San Jose, California

Award of Merit of \$250

- EA006 **Why Did the Levees Break? New Orleans and Its Soil**
Austin Alexander James Toner, 16, T.C. Williams High School, Alexandria, Virginia

Team Award of Merit of \$600 to be divided among team members

- EN345 **Digital Acoustic Velocimeter**
Daniel William Hutchinson, 18, Ulverston Victoria High School, Ulverston, Cumbria, United Kingdom
Thomas Mark Stable, 18, Ulverston Victoria High School, Ulverston, Cumbria, United Kingdom
Samuel John Lee, 17, Ulverston Victoria High School, Ulverston, Cumbria, United Kingdom

Society of Industrial and Applied Mathematics

The SIAM award is given in recognition to the projects that explore the ties between mathematics and applications which may not easily fit within a formal engineering, science, or mathematical discipline. Projects that will be considered are those that include non-trivial mathematical analysis in the context of an engineering or science problem. Examples of qualifying projects can include mathematical analysis of a problem in science or engineering, projects that bridge the gap between math and an application, mathematical methods applied to solving a problem in science or engineering, optimization, or scientific computing or numerical analysis.

Award of \$1000

ME007 **Mathematical Modeling of Smoking Effect on Down Syndrome**
Daniel Zheng, 16, Saint Paul Academy and Summit School, Saint Paul, Minnesota

Honorable Mention award of \$200

ZO313 **Stochastic/Deterministic Analysis of Arboviral Transovarial Transmission in *Culicidae***
Gabriel Joel Mendoza, 17, Americas High School, El Paso, Texas
Fredrick Phillip Rojas, 17, Americas High School, El Paso, Texas

United Technologies Corporation

United Technologies Corporation recognizes 8 projects for excellence in science and engineering. Each winning project will receive shares of United Technologies Corporation common stock with a total value of approximately \$2,000.

UTC Stock with an approximate value of \$2000.

BI046 **Design and Development of a Novel Biosensor for the Efficient Detection of Infectious Pathogens and Environmental Invaders**
Adrian Veres, 16, College Jean-de-Brebeuf, Montreal, Quebec, Canada

CH048 **Synthesis and Catalytic Characterization of Size and Shape Selected Metal Nanoparticles, Phase II**
Grady Clark Slane, 18, Lake Highland Preparatory School, Orlando, Florida

CS041 **Three-dimensional Face Recognition from Video: Facial Surface Reconstruction and Analysis Using Tensor Algebra and Differential Geometry**
Justin Moore Solomon, 18, Thomas Jefferson High School for Science and Technology., Alexandria, Virginia

EN010 **Water-Based Rapid Prototyping and Tooling System**
Ka Yi Ding, 17, Shun Tak Fraternal Association Yung Yau College, Hong Kong, Region of China

EN069 **Cornboard**
Philip John Schmidt, 18, Fenelon Falls Secondary School, Fenelon Falls, Ontario, Canada

- EV316 **A Novel Bioabsorbent of "Ya-Plong" as An Oil Spill Removal**
 Pirachula Chulanon, 14, Bodindecha (Sing Singhaseni) School, Wangthonglang, Bangkok, Thailand
 Chitsachee Sichanugrist, 14, Bodindecha (Sing Singhaseni) School, Wangthonglang, Bangkok, Thailand
 Takphet Lekavijit, 15, Bodindecha (Sing Singhaseni) School, Wangthonglang, Bangkok, Thailand
- MA020 **Character Sums and Ramsey Properties of Generalized Paley Graphs**
 Nicholas Michael Wage, 17, Appleton East High School, Appleton, Wisconsin
- PH031 **Physics of a Simple Prototype for Static Magnetic Levitation**
 Hamsa Padmanabhan, 16, Kendriya Vidyalaya Ganeshkhind, Pune, Maharashtra, India

Each winner will also receive a plaque, a pen, and the United Technologies Corporation Annual Report.

University of the Sciences in Philadelphia

Scholarships to finalists from the following categories: Biochemistry, Botany, Chemistry, Environmental Science, Medicine & Health, Microbiology or Zoology.

Tuition Scholarship of \$7,000 per year for four, five or six years, depending upon the degree program.

- BI024 **Preventing the Effects of Photoactivated Titanium Dioxide on Chromosomal DNA**
 Matthew Samuel Wieder, 16, SAR High School, Bronx, New York
- ME077 **Pharmacological Evaluation of *Ludwigia octovalvis* Extract and Its Fungicidal Effect on *Trichophyton rubrum*, *Microsporum gypseum* and *Microsporum cookei* in vitro**
 Xavier Alexis Cruz, 16, Elvira M. Colon High School, Santa Isabel, Puerto Rico
- MI029 **Adaptive Resistance of *E. coli* to Triclosan and Cross-resistance to Antibiotics**
 Steven Konstantin Lisica, 16, Bergen County Academies, Hackensack, New Jersey

Scholarship will go into effect upon the recipient's admission to any one of the degree programs offered at USP and are renewable for the length of the degree program provided the recipient maintains a cumulative GPA of 3.0.

Vacuum Technology Division of the American Vacuum Society

Award of \$750

- EN042 **Design of an Aerodynamically-Enhanced Plasma for Synthesis of Nanoparticles**
 Rohith Chandrasekar, 17, Princeton High School, Princeton, New Jersey

Award of \$500

- EN055 **Optimizing Ethanol Production Efficiency**
 Jessica Lynn Laviolette, 18, Brandon High School, Ortonville, Michigan

Award of \$250

- SP008 **The Titan Blimp**
 John Thomas Hagen, 18, Ayersville High School, Defiance, Ohio

The school science department of each winner will receive \$750. The winner's advisor will receive \$250. Both the winner and their advisor will also receive a vacuum technology text.

Woodard, Emhardt, Moriarty, McNett & Henry

The US PATENT.COM award includes a trophy and patent attorney services valued at \$10,000 from this Indianapolis-based intellectual property law firm. This valuable service will be awarded to the project deemed by the firm's representatives to have the greatest patentable commercial merit.

Patent attorney services not to exceed \$10,000.

- EN139 **Development and Design of an All Terrain, Omnidirectional Platform with Obstacle Climbing Capabilities**
Christopher Jon Olsen, 17, Valley Central High School, Montgomery, New York

Wright State University

Scholarships will be awarded to the Intel ISEF participants whose presentations best demonstrate a focus relative to the College's degree programs, research depth and quality, visual presentation and organization, and oral presentation.

Full, in-state, tuition scholarship that is renewable for four years

- EN065 **The Development of Autonomous Self Configuring Multi-Cell Based Robots**
Jessica Lauren Malone, 18, Berea High School, Berea, Ohio
- EN334 **The Detection of Alkaline Phosphatase and C-Reactive Protein Using a Miniaturized Electrochemical Biosensor for Clinical and Future Diagnostic Tests**
Joanne Helen Wang, 16, Hathaway Brown School, Shaker Heights, Ohio

Full, out-of-state, tuition that is renewable for four years

- EN028 **Testing the Effects of Corrugated and Flat Sheet Metal Reinforcement on the V50 Ballistic Rating of a Composite Reinforced Frame Wall**
John Joseph Conner, 16, York Catholic High School, York, Pennsylvania
- EN067 **Telescopic Morphing Wings: Design-Build-Fly**
Stephen Gerald Warrenner, 18, East Noble High School, Kendallville, Indiana
- EN314 **Innovative Thickness Measurement of Biological Tissue by Using Maximum Bubble Pressure Method**
Yung-Chieh Chen, 18, Taipei Municipal LiShan High School, Taipei, Taiwan, Chinese Taipei

Alternates for scholarship awards

- CH067 **Nano Electrochemical Sensor Fabrication Using Conical Carbon Nanopipettes**
Suhail Malhotra, 16, duPont Manual Magnet High School, Louisville, Kentucky
- EN011 **New Generation Artificial Leg: A New Hope for the Disabled to Walk Again for a Lower Price**
Yin Fan Denis Huen, 18, La Salle College, Hong Kong, Region of China
- EN053 **Free Energy in Your Own Back Yard**
Brian Joseph Sutterer, 17, Terre Haute North Vigo High School, Terre Haute, Indiana

- EN126 **Characterizing the Structural Stability of Model Buildings Through the Use of a Biaxial Shaker for the Purpose of Structural Optimization, Phase Three**
Jonathan Brooks Bell, 17, R. Nelson Snider High School, Fort Wayne, Indiana
- EN314 **Innovative Thickness Measurement of Biological Tissue by Using Maximum Bubble Pressure Method**
Chao-Hsi Lee, 18, Taipei Municipal LiShan High School, Taipei, Taiwan, Chinese Taipei
- PH013 **Cartesian Diver, Interfacial Phenomena, and the Cheerios Effect**
Sung-Kai Kao, 17, National Chai-Yi Senior High School, Chia-Yi City, Taiwan, Chinese Taipei
- PH015 **Synthetic Depth of Focus**
Holly Kristine Zelnio, 18, Chaminade Julienne High School, Dayton, Ohio

The College of Engineering and Computer Science at Wright State University in Ohio is a leader in engineering teaching and research, offering Eight undergraduate degree programs to prepare students for professional careers. Students and faculty have access to modern, well-equipped laboratories and a wide range of computer systems and network resources.