

**Los Angeles, CA** – Society for Science & the Public, in partnership with the Intel Foundation, announced Special Awards of the Intel International Science and Engineering Fair 2017. Student winners are ninth through twelfth graders who earned the right to compete at the Intel ISEF 2017 by winning a top prize at a local, regional, state or national science fair. More than 55 organizations, representing a wide variety of scientific disciplines, distributed more than 300 awards, including scholarships, internships and scientific explorations.

### **Acoustical Society of America**

The Acoustical Society of America, the premier international scientific society in acoustics, dedicated to increasing and diffusing the knowledge of acoustics and promoting its practical applications, awards the best projects in related fields of acoustics.

First Award of \$1,500

ENBM020T - Development of 3D-printed Electronic Stethoscope and Open-Source Android-Based Platform with Automated Diagnosis of Cardiac Conditions

- Abraham Riedel-Mishaan, duPont Manual High School, KY, United States of America
- Praharshasai Paladugu, duPont Manual High School, KY, United States of America

ENBM020T - Development of 3D-printed Electronic Stethoscope and Open-Source Android-Based Platform with Automated Diagnosis of Cardiac Conditions

- Ryan Folz, duPont Manual High School, KY, United States of America

Second Award of \$500

ENMC044 - An Investigation of Optimal Rural Building Designs for All Earthquake Zones of Turkey

- Lucas Mayhew, Mills E. Godwin High School, VA, United States of America

## Honorable Mentions

ANIM018T - Water Surface Vibration Signals Utilized by the Japanese Water Strider, *Aquarius elongatus*, to Locate Prey and Mate

- Aya Nobe, Nagasaki Prefectural Nagasaki Nishi High School, Japan
- Norika Kondo, Nagasaki Prefectural Nagasaki Nishi High School, Japan
- Sachiko Fukuzawa, Nagasaki Prefectural Nagasaki Nishi High School, Japan

BMED079 - Impact the Force: Effects of Insoles on Impact Force for Gymnasts

- William Broomhead, Kenton County Academy of Innovation and Technology, KY, United States of America

EBED032 - Real-Time Sound Localization Using a Microphone Array

- Joseph Sartini, Arkansas School for Mathematics, Sciences, and the Arts, AR, United States of America

## **ADA Foundation**

As dentistry's premier philanthropic and charitable organization, the ADA Foundation (ADAF) is a catalyst for uniting people and organizations to make a difference through better oral health. The ADAF Dr. Anthony Volpe Research Center (formerly Paffenbarger Research Center) in Gaithersburg, MD, is hailed as one of the most productive dental research centers in the world. The ADAF's Mission Pillars include Charitable Assistance, Access to Care, Research, and Education (C.A.R.E.).

First Award of \$2,000

BMED053 - The Effect of Antibacterial Toothpaste on the Ecology of Oral Flora

- Matthew Staten, Bonneville High School, UT, United States of America

Second Award of \$1,000

BMED078 - The Effect of Wnt/Beta-Catenin Signaling Inhibition on Oral Squamous Cell Carcinoma

- Adam Snowden, Ponte Vedra High School, FL, United States of America

Third Award of \$500

BMED048 - Discovery of Highly-Correlated Circadian Oscillations in Oral MicroRNA and Microbiome Levels Using Next Generation Sequencing of Human Saliva: Implications for Human Health and Disease

- Neil Khurana, Fayetteville-Manlius High School, NY, United States of America

### **Air Force Research Laboratory**

The United States Air Force is dedicated to science & technology, focusing on innovative and creative projects with sustainability. U-S-A-F selects projects that are directly aligned with their mission.

First Award of \$750 in each Intel ISEF Category

ANIM007 - Optimizing Goat Skin Fibroblast Culture Conditions for Cloning

- Aakash Arora, Veterans High School, GA, United States of America

BCHM009 - Is Tiny Mighty? Phase II

- Payton Scrivner, Alma High School, AR, United States of America

BEHA027T - How Effective Is Your Virtual Reality Experience?

- Cristian Figueroa, East Boston High School, MA, United States of America
- Kevin Turcios, East Boston High School, MA, United States of America

BMED047 - Application of Motion Interpolation Algorithms to a Kinect Sensor via Microsoft Visual Studio to Accurately Render At-Home Physical Therapy Exercises: A Low-Cost, Systems-Engineered Approach to Assist Stroke Rehabilitation Patients

- Anjali Maheshwari, Half Hollow Hills High School West, NY, United States of America

CBIO032 - Towards Accurate Copy Number Calling in High Ploidy Tumors

- Jessica Frank, Riverdale Country School, NY, United States of America

CELL005 - Can Oxidative Stress Increase Transcriptional Mutagenesis and Aggregate Apha-Synuclein Protein?

- Jemma Clary, Caddo Parish Magnet High School, LA, United States of America

CHEM062 - Discovery and Characterization of an Undocumented Ferric Sulfate Compound Formed by the Reaction of Gold Ore with Sulfuric Acid

- Kyle Fridberg, Fairview High School, CO, United States of America

EAEV086 - Radiochemistry and AI: Development of an Analytical Capability Using Machine Learning Algorithms for Early Detection of Radionuclides in the Environment

- Anushka Nair, Lake Oswego High School, OR, United States of America

EBED048 - A Low-Cost, Clutter-Cancelling Life Detection System for First Response after Natural Disasters

- Sachin Konan, Hamilton High School, AZ, United States of America

EGCH018 - A Paper-Based Microbial Fuel Cell for Glucose Monitoring in Saliva

- Kendra Zhang, Jericho High School, NY, United States of America

EGPH010 - Printenna: A 3D Printed Biquad Yagi Antenna for Transmission of Space Solar Power

- Samuel Lossef, School Without Walls High School, D.C., United States of America

ENBM046 - Investigating Tuned Magneto-Rheological Reservoirs, Compression Systems, and Shear Thickening Fluids to Improve Mean Peak Acceleration as Measured by High-G Accelerometers in Hockey Headgear

- Clara Wagner, Saginaw Arts and Sciences Academy, MI, United States of America

ENEV062 - Aerobic Cometabolism of cis-DCE by *Rhodococcus rhodochrous* ATCC® 21198 with Isobutane Growth Substrate

- Lauren Waldman, American Heritage School, FL, United States of America

ENMC030 - The Next Airbender: A Novel Approach to Airfoil Efficiency and the Optimization of the Lift-to-Drag Ratio

- Rachel Seevers, Paul Laurence Dunbar High School, KY, United States of America

MATH022 - Safer Security: A Novel Algorithm for Detecting Carmichael Numbers

- Sathwik Karnik, Massachusetts Academy of Mathematics and Science, MA, United States of America

MATS025 - Developing a Novel Flexible MoS<sub>2</sub> Biosensor to Detect Lower-Concentrated Area of Biological Molecules at the Femtomolar Level

- Erika Yang, Granada High School, CA, United States of America

#### MCRO055T - Probiotic Metabolites Promote Anti-Inflammatory Functions of Immune Cells

- Danielle Wu, Indian Springs School, AL, United States of America
- Richard Fu, Vestavia Hills High School, AL, United States of America

#### PHYS021 - Multi-Orbit Space Debris Cloud Tracking Using Iterative Closest Points Registration with Machine Learning

- Amber Yang, Trinity Preparatory School, FL, United States of America

#### PLNT011 - Better with Bacteria: The Effects of Bacteria on *Chlorella vulgaris*

- James Martinez, Bartlesville High School, OK, United States of America

#### ROBO015 - Safecopter: Developing a Collision Avoidance System Based on an Array of Time-of-Flight 3D Cameras

- Robert Tacescu, Clovis North High School, CA, United States of America

#### SOFT042 - MFT: Improving Convolutional Object Tracking with Feed Separated Learning

- Michael Lee, Manhasset High School, NY, United States of America

#### TMED008 - Neuroprotective Effects of Melatonin following TBI

- Andrew Kamali, Fox Tech High School for Health & Law Professions, TX, United States of America

### **American Chemical Society**

The American Chemical Society Education Division promotes excellence in science education and science literacy through a number

of activities supporting teachers and learners of chemistry. Through its participation in Intel ISEF, ACS encourages and supports high school students in their exploration of the chemical sciences through research experiences.

First Award of \$4,000

CHEM062 - Discovery and Characterization of an Undocumented Ferric Sulfate Compound Formed by the Reaction of Gold Ore with Sulfuric Acid

- Kyle Fridberg, Fairview High School, CO, United States of America

Second Award of \$3,000

CHEM042 - Solution Grown and Tunable Plastic Magnets: Room Temperature Ferromagnetism in Mesoscopic Conjugated Polymer Rings

- Arnob Das, Jesuit High School, OR, United States of America

Third Award of \$2,000

CHEM032 - Spin-Orbit Coupling Induced Heterogeneous Excited-State Dynamics of 6-Coordinate Transition Metal Protodyes

- Archana Verma, Jericho High School, NY, United States of America

Fourth Award of \$1,000

CHEM006T - Utilization of Carbon Monoxide as a Reducing Agent for C-C and C-N Bond Formation: Application to Asymmetric Catalyst and Synthesis of New Effective Fungicide

- Alexandra Samoylova, Moscow Chemical Lyceum of Moscow South-Eastern Lyceum and Grammar School Complex, Russian Federation

- Maria Makarova, Moscow Chemical Lyceum of Moscow South-Eastern Lyceum and Grammar School Complex, Russian Federation

#### Honorable Mentions

#### CHEM004T - Caffeine Termiticide: Caffeine as a Novel and Eco-friendly Termiticide

- Xian Jing Koay, Chung Ling High School, Malaysia
- Zhan Yi Chng, Chung Ling High School, Malaysia

#### CHEM018 - Conductivity of Doped Polypyrrole Films Synthesized by Electropolymerization

- Vijay Shah, Niles West High School, IL, United States of America

#### CHEM051T - Organic Dyes Based on [1,2,5] chalcogenadiazolo [3,4-c] pyridine: New Effective Materials for Solar Cells

- German Chkhetiani, Moscow South-Eastern Lyceum and Grammar School Complex, Russian Federation
- Olga Ustimenko, Moscow South-Eastern Lyceum and Grammar School Complex, Russian Federation

#### CHEM053 - Starch-Based Bioplastic as Optical Indicator for Ammonia in Processed Meat

- Stasa Gejo, II. Gimnazija Maribor, Slovenia

#### CHEM055 - Optimization of Temperature Conditions for Pristine Graphene Synthesis

- Govind Krishna, duPont Manual HighSchool, KY, United States of America

#### CHEM073 - Synthesis of Iron Oxide Nanorods

- Andrea Noronha, Redlands High School, CA, United States of America

#### **American Committee for the Weizmann Institute of Science**



The American Committee for the Weizmann Institute of Science, founded in 1944, develops philanthropic support for the Weizmann Institute of Science in Israel, one of the world's premier scientific research institutions. The Dr. Bessie F. Lawrence International Summer Science Institute at the Weizmann Institute provides students with a unique opportunity to participate in hands-on studies in professional academic laboratories at the forefront of scientific research.

All-expense paid four-week trip and scholarship to the Bessie Lawrence International Summer Science Institute

CELL016 - Autism and Genetics: Understanding the Role of AUTS2 in the Pathology of Autism Spectrum Disorder

- Katherine Miles, Sleepy Hollow High School, NY, United States of America

Alternate

CELL023 - Identification of TBX3 as a Novel Regulator of Lung Angiogenesis

- Michael Lai, Jericho Senior High School, NY, United States of America

### **American Geosciences Institute**

The American Geosciences 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. In support of Intel ISEF, AGI sponsors a first place award of \$1,250; a second award of \$1000; and a third award of \$500.

First Award of \$1,250

EAEV002T - Study and Modeling of Pressure and Temperature during a Geyser Eruption

- Elias Suvanto, Gymnase Jean Sturm, France
- Jean-Baptiste Flieller, Gymnase Jean Sturm, France

Second Award of \$1,000

EAEV068 - Mathematically Cutting to the Bone: Solving Analytical Problems in ESR Dating the Paleolithic Site at Isimila, Tanzania

- Neeraj Sakhrani, Bronx High School of Science, NY, United States of America

Third Award of \$500

EAEV018 - Arsenic Contamination through Tsunami Wave Movement in Hawaii: Investigating the Concentration of Heavy Metals in the Soil from the 1960 Hilo, Hawaii Tsunami

- Jared Goodwin, Hilo High School, HI, United States of America

EAEV078 - Bamboo Forest as a Natural Levee of Pyroclastic Flows in Merapi Volcano

- Azizah Dewi Suryaningsih, State Senior High School 1 Yogyakarta, Indonesia

### **American Institute of Aeronautics & Astronautics**

The “AIAA Look Up!” Award celebrates exceptional high-school level research to encourage further study into aerospace. It is presented by the American Institute of Aeronautics and Astronautics.

First Award of \$2,000

ROBO001 - Drone Defense System: Detection, Tracking, Classification and Targeting of Flight Objects in 3D and Real Time

- Tassilo Schwarz, Johannes-Heidenhain-Gymnasium Traunreut, Germany

Second Award of \$1,500

ENMC038 - Mission To Mars: Designing a Spacecraft Impact Protection and Detection System with Radiation Shielding

- Grayson Hunstinger, Lakeland Grace Academy/New Life Christian, FL, United States of America

Third Award of \$1,000

ENMC015T - Electric Jet Engine

- Adam Skora, Buena High School, AZ, United States of America
- Taylor Benning, Buena High School, AZ, United States of America

Fourth Award of \$500

ENMC009 - Avionic Engine Supremacy

- Carlos Mendez, United High School, TX, United States of America

### **American Intellectual Property Law Association**

Founded in 1897, AIPLA is a national bar association constituted primarily of lawyers in private and corporate practice, in government service, and in the academic community. AIPLA represents a wide and diverse spectrum of individuals, companies and institutions involved directly or indirectly in the practice of patent, trademark, copyright, trade secret, and unfair competition law, as well as other fields of law affecting intellectual property. Our members represent both owners and users of intellectual property.

First Award of \$1,000

EBED046T - ThumbFi: Control All Your Devices with Your Fingertips

- Mohd Faiz , Daisy Dales Senior Secondary School, India
- Sarthak Sethi, Maxfort School Dwarka, India

ENBM013 - Modeling Neural Disorder via Involuntary Response Simulator

- Bergen Sanderford, Isidore Newman School, LA, United States of America

Second Award of \$250

CBIO046T - The Revolutionary Refractometer

- Hedi Ben Daoud, Lake Banks Pioneer Prep School, Tunisia
- Omar Besbes, Lake Banks Pioneer Prep School, Tunisia

ENBM009 - Mechanized Collection of Organic Spider Silk

- Aubrey Berger, Eaglecrest High School, CO, United States of America

### **American Mathematical Society**

The American Mathematical Society was founded in 1888, to further the interests of mathematical research & scholarship, as well as to serve the national/international community through its publications, meetings, advocacy & other programs. Friends and family of the late mathematician, Karl Menger, contribute to a fund in his memory, to be distributed by the AMS for annual awards at the Intel International Science and Engineering Fair.

First Award of \$2,000

MATH010 - Polynomials in  $\mathbb{Z}[x]$  and Irrationality Measure

- Griffin Macris, New Prague High School, MN, United States of America

Second Award of \$1,000

MATH040 - Efficient Point-Counting Algorithms for Superelliptic Curves via the Cartier Operator and the Hasse-Weil Bound

- Matthew Hase-Liu, Lynbrook High School, CA, United States of America

MATH015 - Generalized Jacobi Identities and Jacobi Elements of the Group Ring of the Symmetric Group

- Savelii Novikov, School 564, Russian Federation

Third Award of \$500

MATH042 - Mapping Edges to Nodes by Utilizing Morton Codes in Stochastic Kronecker Graphs

- Arjun Ramani, West Lafayette Jr./Sr. High School, IN, United States of America

MATH049 - Chance or Coincidence-Counting 3-Arithmetic Progression in Block-Generated Thue-Morse String

- Yuan-Jung Juang, National Tainan Girls' Senior High School, Chinese Taipei

MATH014 - Identities of Perkins Monoid and Millennium Problem

- Dmitrii Mikhailovskii, School 564, Russian Federation

MATH013 - Generalized Problem of Apollonius

- Egor Morozov, Lyceum "Second School", Russian Federation

Honorable Mentions

MATH003 - On the Distortion of Embedding Perfect Binary Trees into Low-Dimensional Euclidean Spaces

- Dona-Maria Ivanova, Baba Tonka Upper Secondary High School, Bulgaria

MATH006 - A Class of Convex Curves Arising in Capillary Floating Problem

- Shilun Li, Guangdong Experimental High School, China

MATH023 - Independence of the Miller-Rabin and Lucas Probable Prime Tests

- Alec Leng, Lincoln High School, OR, United States of America

MATH031 - Upper Bound on the Burning Number of Graphs

- Max Land, Dutch Fork High School, SC, United States of America

MATH038 - Orthogonal Polynomials and the Two Dimensional Neval Condition

- Gonen Zimmerman, Kfar Hayarok High School, Israel

### **American Meteorological Society**

The American Meteorological Society (AMS) is the nation's leading scientific and professional society advancing the atmospheric and related sciences, technologies, applications, and services for the benefit of society. Founded in 1919, the AMS has a membership of more than 14,000 professionals, students, and weather enthusiasts. AMS offers numerous scholarships and fellowships to support students pursuing careers in the field.

First Award of \$2,000

EAEV050 - Estimating CO<sub>2</sub> and CH<sub>4</sub> Emissions from Washington DC Using Low Cost Sensors and Small Drone Technology

- Siona Prasad, Thomas Jefferson High School for Science and Technology, VA, United States of America

Second Award of \$1,000

EBED028 - High Resolution Weather Tracking: A Micronet

- Brenden Duffy, Lake Braddock Secondary School, VA, United States of America

Third Award of \$500

EBED034T - Smart Digital Psychrometer for Forecasting Local Weather

- Bagus Putra, SMA Negeri Bali Mandara, Indonesia
- Made Prasanta, SMA Negeri Bali Mandara, Indonesia

Honorable Mentions

#### EAEV065T - Estimation of the Humidity in the Upper Troposphere using Contrails Formed by Airplanes

- Hinata Koizumi, Aomori Prefectural Aomori Minami Senior High School, Japan
- Mizuki Koshita, Aomori Prefectural Aomori Minami Senior High School, Japan
- Shio Furueda, Aomori Prefectural Aomori Minami Senior High School, Japan

#### ENEV001T - Evaluation of Particulate Matter (PM10) Concentration: A Case Study in Camboriu, Brazil

- Beatriz Faga, Instituto Federal Catarinense - Campus Camboriu, Brazil
- Daniel Oliveira, Instituto Federal Catarinense - Campus Camboriu, Brazil

#### PLNT041 - Microclimatological Feedbacks at Treeline

- Michelle Kummel, William J. Palmer High School, CO, United States of America

### **American Physiological Society**

The American Physiological Society (APS) is a nonprofit devoted to fostering education, scientific research, and dissemination of information in the physiological sciences. The Society was founded in 1887 with 28 members and today has more than 10,500 members. APS participates as a Special Awards Sponsor for the Intel ISEF. Each year, the APS recognizes outstanding high school research projects in life sciences. Four students receive cash awards and a year's subscription to the APS journal, "Physiology."

First Award of \$1,500

#### CELL020 - Tactile Stimulation of the Tongue Elicits the Activation of TrkC Neurons in the Trigeminal Ganglion

- Madison Sneve, duPont Manual High School, KY, United States of America

Second Award of \$1,000

BCHM019 - Bioengineering Islet Cells Using 3D-Bio Printing Technology for the Treatment of Type-1 Diabetes

- Vishaal Balamurugan, North Oldham High School, KY, United States of America

Third Award of \$500

CELL025 - Assessing the Efficacy of Pentachloropseudilin as an Inhibitor of Slow Adaptation in Hair Cells

- Chinmai Deo, Ossining High School, NY, United States of America

APS Exceptional Science Award of \$500

ANIM015 - High Fructose Corn Syrup and Sucrose: Effects on Mus musculus Physiology

- Cade McGarvey, Paulding High School, OH, United States of America

### **American Physiological Association**

The APA is a scientific and professional organization that represents psychology in the United States. The APA is awarding the best Intel ISEF projects representing psychological science.

First Award of \$1,500

BEHA028 - Education on Stereotypes: Are Children More Receptive than Adults?

- Deepa Bhuvanagiri, Eureka High School, MO, United States of America

Second Award of \$1,000

BEHA016 - The Effect of Highway Font Type on Readability of Text Under Blurred Conditions



- Jacob Hall, H-B Woodlawn Secondary Program, VA, United States of America

### Third Award of \$500

BEHA065 - RoboGlove: A Design for Engagement and Hedonic Motivation with Visual-Spatial for Deaf and Hearing Impaired Children, Phase II

- Hiba Muhyi, Arrowhead Park Early College High School, NM, United States of America

### BEHA047T - Effects of Cellular Devices on Teen Driving

- Karen Scharlau, Cochrane-Fountain City High School, WI, United States of America
- Makenna Gabel, Cochrane Fountain City, WI, United States of America

### BEHA045 - Evaluating Autism Connectivity Abnormalities through Functional Fingerprinting

- William Snyder, Severna Park Senior High School, MD, United States of America

### BEHA043 - Suggested Memory Therapy: A Novel Treatment for Psychological Inflexibility

- Ben Weiss, Kalaheo High School, HI, United States of America

### BEHA002 - Kemotions: Keys to Emotional Cues

- Sapna Patel, Oviedo High School, FL, United States of America

### Honorable Mentions

### BEHA005T - Self-Image of Athletes with Disability: A New Meaning

- Isabela Dombrady, Colegio Giordano Bruno, Brazil
- Julia Rolim, Colegio Giordano Bruno, Brazil
- Maria Gabriela Leal, Colegio Giordano Bruno, Brazil

BEHA009 - Feeling the Heat and the Need to Cheat: A Case Study of the Correlation between Academic Dishonesty and Responses to Common Stressors Experienced by Fourth through Twelfth Grade Students in a Private School Setting in South Louisiana

- Hallee Mire, Catholic High School, LA, United States of America

BEHA014 - Psychophysiological Correlates of Language Processing and Handedness

- Salim Mouloua, Paul J. Hagerty High School, FL, United States of America

BEHA017T - Does Modern Information Technology Exacerbate Teen Procrastination?

- Abigail Lifferth, The Villages Charter High School, FL, United States of America
- Carter Draney, The Villages Charter High School, FL, United States of America
- Tiffany Liu, The Villages Charter High School, FL, United States of America

BEHA019 - Maternal Behavior Contributing to Early Life Adversity and the Subsequent Neural and Behavioral Effects on Rat Pups

- Hannah Brown, Dobbs Ferry High School, NY, United States of America

BEHA020 - The Morality of "Larks" and "Owls": The Relationship Between the Circadian Clock and Morality in Decision-Making

- Naama Schor, High School for Environmental Education, Israel

BEHA022 - Central Nervous System Sensitization Is Associated with Chronic Pain in HIV

- Tyler Huang, Alabama School of Fine Arts, AL, United States of America

BEHA032 - The Dynamics of Habituation: A Neural Study of the Effects of Repeated Exposures to Risky Behaviors on Cognitive Control and Emotional Responses in the Adolescent Brain

- Kashfia Rahman, Brookings High School, SD, United States of America

BEHA040 - The Effect of Dual Neurotransmission on Male Aggression and Courtship in *Drosophila melanogaster*

- Lucy Sirrs, Hellgate High School, MT, United States of America

BEHA041T - The Effect of Traumatic Brain Injury and Metformin on *Drosophila* Learning

- Emma Bilton, Yorktown High School, NY, United States of America
- Hannah Bilton, Yorktown High School, NY, United States of America

BEHA056 - Neglected Children: Case Study of Public Attitudes toward Children with HIV AIDS in 6 (Six) Sub-Districts in Surakarta

- Latifah Maratun Sholikhah, State Senior High School 1 Teras, Indonesia

### **American Statistical Association**

The American Statistical Association is the world's largest community of statisticians. The ASA supports excellence in the development, application, and dissemination of statistical science through meetings, publications, membership services, education, accreditation, and advocacy. Our members serve in industry, government, and academia in more than 90 countries, advancing research and promoting sound statistical practice to inform public policy and improve human welfare.

First Award of \$1,500

CELL053 - A Morphokinetic and Machine Learning Model for Aneuploidy Screening of Human Preimplantation Embryos

- Davey Huang, Iolani School, HI, United States of America

Second Award of \$1,000

TMED003 - Inhibiting the Proliferation of Patient-Derived Glioblastoma Multiforme (GBM) Cells and U-87 MG Cell Line Using Leaf Extract of *Bacopa monnieri*

- Tejas Athni, Stratford Academy, GA, United States of America

Third Award of \$500

BMED077 - Hospitalization in Women with Turner Syndrome

- Isani Singh, Cherry Creek High School, CO, United States of America

Honorable Mentions

BEHA029 - Evaluation of Gender Bias in Social Media Using Artificial Intelligence

- Nitya Parthasarathy, Northwood High School, CA, United States of America

BEHA046 - Dress to Impress: The Influence of the Enclothed Cognition Effect on Self-Esteem and Self-Efficacy

- Chloe Levin, Roslyn High School, NY, United States of America

CBIO002 - Detection of Premalignant Pancreatic Cancer via Computational Analysis of Serum Proteomic Profiles

- Shobhita Sundaram, Greenwich High School, CT, United States of America

CELL036 - A Novel Systemic Approach to Cardiometabolic Disease with Dual Therapeutics

- Marissa Sumathipala, Broad Run High School, VA, United States of America

CELL037T - Proliferation of Natural Killer Cells and the Anti-Inflammatory Cytokine Interleukin-4 in a Model of Infantile Spasms

- Lior Raz-Farley, Ossining High School, NY, United States of America
- Michelle Zhang, Ossining High School, NY, United States of America

CHEM035 - The Effect of Natural Antioxidants on Reducing Oxidation

- Mizuho Obayashi, Ogden Senior High School, UT, United States of America

EAEV020 - The Effect of Wi-Fi on Plant Health

- Kristen Stawasz, Westfield High School, MA, United States of America

EAEV042 - Stormwater Treatment Area Performance Prediction Using Artificial Neural Networks

- William Gao, Suncoast Community High School, FL, United States of America

EAEV069 - A Novel Methodology for Co-Clustering Identification and Analysis for Endemic Plants with Applications to Conservation and Agricultural Planning

- Gregory Gueorguiev, Bronx High School of Science, NY, United States of America

EGCH017 - A Smart Light-Tracker Using Machine Learning and Dye-Sensitized Solar Cells

- Malini Mukherji, Notre Dame Preparatory, MI, United States of America

ENEV005 - Do Herbicides and Fertilizers Found in Surface Runoff Affect the Oyster (*Crassostrea virginica*) and Clam (*Mercenaria mercenaria*) Ability to Naturally Filter and Improve the Overall Water Quality of the Indian River Lagoon?

- Kyle Bramblett, Titusville High School, FL, United States of America

MCRO017 - To Floss, or Not to Floss: An Oral Microbiome Investigation

- Vivek Gopalakrishnan, Lexington High School, MA, United States of America

PLNT029 - The Effects of Auxins and Cytokinins on the Survival of Azospirillum lipoferum and Azospirillum brasilense and the Root Colonization of Zea mays

- Brock Vetick, Lyons-Decatur Northeast High School, NE, United States of America

### **Arconic Foundation**

Arconic creates innovative solutions to change the way we fly, drive, and build. Arconic Foundation is pleased to recognize projects that display excellence in urban design and transportation.

Sustainable Urban Design, First Award of \$2,500

EGPH022 - Smart Self-Sustaining Lighting System

- Karlos Lenniel Miranda Garces, Adela Rolon Fuentes, Puerto Rico

Sustainable Urban Design, Second Award of \$1,500

ENMC028T - Solar Energy Out on a Limb: A Novel Photovoltaic Energy

- Hahnbee Lee, The Governor's School @ Innovation Park, VA, United States of America
- Jarrett Lash, The Governor's School @ Innovation Park, VA, United States of America

Sustainable Urban Design, Third Award \$1,000

EGPH035 - Developing an Optimal Novel Unconventional Wind Turbine

- Farid Shahid, Parkland High School, PA, United States of America

Sustainable Design In Transportation, First Award \$2,500

ENMC024T - Aircraft Nut Tension Monitoring Washer

- Grace Gao, SKH Li Ping Secondary School, China, Hong Kong Special Administrative Region
- Ka Ki Ng, SKH Li Ping Secondary School, China, Hong Kong Special Administrative Region
- Pui Shan Lee, SKH Li Ping Secondary School, China, Hong Kong Special Administrative Region

Sustainable Design In Transportation, Second Award \$1,500

ENMC049 - Morphing Wing for Trucks: Greater Stability in Cornering

- Felix Morales, Colegio Congregacion Mita, Puerto Rico

Sustainable Design In Transportation, Third Award of \$1,000

ENMC015T - Electric Jet Engine

- Adam Skora, Buena High School, AZ, United States of America
- Taylor Benning, Buena High School, AZ, United States of America

### **Arizona State University**

Arizona State University is pleased to offer a comprehensive scholarship combining a monetary award and an environment focusing on knowledge, learning and research. The New American University Scholarship is renewable for four years, Individuals and teams will be considered for these awards.

Intel ISEF Scholarship

ANIM039 - The Effect of Nosema on the Honey Bee's Brain

- Natalia Jacobson, Empire High School, AZ, United States of America

BEHA030 - Impact of Carbon Tax Policies on the Global Agricultural Economy: A Computational Spatial Partial Equilibrium Modeling Approach

- Mary Zhu, Nashua High School South, NH, United States of America

EAEV014 - The Effects of Bacillus Bacteria on the Invasive Species Lemna minor (Duckweed)

- Claire Wentzlaff, Burnsville High School, MN, United States of America

EAEV053 - A Novel, Cost-Effective Water Filtration and Desalination Technique Based on Biodegradable Superabsorbent Polymers

- Joseph Galasso, Galasso Homeschool, AZ, United States of America

EAEV063 - Can Ants Help Save the Bees? Developing a Better Model for Screening Pesticide Effects on Honeybee Social Behavior

- James Sappington, South River High School, MD, United States of America

EBED050 - Less Water – More Food?: Real-Time Three-Dimensional Imaging of Soil Moisture Distribution for Intelligent Irrigation

- Vasily Tremsin, Campolindo High School, CA, United States of America

EGCH010 - Analyzing Algal Lipid Content to Optimize Biofuel Production

- Katherine Beadle, Bishop Feehan High School, MA, United States of America

EGCH043 - Carbon Coatings on a Copper Antimonide Anode for Enhanced Performance and Lifetime in Rechargeable Metal-Ion Batteries



- Jay Chandra, Fossil Ridge High School, CO, United States of America

EGPH032 - Virtually Perfect Photovoltaic Cells: A Novel and Adaptive Approach to Modeling Quantum Dot Templates Optimized for Varied Light Conditions

- Sathya Edamadaka, High Technology High School, NJ, United States of America

ENBM036 - Detecting the Elusive Lyme Disease: Creating a Novel Lateral Flow Test for Detection of *Borrelia burgdorferi* in Ticks

- Luke Little, Timber Ridge Scholars Academy, MO, United States of America

ENBM048 - Prosthetic Replacement Technology Mark 6 (PRT-6)

- Aristomenes Tambakis, QSI Chengdu, China

ENBM069 - A Novel Isothermal Microfluidic Device to Detect Salivary MicroRNAs in Breast Cancer

- Lucas Penny, Grimsby Secondary School, Canada

ENEV076 - Developing a pH Sensor Using a Raspberry Pi to Monitor Ocean Acidification, Year Two

- Evelyn Haase, Molokai High School, HI, United States of America

MCRO051 - Assessing Rice Bran's Protective Efficacy against Porcine Rotavirus Infection in IPEC-J2 Cells

- Christine Flora, Roanoke Valley Governor's School for Science and Technology, VA, United States of America

TMED007 - Novel Blood Tests to Diagnose Preeclampsia: Saving the Lives of Mothers and Children

- Tanya Kumar, Clear Brook High School, TX, United States of America

## **Ashtavadhani Vidwan Ambati Subbaraya Chetty Foundation**

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

First Award of \$1,000

CBIO025 - DNALoopR: A Novel High-Performance Machine Learning Predictor to Identify Genome-Wide 3D DNA Interactions in Cancer

- Prathik Naidu, Thomas Jefferson High School for Science and Technology, VA, United States of America

PHYS038 - Quantum Eraser with Applications to Optical Quantum Information Processing of Polarization-Encoded Qubits

- Mary Lorio, Saint Joseph's Academy, LA, United States of America

Second Award of \$500

TMED007 - Novel Blood Tests to Diagnose Preeclampsia: Saving the Lives of Mothers and Children

- Tanya Kumar, Clear Brook High School, TX, United States of America

ENBM049 - Toward Precision Medicine: Designing Injectable, Conductive Graphene-Doped Hydrogels and Robust Computational Models for Post-MI Cardiac Tissue Engineering and Drug Discovery

- Arvind Sridhar, Bellarmine College Preparatory, CA, United States of America

BCHM010 - Utilization of Epigallocatechin Gallate and Serine/Asparagine Compounds as a Natural Therapeutic for Glycosylation-Inhibited Breakdown of the Zika Virus Ectodomain

- Sangita Vasikaran, Jasper High School, TX, United States of America

### MATH027 - A Participant-Specific Estimate of Expected Organ Quality in Kidney Paired Donation

- Naveen Durvasula, Montgomery Blair High School, MD, United States of America

### SOFT042 - MFT: Improving Convolutional Object Tracking with Feed Separated Learning

- Michael Lee, Manhasset High School, NY, United States of America

### CHEM045T - Curcumin: Molecule which Captures Heavy Metals

- Elena Sparaciari, Istituto Istruzione Superiore Galileo Galilei, Italy
- Gloria Cascio, Istituto Istruzione Superiore Galileo Galilei, Italy
- Romina Paolucci, Istituto Istruzione Superiore Galileo Galilei, Italy

### EAEV021 - Taking the Pulse of Tar Creek: A Lab and Field Study of Macroinvertebrates in Tar Creek Coupled with a Heavy Metal Water Analysis

- Macey Middleton, Grove High School, OK, United States of America

### EGPH040T - Multi Axial Motion Unifying Gear Arrangement to Capture Wave and Other Random Run Away Energy

- Sacheth Sathyanarayanan, National Public School, India
- Sairandri Sathyanarayanan, National Public School, India

### **Association for Computing Machinery**

ACM is widely recognized as the premier membership organization for computing professionals, delivering resources that advance computing as a science and a profession; enable professional development; and promote policies and research that benefit society. ACM hosts the computing industry's leading Digital Library and serves its global members and the computing profession with journals and magazines, conferences, workshops, electronic forums, and Learning Center.

First Award of \$1,000

SOFT014 - Adding Data-Aware Sort Optimizations to the Python Interpreter

- Elliot Gorokhovskiy, Fairview High School, CO, United States of America

Second Award of \$500

SOFT042 - MFT: Improving Convolutional Object Tracking with Feed Separated Learning

- Michael Lee, Manhasset High School, NY, United States of America

Third Award of \$300

SOFT001 - Applying Machine Learning to WiFi Channel State Information for Smart, Safe, Energy Saving Buildings

- Emily Wang, William G. Enloe High School, NC, United States of America

Fourth Award of \$200

SOFT004 - Design and Construction of Smart DNS System Based on Distributed Smart Router and Cloud

- He Huang, YK Pao School, China

ROBO031 - Unlocking History: An Algorithm to Virtually Unfold 3D Computed Tomography Scans of Unopened Historical Documents

- Holly Jackson, Notre Dame High School San Jose, CA, United States of America

SOFT010 - Variable Density Cubic Infill for Fused Filament Fabrication

- Martin Boerwinkle, Arkansas School for Mathematics, Sciences, and the Arts, AR, United States of America

## **Association for the Advancement of Artificial Intelligence**

AAAI is a scientific society devoted to advancing the scientific understanding of the mechanisms underlying thought and intelligent behavior and their embodiment in machines. AAAI promotes research in, and responsible use of, artificial intelligence, as well as public understanding of artificial intelligence. AAAI also strives to improve the teaching and training of AI practitioners, and provide guidance on the importance and potential of current AI developments and future directions.

First Award of \$1,500

BEHA060 - A Novel, Telemedicine Diagnosing and Monitoring Tool for Parkinson's Disease: The Use of Digital Action Unit Biomarkers Generated by Spontaneous and Posed Facial Expressions

- Erin Smith, Shawnee Mission West High School, KS, United States of America

Second Award of \$1,000

EAEV086 - Radiochemistry and AI: Development of an Analytical Capability Using Machine Learning Algorithms for Early Detection of Radionuclides in the Environment

- Anushka Nair, Lake Oswego High School, OR, United States of America

Third Award of \$500

SOFT042 - MFT: Improving Convolutional Object Tracking with Feed Separated Learning

- Michael Lee, Manhasset High School, NY, United States of America

Honorable Mentions

CBIO025 - DNALoopR: A Novel High-Performance Machine Learning Predictor to Identify Genome-Wide 3D DNA Interactions in Cancer

- Prathik Naidu, Thomas Jefferson High School for Science and Technology, VA, United States of America

CBIO045 - Deep Learning Assessment of Tumor Proliferation in Histopathological Images for Categorical and Molecular Breast Cancer Severity Diagnosis

- Manan Shah, The Harker School, CA, United States of America

EBED037T - Mind Hand: A Comprehensive Solution Supports Two-Way Communication for the Deaf Mute

- Thao Chi Nguyen, Tran Phu Gifted High School, Viet Nam
- Trang Ngan Tran, Tran Phu Gifted High School, Viet Nam

ENBM059 - Hermes Braindeck: A Brain-Computer Interface for Communication with Patients Initially Classified as Comatose or Vegetative

- Luiz da Silva Borges, Instituto Federal de Educacao, Ciencia e Tecnologia de Mato Grosso do Sul - Campus Aquidauana, Brazil

TMED036T - Inexpensive Mobile Diagnosis of Diabetic Retinopathy Using Deep Learning

- Justin Zhang, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Kavya Kopparapu, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Neeyanth Kopparapu, Thomas Jefferson High School for Science and Technology, VA, United States of America

### **Astronomical Society of the Pacific and the American Astronomical Society**

The Astronomical Society of the Pacific is a scientific and educational organization with international membership. The American Astronomical Society is the premier American society of professional astronomers.

Priscilla and Bart Bok First Award of \$1,000

PHYS058 - Case Study of Data Mining in Observational Astronomy: The Search for New OB Stars in the Small Magellanic Cloud

- Cormac Larkin, Colaiste an Spioraid Naoimh, Ireland

Second Award of \$500

PHYS053 - Determining the Ages and Distances of Open Clusters

- Erica Sawczynec, Kihei Public Charter High School, HI, United States of America

### **ASU Rob and Melani Walton Sustainability Solutions Initiatives**

ASU Walton Sustainability Solutions Initiatives are the result of a \$27.5 million investment in Arizona State University's Julie Ann Wrigley Global Institute of Sustainability by the Walton Family Foundation. Within the Walton Sustainability Solutions Initiatives, diverse teams of faculty, students, entrepreneurs, researchers, and innovators collaborate to deliver sustainability solutions, accelerate global impact, and inspire future leaders through eight distinct initiatives.

First Award of \$2,500

EAEV088 - An Innovative Crowdsourcing Approach to Monitoring Freshwater Bodies

- Sahithi Pingali, Inventure Academy, India

PLNT061T - Innovative Method of Raising Paddy Seedlings by an Economically Viable and Ecologically Sustainable Method: A Boon to Farmers

- Ramkumaar Ekambaram Thondaiman, NSN Group of Schools, India
- Siva Bharathi Anbu Bharathi, Nsn Matriculation Higher Secondary School, India

ENEV047T - The Development of a Mechanized Approach to Rapidly and Sensitive Detect and Purify Water Contaminated with Shigella, E.

coli, Salmonella, and Cholera through the Use of Carbon-Based Biosensors in Conjunction with Arduino-Controlled Micropipettes

- Rachel Chang, Manhasset High School, NY, United States of America
- Ryan Thorpe, Manhasset High School, NY, United States of America

SOFT001 - Applying Machine Learning to WiFi Channel State Information for Smart, Safe, Energy Saving Buildings

- Emily Wang, William G. Enloe High School, NC, United States of America

### **China Association for Science and Technology**

China Association for Science and Technology (CAST) is the largest organization of scientists and technologists in China. One of its missions is to promote public understanding of science. Having developed science education programs, CAST supports youth and adolescents in becoming citizens with high scientific literacy. CAST awards are given to the projects that best reflect the originality and innovation of the students' work in all scientific disciplines.

First Award of \$1,200

ANIM048T - The Potential Use of Natural Essential Oils in Prevention from Ticks of Dermacentor and Haemaphysalis Genus

- Miriam Feretova, Grammar School of St Nicholas, Slovakia
- Samuel Smoter, Grammar School of St. Nicholas, Slovakia

CELL053 - A Morphokinetic and Machine Learning Model for Aneuploidy Screening of Human Preimplantation Embryos

- Davey Huang, Iolani School, HI, United States of America

PLNT051 - Fabulous Molecular Markers: Preventing Favism by Identifying Faba Bean Mutants

- Melody Song, Evan Hardy Collegiate Institute, Canada



ENEV064T - Smart Pleco: A Multi-Functional Eco-Friendly Unmanned Craft for Waterbodies Protection

- Chon Hin Ho, Pui Ching Middle School Macao, China, Macao Special Administrative Region
- Chon Hou Leong, Pui Ching Middle School Macau, China, Macao Special Administrative Region

EAEV086 - Radiochemistry and AI: Development of an Analytical Capability Using Machine Learning Algorithms for Early Detection of Radionuclides in the Environment

- Anushka Nair, Lake Oswego High School, OR, United States of America

CELL038 - HuR Spatial Localization Is Affected by p38 MAPK Phosphorylation upon T-Cell Activation

- Rocio Aviles Mercado, Pablo Colon Berdecia, Puerto Rico

ENBM063 - Membrane-Based Nanostructured Biosensor to Detect Hemolytic Bacteria

- Camila Moran-Hidalgo, Westdale Secondary School, Canada

ENBM034 - An Electric Spark Scalpel

- Valeriia Lebedeva, Gymnasium #5, Russian Federation

BEHA017T - Does Modern Information Technology Exacerbate Teen Procrastination?

- Tiffany Liu, The Villages Charter High School, FL, United States of America

BEHA054 - Deep Learning for Autism Diagnosis: Insights into Genomic and Phenotypic Features

- Harkirat Bhullar, Evan Hardy Collegiate Institute, Canada

BEHA017T - Does Modern Information Technology Exacerbate Teen Procrastination?

- Abigail Lifferth, The Villages Charter High School, FL, United States of America
- Carter Draney, The Villages Charter High School, FL, United States of America

### **Coalition for Plasma Science**

The Coalition for Plasma Science is a group of institutions, organizations, and companies joining forces to increase awareness and understanding of plasma science and its many applications and benefits for society.

First Award of \$2,500

TMED039 - The Effects of Electrical Discharge Plasma Treatment on Cellular Growth and Wound Healing

- Nathan Kinsey, Eugene Ashley High School, NC, United States of America

PHYS002T - Big Bang Pickle

- Hannes Hipp, Studienkolleg St. Johann Blonried, Germany
- Sonja Gabriel, Storck-Gymnasium, Germany

### **Drexel University**

Drexel University will award eight full scholarships to those students whose projects match Drexel's curriculum. Drexel is recognized for its focus on experiential learning through co-operative education, its commitment to cutting-edge academic technology and its growing enterprise of use-inspired research. Drexel Co-op enables students to balance classroom theory with practical, hands-on experience.

Full Tuition Scholarship

EBED009 - Developing a More Efficient Quantum Protocol Using Vehicle Signals and Photon Polarization

- Evan Meade, Keystone School, TX, United States of America

EGCH002 - Ultra-Thin Asymmetric Supercapacitor: Utilizing Nano-Porous Nickel and Graphene-Copper for a High Energy Density

- Alexander Mancevski, Liberal Arts and Science Academy High School, TX, United States of America

ENMC039 - LifeSpin: Comprehensive Water Purification and Transportation via Induced Turbulent Flow in Conjunction with Faraday's Law of Induction

- Shane Tomaino, Rye Country Day School, NY, United States of America

TMED039 - The Effects of Electrical Discharge Plasma Treatment on Cellular Growth and Wound Healing

- Nathan Kinsey, Eugene Ashley High School, NC, United States of America

BEHA012 - Ingenuity in Arithmetic

- Amaha Ghide, The Academy of Science and Technology, TX, United States of America

EAEV001 - The Effect of EDTA Chelation as a Desorption Mechanism

- Madeline Burkey, Rockdale Magnet School for Science and Technology, GA, United States of America

EAEV007 - Detection and Removal of Dinotefuran from the Environment: A Multi-Year HPLC-MS Analysis

- Raley Schweinfurth, Oregon Episcopal School, OR, United States of America

EAEV045 - A Novel Method for Accurately Modeling Past Atmospheric Conditions Using Ice Core Data from Law Dome and WAIS Divide: An Approach to Monitor Future Climate Sustainability

- Gilbert Spencer, Half Hollow Hills High School West, NY, United States of America

## **Drug, Chemical & Associated Technologies Association**

DCAT is a global business development association for the pharmaceutical manufacturing industry. Our awards recognize projects that best reflect the businesses of our members.

First Award of \$3,000

CHEM023T - Leading the Environment with Less Lead, Nano-Structured Jordanian Kaolinite for the Removal of Lead from Industrial Waste Water

- Ayah Shehadeh, Al-Hasaad Al-Tarbawi School, Jordan
- Bayan Abu Alragheb, Al-Hasaad Al-Tarbawi School, Jordan

MATS002 - Fabrication of a Novel Nanoporous Hybrid and Multi-Layer Membrane for a Drug Delivery System

- Devanik Biswas, Stanton College Preparatory High School, FL, United States of America

TMED034 - An Early Tri-Biomarker Sputum Diagnostic for Cystic Fibrosis in the Developing World

- Zoe Weiss, Lakeside High School, GA, United States of America

In addition, a \$2,000 award will be presented to each of the winning project's schools.

## **Florida Institute of Technology**

Florida Institute of Technology is a highly ranked national, doctoral-granting research university offering a unique, "High Tech with a Human Touch" academic experience. Florida Tech's campus is lush with 140 acres of tropical greenery and our students enjoy near-perfect weather almost all year round. Our location on the east coast of central Florida provides great opportunities for students looking to pursue degrees in aerospace and mechanical engineering (Kennedy Space Center is just 45 minutes away), marine biology, physics, environmental sciences, aviation, computer science and more.

## Full Tuition Presidential Scholarship

EGPH026 - Go with the Flow: Increasing the Efficiency of the Tesla Turbine to Reduce the Cost of Cleaner Energy Generation from Natural Gas

- Daniel Bobbitt, Niceville High School, FL, United States of America

ENBM067 - Identifying Limiting Nutrient on Stem Cell Spheroid Viability for Human Cardiac Tissue Regeneration

- Jenny Yao, Academic Magnet High School, SC, United States of America

MCRO063 - Tracking Seasonal Changes of Specific Pathogenic Bacteria around Mobile Bay

- Leanne Jeong, Alabama School of Mathematics and Science, AL, United States of America

## **Fondazione Bruno Kessler**

The Bruno Kessler Foundation (FBK) is a leading research center in Trento, Italy. WebValley is the FBK Summer School program for interdisciplinary scientific research. A team of enthusiastic and motivated high school students and FBK researchers accepts a project challenge, proposed by a visiting scientist. FBK's Board of Directors will award 3 Intel ISEF finalists full fellowships, 1 of them including travel to Italy, to be part of the WebValley team.

Participation in summer school “Web Valley” in Trento, Italy

ENBM044 - MyHealth: A Novel Wearable Solution for Early Detection and Monitoring of Parkinson's Disease and a Transformation from Subjective to Quantifiable Testing

- Surabhi Mundada, Olympia High School, WA, United States of America

ENEV044 - Efficient Removal of Pb<sup>2+</sup>, Cd<sup>2+</sup>, and UO<sub>2</sub><sup>+</sup> from Water through Sustainable Nano Cellulose Coagulants Synthesized through One Step Modification of Raw Biomass

- Aurnov Chattopadhyay, University High School, CA, United States of America

MCRO017 - To Floss, or Not to Floss: An Oral Microbiome Investigation

- Vivek Gopalakrishnan, Lexington High School, MA, United States of America

SOFT027T - Automating Identification of Terrorist Recruitment on Social Media Platforms

- Mihir Patel, Thomas Jefferson High School for Science and Technology, VA, United States of America

Participation and travel to summer school “Web Valley” in Trento, Italy

SOFT014 - Adding Data-Aware Sort Optimizations to the Python Interpreter

- Elliot Gorokhovsky, Fairview High School, CO, United States of America

## **GoDaddy**

GoDaddy is the world’s largest technology provider dedicated to small business. GoDaddy believes it has a responsibility to make a difference in the community. As part of that philosophy, GoDaddy contributes to nonprofit organizations that focus on causes meaningful to customers, employees and our community. GoDaddy will be presenting the following awards, the Web Innovator Award, the Mobile Application Award, the Open Source Award, the Data Award and the Forward Thinker Award.

\$1,500 Web Innovator Award

SOFT023 - PrediMed: Predicting Health with a Custom-Built Machine Learning Ensemble

- Alexander Zlokapa, Golden Hills Academy, CA, United States of America

\$1,500 Open Source Award

SOFT050 - Mobile Real-Time OCR for Visually Impaired Individuals

- Divya Amirtharaj, Westview High School, OR, United States of America

\$1,500 Mobile Application Award

SOFT039 - Chemoscope: An Android Application Integrated Augmented Reality and Mixed Reality to Assist Chemistry Learners

- Thu Tran Thi, Bao Loc High School for the Gifted, Viet Nam

\$1,500 Forward Thinker Award

SOFT011 - Power-efficient, Delay and Spatial Error Tolerant, Dynamic 3D Network Analysis

- Rucha Joshi, Westwood High School, TX, United States of America

\$1,500 Data Award

SOFT037 - Applying Deep Learning on EEG to Control Bionic Limbs with Humanlike Performance

- Akram Sbaih, Kafr Rai High School, Palestine

### **IEEE Foundation**

IEEE is the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity. IEEE awards the \$10,000 Presidents' Scholarship to recognize a deserving student for an outstanding project

demonstrating an understanding of electrical engineering, electronics engineering, computer science, or other IEEE field of interest.

Foundation Presidents' Scholarship Award of \$10,000

ENBM044 - MyHealth: A Novel Wearable Solution for Early Detection and Monitoring of Parkinson's Disease and a Transformation from Subjective to Quantifiable Testing

- Surabhi Mundada, Olympia High School, WA, United States of America

Second Award of \$600

ROBO031 - Unlocking History: An Algorithm to Virtually Unfold 3D Computed Tomography Scans of Unopened Historical Documents

- Holly Jackson, Notre Dame High School San Jose, CA, United States of America

Third Award of \$400

ROBO035 - Prosthetic Arm Controlled by Legs' Transmitter for Disabled People

- Huy Pham, Quang Tri Town High School, Viet Nam

### **International Council on Systems Engineering**

The International Council on Systems Engineering (INCOSE) is a not-for-profit membership organization founded to develop and disseminate the interdisciplinary principles and practices that enable the realization of successful systems. INCOSE will award the best interdisciplinary project that can produce technologically appropriate solutions that meet societal needs.

First Award of \$1,500

ENBM055 - A Fully-Integrated and Self-Contained Lab-On-A-Chip Device for Sample Preparation, RNA Amplification, and Detection for Disease Diagnostics



- Benjamin Liu, Arcadia High School, CA, United States of America

#### Second Award \$500

EBED008 - A Smart Bionic Leg Brace: An Electromechanically Actuated Active-Assist Wearable Orthotic Device for Comprehensive Restoration of Gait Characteristics across Everyday Mobility Scenarios

- Syamantak Payra, Clear Brook High School, TX, United States of America

#### Honorable Mentions

EBED006 - Safe with Me Now: A Novel System to Prevent Vehicular Hyperthermia in Children

- Jessica Yu, West Linn High School, OR, United States of America

EBED013 - Battery System Optimization and Development of a Novel Rapid-Response Bioelectronics Device

- Rahul Lall, Auburn High School, AL, United States of America

#### EBED020 - SafeSeat

- Andrew Barbaro, Carroll High School, OH, United States of America

EBED047 - Eco-Phone: A Future Safe Phone with Visible Light and Infrared Communication

- Mohammed Sharief, St. Aloysius Pre-University College, India

ENBM044 - MyHealth: A Novel Wearable Solution for Early Detection and Monitoring of Parkinson's Disease and a Transformation from Subjective to Quantifiable Testing

- Surabhi Mundada, Olympia High School, WA, United States of America

ENEV028 - Engineered Environmental Containment: Using Lemna minor L. to Reduce Nitrate Levels in Aquatic Environments

- Aaron Wills, Central Lee High School, IA, United States of America

ROBO001 - Drone Defense System: Detection, Tracking, Classification and Targeting of Flight Objects in 3D and Real Time

- Tassilo Schwarz, Johannes-Heidenhain-Gymnasium Traunreut, Germany

ROBO047 - Braille Reading and Training System

- Maggie Ford, Mississippi School for Mathematics and Science, MS, United States of America

SOFT022 - Temporal Amplification of Photoplethysmographic and Biometric Signals Hidden in Video Streams for Contactless Monitoring of Cardiovascular Health and Identity Authentication

- Eshika Saxena, Interlake High School, WA, United States of America

SOFT028 - AzureWare: A Novel Approach for Quantifying Tremors and Progression of Parkinson's Disease through an Android App and Bluetooth Low Energy Technology

- Koushik Sridhar, Ardrey Kell High School, NC, United States of America

### **K. Soumyanath Memorial Award**

This award is presented by the family of Krishnamurthy Soumyanath (1957 - 2010), for the best project in Computer Engineering. Dr K. Soumyanath was an Intel Fellow and held the title of Chief Architect, Integrated Platform Research at Intel Labs, USA. He led research and development in circuits and architectures for next-generation transceiver devices. The prize honors the memory of an energetic and adventurous individual who inspired and mentored many young people to excel in all aspects of life.

First Award of \$3,000

## EBED031 - LaserWAN - Laser Broadband Internet Connections

- Valerio Pagliarino, I.I.S. Nicola Pellati, Italy In addition, a \$1,000 award will be presented to the winner's school.

## **K.T.Li Foundation Special Award**

K.T.Li Foundation is devoted to science education in Taiwan, and its contribution is highly respected. The Foundation presents awards to projects with the best creativity and scientific applications.

Participation in the Taiwan International Science Fair

## PHYS055 - Parallax Modelling of OGLE Microlensing Events

- Elias Waagaard, Bromangymnasiet, Sweden

## PHYS047 - A Novel Spectroscopic-Chemical Sensor Using Photonic Crystals

- Sulekh Fernando-Peirís, Mount Vernon High School, OH, United States of America

## **King Abdul-Aziz & His Companions Foundation for Giftedness and Creativity**

The Kingdom of Saudi Arabia seeks to build a sustainable future by encouraging youth to search for creative means that pave the way toward developing technologies for renewable energy, thereby maintaining a sustainable future of energy. To achieve this goal, King Abdul-Aziz & His Companions Foundation for Giftedness and Creativity (MAWHIBA) will award a Special Prize in the field of Water Technology at Intel ISEF. MAWHIBA is a national cultural foundation established to help develop a comprehensive environment of creativity in Saudi Arabia to enable gifted citizens from all areas to properly use their talents for prosperity of their country.

Award of \$1,000 for Water Technology

## CHEM014 - Development of a Rapid, Reusable Sensing Mechanism for the Selective Identification of Heavy Metal Contaminants in Water: An

Implementation of Functionalized Isotropic Silver Nanoparticles for Toxic Ion Detection

- Abhishek Mohan, Texas Academy of Mathematics and Science, TX, United States of America

CHEM023T - Leading the Environment with Less Lead, Nano-Structured Jordanian Kaolinite for the Removal of Lead from Industrial Waste Water

- Ayah Shehadeh, Al-Hasaad Al-Tarbawi School, Jordan
- Bayan Abu Alragheb, Al-Hasaad Al-Tarbawi School, Jordan

EAEV088 - An Innovative Crowdsourcing Approach to Monitoring Freshwater Bodies

- Sahithi Pingali, Inventure Academy, India

EAEV089 - In Hot Water – Consequences for Global Fresh Water Quality: A Quantitative Study on the Effects of Rising Freshwater Temperatures on Water Chemistry and Microorganism Biomass and Productivity

- Eleanor Lawton-Wade, Presbyterian Ladies College Sydney, Australia

EAEV092 - Effects of Ocean Acidification on Primary Consumers in a Marine Ecosystem

- Titus Patton, Sanger High School, CA, United States of America

EAEV070T - Micro and Nano Engineering for Wastewater: Toxic Cr(VI) Remediation Using Biochar and Nanoparticle from Wastewater

- Alujjage Perera, S.De.S.Jayasinghe Central Collage, Sri Lanka
- Pattiyage Kavishka, We/Pili/S.De.S Jayasinghe Central Collage, Sri Lanka

EAEV015 - Testing the Waters: Development of A Novel Chitosan-Based Water Filter for Industrial and Third World Applications

- Khushi Thakkar, T.C. Jasper High School, TX, United States of America

ENEV005 - Do Herbicides and Fertilizers Found in Surface Runoff Affect the Oyster (*Crassostrea virginica*) and Clam (*Mercenaria mercenaria*) Ability to Naturally Filter and Improve the Overall Water Quality of the Indian River Lagoon?

- Kyle Bramblett, Titusville High School, FL, United States of America

ENEV024T - Versatile Usage of Spent Coffee as an Eco-friendly Water Purifier

- Bryan Lim, Hwa Chong Institution, Singapore
- Dominic Yap, Hwa Chong Institution, Singapore
- Shawn Lim, Hwa Chong Institution, Singapore

ENEV066 - Green Nanotechnology: Increasing Sewage Water Treatment Efficiency by Using Economical Porcelanite Nanoparticles

- Ruba Alsulami, Jeddah Gifted School, Saudi Arabia

### **Monsanto Company**

Monsanto is committed to bringing a broad range of solutions to help nourish our growing world. We produce seeds that help farmers have better harvests while using resources more efficiently. And we collaborate with farmers, researchers, nonprofits and universities to tackle some of the world's biggest challenges.

First Award of \$2,500

PLNT061T - Innovative Method of Raising Paddy Seedlings by an Economically Viable and Ecologically Sustainable Method: A Boon to Farmers

- Ramkumaar Ekambaram Thondaiman, NSN Group of Schools, India
- Siva Bharathi Anbu Bharathi, Nsn Matriculation Higher Secondary School, India

Second Award of \$1,500

PLNT036T - Control of Tomato Yellow Leaf Curl Disease with Biopesticide Extracted from Goat Weed *Ageratum conyzoides* Linn

- Janyaporn Kotimanusvanij, The Demonstration School of Khon Kaen University (Modindaeng), Thailand
- Naruephon Phaengma, The Demonstration School of Khon Kaen University (Modindaeng), Thailand
- Witchakon Nanthaikueakun, The Demonstration School of Khon Kaen University (Modindaeng), Thailand

Third Award of \$1,000

CBIO030 - Identification of Natural Selection in *Mayetiola destructor* SNP Markers from Sequencing Data

- Luann Jung, Manhattan High School, KS, United States of America

### **Mu Alpha Theta, National High School and Two-Year College Mathematical Sciences Honor Society**

Mu Alpha Theta was formed over 50 years ago to develop strong scholarship in Mathematics and to promote the understanding and enjoyment of the subject. The Mu Alpha Theta Award is given to the most challenging, thorough, and creative investigation of a problem involving mathematics accessible to high school students.

Components of the investigation may include, but are not limited to, mathematical proof, mathematical modeling, statistical analysis, visualization, simulation, and approximation.

First Award of \$2,500

SOFT016 - MATCHLESS: A Linear Algebraic Approach to Duplicate File Identification

- Michael Litt, Orange High School, OH, United States of America

Second Award of \$1,500

### MATH009 - An Exploration in Textual Analysis

- Grady Daniels, Bartow High School, FL, United States of America

Third Award of \$1,000

### MATH041 - Looking into the Past for Insight on the Future: Predictive Analytics and Machine Learning for Time Series Data

- Dahlia Dry, Fort Myers High School, FL, United States of America

### MATH028 - Novel Application of Collatz-like Sequences to Cryptographically Secure Pseudo-Random Number Generation

- James Chen, West Salem High School, OR, United States of America

## **National Aeronautics and Space Administration**

The National Aeronautics and Space Administration (NASA) is the United States government agency responsible for the nation's civilian space program and for aeronautics and aerospace research. Founded in 1958, NASA drives advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.

Top Award of \$5,000

### MATS068 - Improving Resistive RAMs' Performance by Using Single Crystal MAPbBr<sub>3</sub> Perovskite

- Sara Alrabiah, AlTarbya Allslamyah Schools, Saudi Arabia

First Award of \$2,500

### EAEV012 - Use of Waste Carbon Dioxide as a Renewable Reagent to Catalytically Synthesize Commercially Useful Cyclic Carbonates

- Meghana Bollimpalli, Little Rock Central High School, AR, United States of America

ENMC034T - Analysis of Airborne Wind Energy Systems in a Wind Tunnel to Enhance Electricity Generation Efficiently

- Charles Fenske, Falmouth Academy, MA, United States of America
- Theo Guerin, Falmouth Academy, MA, United States of America

PHYS021 - Multi-Orbit Space Debris Cloud Tracking Using Iterative Closest Points Registration with Machine Learning

- Amber Yang, Trinity Preparatory School, FL, United States of America

Second Award of \$750

CHEM044 - Water Spherification: Making Water Transportation and Consumption More Efficient for Astronauts While in Space

- Faith King, Joel E. Ferris High School, WA, United States of America

PHYS041 - Laser Shielding Odyssey: A Novel Method for Confining Matter Transported at Relativistic Velocities in Vacuum by a Laser-Tube, Which May Solve a Problem of Stephen Hawking's "Star-Shot" Initiative

- Dana Arabiyat, Alridwan Schools, Jordan

MCRO061T - The Effect of the Wavelength of Light on the Growth Rate of Cyanobacteria and Its Survival in a Martian Atmosphere

- Catherine Aitken, San Ramon Valley High School, CA, United States of America
- Dana Jian, San Ramon Valley High School, CA, United States of America

ROBO015 - Safecopter: Developing a Collision Avoidance System Based on an Array of Time-of-Flight 3D Cameras

- Robert Tacescu, Clovis North High School, CA, United States of America



ENEV022 - Post-consumer PET as Stock for Additive Manufacturing

- Kaelum Hasler, Blacksburg High School, VA, United States of America

ENMC075 - Design of a Telepresence System to Operate at Mars Surface in a Pre-Colonial Context

- Joel Romero Hernandez, Institut F.X. Lluch i Rafecas, Spain

MATS053 - Molecular Dynamics Simulation and Experimental Fabrication of Nanoporous Graphene Membranes for Optimal Water Permeability in Reverse Osmosis Desalination

- Apoorv Khandelwal, Nikola Tesla STEM High School, WA, United States of America

ENBM055 - A Fully-Integrated and Self-Contained Lab-On-A-Chip Device for Sample Preparation, RNA Amplification, and Detection for Disease Diagnostics

- Benjamin Liu, Arcadia High School, CA, United States of America

TMED012 - Developing a High-throughput Platform for Drug Toxicity Screening

- Andrea Teo, Raffles Institution, Singapore

ENMC030 - The Next Airbender: A Novel Approach to Airfoil Efficiency and the Optimization of the Lift-to-Drag Ratio

- Rachel Seevers, Paul Laurence Dunbar High School, KY, United States of America

Honorable Mentions

EBED042 - Assembly of a Novel CO<sub>2</sub> Based Heat Zone Design to Optimize Absorption during Optic Fiber Processing

- Eric He, High Technology High School, NJ, United States of America

### ENBM002T - Sleep Improvement Study with Wearable LED Goggles Based on Citopic Effect

- Yuanheng Zhou, High School Affiliated to Fudan University, China
- YuLiang Wang, High School Affiliated Shanghai Jiao Tong University, High School Affiliated to FuDan University, China

### ENMC020 - Composites: Transforming T-Beams

- Danika Louw, Holy Spirit Catholic High School, AL, United States of America

### ENMC045 - Real-Time 3D Printing Error Detection and Correction

- William Makinen, West Potomac High School, VA, United States of America

### MATS043 - Revolutionizing Engineering through Visible Light: The Safe and Cost-Effective Creation of Ultra-Light, Strong, and Easily Architected Materials

- Hari Nanthakumar, Christian Brothers Academy, NY, United States of America

### MATS045 - A Novel Approach for Sensing Seismic Events: Applications of Graphene Nanoflake Powder Composites

- Isaac Jordan, Animas High School, CO, United States of America

### **National Anti-Vivisection Society**

Since 1929, the National Anti-Vivisection Society has promoted greater compassion, respect and justice for animals. NAVS educational and advocacy programs advance better, more humane science; support the development of alternatives to the use of animals in research, testing and education; and effect changes which help to end the unnecessary suffering of animals.

First Award of \$5,000

TMED012 - Developing a High-throughput Platform for Drug Toxicity Screening

- Andrea Teo, Raffles Institution, Singapore

Second Award of \$2,000

CELL016 - Autism and Genetics: Understanding the Role of AUTS2 in the Pathology of Autism Spectrum Disorder

- Katherine Miles, Sleepy Hollow High School, NY, United States of America

Third Award of \$1,000

ANIM054T - Developing a Novel 3D-Printed Solution to Aid Healing Fractured Wing Bones of Wild Birds

- Jeremy Wang, Catalina Foothills High School, AZ, United States of America
- Meena Ravishankar, University High School, AZ, United States of America
- Vishakk Rajendran, BASIS Tucson North, AZ, United States of America

**National Institute on Drug Abuse, National Institutes of Health, & the Friends of NIDA**

The Addiction Science Award is given by the National Institute on Drug Abuse (NIDA) to three exemplary projects on the topic of addiction science.

First Award of \$2,500

CELL021 - Epigenetic and Biotransformation Effects of Hookah Smoke Extract on Human Oral Keratinocytes

- Anusha Zaman, Baton Rouge Magnet High School, LA, United States of America

Second Award of \$1,500

## CBIO006 - Data Analysis of the Epigenetics of Drug and Alcohol Dependence

- Nkima Stephenson, Rockdale Magnet School for Science and Technology, GA, United States of America

Third Award of \$1,000

## BEHA032 - The Dynamics of Habituation: A Neural Study of the Effects of Repeated Exposures to Risky Behaviors on Cognitive Control and Emotional Responses in the Adolescent Brain

- Kashfia Rahman, Brookings High School, SD, United States of America

## Honorable Mentions

### BEHA031 - Do Parents Really Know Best? Investigating the Relationship between Perceived Parental Goals and Academic Factors

- Anuj Gupta, Roslyn High School, NY, United States of America

### BEHA055 - And the Winner Is...: Developing a Computer Program to Investigate Neural Competition with Multimodal Stimuli

- Caleb Martonfi, Tuscumbia High School, MO, United States of America

### TMED055T - Illegal Substance Biodetectives: Apta-Liposomes

- Dilara Alev Ortel, Takev Fen Lisesi, Turkey
- Dilge Kocabas, Takev Fen Lisesi, Turkey

## **National Oceanic and Atmospheric Administration**

The National Oceanic and Atmospheric Administration (NOAA) is an agency that enriches life through science. They work to protect life and property and to conserve and protect natural resources.

Fully paid summer internship at a NOAA research lab, plus award of \$500

### ANIM013 - Home Ranges of Atlantic Great White Sharks, Phase II

- Kelly van Woesik, Satellite High School, FL, United States of America

\$500 award

EAEV018 - Arsenic Contamination through Tsunami Wave Movement in Hawaii: Investigating the Concentration of Heavy Metals in the Soil from the 1960 Hilo, Hawaii Tsunami

- Jared Goodwin, Hilo High School, HI, United States of America

Alternate

EAEV081 - Effect of Stream Nutrients on Benthic Algal Overgrowth in Vatia Bay

- Gabrielle Langkilde, Fa'asao Marist High School, American Samoa

### **National Security Agency Research Directorate**

The National Security Agency's Research Directorate brings the power of science to secure the future by creating breakthroughs in science, technology, engineering, and mathematics. These discoveries and advancements help provide the tools and technologies used globally to safeguard cyberspace. The Research Directorate Science of Security Initiative promotes the academic maturation of cybersecurity principles on sound scientific roots for future scientists and researchers in order to provide trust in information systems.

First "Science of Security" Award of \$3,000

SOFT011 - Power-efficient, Delay and Spatial Error Tolerant, Dynamic 3D Network Analysis

- Rucha Joshi, Westwood High School, TX, United States of America

Second Place Award "Science of Security" of \$1,000

ROBO031 - Unlocking History: An Algorithm to Virtually Unfold 3D Computed Tomography Scans of Unopened Historical Documents

- Holly Jackson, Notre Dame High School San Jose, CA, United States of America

SOFT027T - Automating Identification of Terrorist Recruitment on Social Media Platforms

- Mihir Patel, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Nikhil Sardana, Thomas Jefferson High School for Science and Technology, VA, United States of America

First Mathematics Award of \$1,000

CBIO002 - Detection of Premalignant Pancreatic Cancer via Computational Analysis of Serum Proteomic Profiles

- Shobhita Sundaram, Greenwich High School, CT, United States of America

Honorable Mentions “Science of Security”

MATS050 - Cellulose Nanocrystals for Security Applications: Embedding Non-Optical Signatures Provided by Nanoparticles into Cellulose Nanocrystal Chiral Nematic Films

- Nicky Wojtania, Plano West Senior High School, TX, United States of America

PHYS038 - Quantum Eraser with Applications to Optical Quantum Information Processing of Polarization-Encoded Qubits

- Mary Lorio, Saint Joseph's Academy, LA, United States of America

SOFT016 - MATCHLESS: A Linear Algebraic Approach to Duplicate File Identification

- Michael Litt, Orange High School, OH, United States of America

## Honorable Mentions Mathematics

### MATH017 - Optimizing the Search for Mersenne Primes

- Carson Cato, Arkansas School for Mathematics, Sciences, and the Arts, AR, United States of America

### ROBO001 - Drone Defense System: Detection, Tracking, Classification and Targeting of Flight Objects in 3D and Real Time

- Tassilo Schwarz, Johannes-Heidenhain-Gymnasium Traunreut, Germany

## **Office of Naval Research on behalf of the United States Navy and Marine Corps**

The Naval Science Awards Program (NSAP) is a U.S. Navy and Marine Corps program that encourages our nation's students to develop and retain an interest in science and engineering. NSAP recognizes the accomplishments of eligible students at regional and state science and engineering fairs and the Intel International Science and Engineering Fair (ISEF) in producing and presenting quality science and engineering projects.

Chief Naval Research Scholarship Award of \$10,000

### ENMC027 - Development of a Hybrid Direct Ink Write 3D Printer: A Novel Approach to 3D Printing Multi-Material Functional Devices and Flexible Electronics

- Joshua Jacob, Saint Xavier High School, KY, United States of America

## **Oracle Academy**

Oracle Academy, is the flagship program under Oracle's corporate social responsibility education pillar. Its mission is to advance computer science education and make it accessible to students globally to drive knowledge, innovation, skills development, and diversity in technology fields. In 2013, Oracle Academy supported more than 2.5 million secondary and post-secondary students globally,

providing software, curriculum, professional development, and other resources with an in-kind grant value of more than U.S. \$2.7 billion.

Award of \$5,000 for outstanding project in the systems software category

SOFT008 - AirPhone: Cloud Generation Smartphones

- Uladzislau Hadalau, State Institution of Education "Secondary School No 11 the Town of Slutsk", Belarus

SOFT022 - Temporal Amplification of Photoplethysmographic and Biometric Signals Hidden in Video Streams for Contactless Monitoring of Cardiovascular Health and Identity Authentication

- Eshika Saxena, Interlake High School, WA, United States of America

SOFT028 - AzureWare: A Novel Approach for Quantifying Tremors and Progression of Parkinson's Disease through an Android App and Bluetooth Low Energy Technology

- Koushik Sridhar, Ardrey Kell High School, NC, United States of America

SOFT019T - Behave: An Authentication System Based on Keyboard and Mouse Dynamics

- Igor Moscalet, B.Z.Herzl ORT Technological Lyceum, Republic of Moldova
- Sandu Chirita, B. Z. Herzl ORT Technological Lyceum, Republic of Moldova

SOFT050 - Mobile Real-Time OCR for Visually Impaired Individuals

- Divya Amirtharaj, Westview High School, OR, United States of America

ROBO021 - Detecting Abnormal Cells Using Artificial Intelligence



- Gaurav Behera, Century High School, MN, United States of America

SOFT020 - Cloud-Based Data Preparation for Medical Observational Research

- Varun Sathyan, Athens High School, MI, United States of America

SOFT026 - Lumos: Automated Smartphone-Based Ophthalmic Screening for Glaucoma Using Computer Vision and Deep Learning Algorithms through Low-Cost and Non-Mydriatic Retinal Fundus Imaging

- Shalin Shah, Tesoro High School, CA, United States of America

SOFT039 - Chemoscope: An Android Application Integrated Augmented Reality and Mixed Reality to Assist Chemistry Learners

- Thu Tran Thi, Bao Loc High School for the Gifted, Viet Nam

### **Patent and Trademark Office Society**

Founded in 1897, AIPLA is a national bar association constituted primarily of lawyers in private and corporate practice, in government service, and in the academic community. AIPLA represents a wide and diverse spectrum of individuals, companies and institutions involved directly or indirectly in the practice of patent, trademark, copyright, trade secret, and unfair competition law, as well as other fields of law affecting intellectual property. Our members represent both owners and users of intellectual property.

First Award of \$1,000, an American flag, and a framed copy of the first patent granted in the United States of America

CBIO009 - Window to the Brain: Using Retinal Biomarkers to Predict Progression of Alzheimer's and Parkinson's Diseases

- Archana Murali, Breck School, MN, United States of America

Second Award of \$500

CELL053 - A Morphokinetic and Machine Learning Model for Aneuploidy Screening of Human Preimplantation Embryos

- Davey Huang, Iolani School, HI, United States of America

CHEM013 - A Novel Approach to Minimize Road Salt Contamination in Both Terrestrial and Aquatic Ecosystems

- Alyssa Compton, Loyola High School, MN, United States of America

EGPH010 - Printenna: A 3D Printed Biquad Yagi Antenna for Transmission of Space Solar Power

- Samuel Lossef, School Without Walls High School, D.C., United States of America

EAEV042 - Stormwater Treatment Area Performance Prediction Using Artificial Neural Networks

- William Gao, Suncoast Community High School, FL, United States of America

ROBO001 - Drone Defense System: Detection, Tracking, Classification and Targeting of Flight Objects in 3D and Real Time

- Tassilo Schwarz, Johannes-Heidenhain-Gymnasium Traunreut, Germany

MATS079 - Carbon Fiber Chain Mail Protective Armor

- Carson Weidman, West Salem High School, OR, United States of America

BCHM001 - A Novel Whole-Cell Bacterial Sensor Utilizing the Chemiluminescent Interactions between 3-Aminophthalhydrazide and Metalloproteins

- Sai Aditya Sriram, Vanguard High School, FL, United States of America

**Qatar Foundation, Research & Development**

Qatar Foundation for Education, Science and Community Development is a private, non-profit organization that serves the people of Qatar by supporting and operating programs in three core mission areas: education, science and research, and community development. The Foundation strives to nurture the future leaders of Qatar. By example and by sharing its experience, the Foundation also contributes to human development nationally, regionally, and internationally. In all of its activities, the Foundation promotes a culture of excellence in Qatar and furthers its role in supporting an innovative and open society that aspires to develop sustainable human capacity, social, and economic prosperity for a knowledge-based economy.

First Award of \$1,000

EGCH038 - A Novel Approach for the Preparation of High Efficiency Water Splitting Photocatalysts

- Dana Alkhalidi, KFUPM Schools, Saudi Arabia

ENEV018T - A Magnetic Brush that Cleans Solar (PV) Cells from Dust and Sand without the Use of Water

- Omar Ahmad, Modern Montessori School, Jordan
- Zaid Alatiyat, Modern Montessori School, Jordan

SOFT031 - Zarad

- Taymaa Abdalhadi, Ramallah Girls High School, Palestine

MATS081T - Marine Degradable Plastic Based on Soybean By-Products

- Sharifa Al-Muhanadi, Al-Khor Independent Secondary School for Girls, Qatar
- Thajba Al-Hail, Al-Khor Independent Secondary School for Girls, Qatar

EBED031 - LaserWAN - Laser Broadband Internet Connections

- Valerio Pagliarino, I.I.S. Nicola Pellati, Italy

#### ROBO002 - Program for the Deaf and Dumb

- Elgun Alishev, R.Pirnazarov, Azerbaijan

#### ENBM081 - A Technology Assisted Ketone Detecting Patch for the Noninvasive Detection of Type 1 Diabetes

- Anna Quinlan, Menlo-Atherton High School, CA, United States of America

#### SOFT034T - Encryption in Everyday Life

- Joel Jakko, Valkeakosken Tietotien Lukio, Finland
- Max Mecklin, Valkeakosken Tietotien Lukio, Finland

#### SOFT027T - Automating Identification of Terrorist Recruitment on Social Media Platforms

- Mihir Patel, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Nikhil Sardana, Thomas Jefferson High School for Science and Technology, VA, United States of America

#### ENEV025 - Removal of Heavy Metal Ions from Industrial Wastewater Using Algal Polysaccharide Alginate

- Matheus Bevilacqua, Escola Americana de Campinas, Brazil

### **Redds Venture Investment Partners**

Guided by the UN Global Sustainable Development Goals, REDDS presents the Social Impact Through Technology award to the contestant who best combines disruptive innovation with positive social impact.

First Award of \$5,000

#### SOFT023 - PrediMed: Predicting Health with a Custom-Built Machine Learning Ensemble

- Alexander Zlokapa, Golden Hills Academy, CA, United States of America

## **Ricoh USA, Inc**

Ricoh USA, Inc is a global technology company specializing in office imaging equipment, production print solutions, document management systems and IT services. Ricoh has a long-standing environmental mission and commitment to sustainability, bringing corporate, social and environmental responsibilities into balance. Ricoh has been creating green technology and environment management systems that promote sustainability for more than three decades. Ricoh is consistently ranked high among the world's corporations for successfully balancing profit with environmental responsibility.

Ricoh Sustainable Development Award of \$10,000

PLNT060 - Novel Methods of Augmenting Plant Pollination

- Paul Gauvreau, Canyon Crest Academy, CA, United States of America

## **Samvid Education Foundation**

SAMVID Education Foundation encourages students in pursuing research in STEM fields. SAMVID recognizes projects of excellence that exhibit creative and innovative solution approaches to global problems.

First Agni Award of \$1,000

ENBM020T - Development of 3D-printed Electronic Stethoscope and Open-Source Android-Based Platform with Automated Diagnosis of Cardiac Conditions

- Abraham Riedel-Mishaan, duPont Manual High School, KY, United States of America
- Praharshasai Paladugu, duPont Manual High School, KY, United States of America
- Ryan Folz, duPont Manual High School, KY, United States of America

First Geno Award of \$1,000

ROBO032 - Deep Learning-Based Automated Tool Detection and Analysis of Surgical Videos to Assess Operative Skill

- Amy Jin, The Harker School, CA, United States of America

Second Agni Award of \$500

CBIO014 - The Application of Machine Learning Algorithms on EEG Data to Predict and Detect Epileptic Seizures

- Neha Hulkund, Tesla STEM High School, WA, United States of America

TMED036T - Inexpensive Mobile Diagnosis of Diabetic Retinopathy Using Deep Learning

- Kavya Kopparapu, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Neeyanth Kopparapu, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Justin Zhang, Thomas Jefferson High School for Science and Technology, VA, United States of America

Second Geno Award of \$500

ENBM026T - Accurate, Low-Cost Diagnosis and Monitoring of Parkinson's Disease by Detecting Dysphonic Features through a Machine-Learning Algorithm

- Parth Saxena, Amador Valley High School, CA, United States of America
- Rishik Reddy, Amador Valley High School, CA, United States of America
- Shiladitya Dutta, Foothill High School, CA, United States of America

SOFT050 - Mobile Real-Time OCR for Visually Impaired Individuals

- Divya Amirtharaj, Westview High School, OR, United States of America

Third Agni Award of \$250

EAEV015 - Testing the Waters: Development of A Novel Chitosan-Based Water Filter for Industrial and Third World Applications

- Khushi Thakkar, T.C. Jasper High School, TX, United States of America

TMED014T - The Miracle Pill, III

- Ajitha Anand, The Academy of Science and Technology, TX, United States of America
- Nandika Nair, The Academy of Science and Technology, TX, United States of America
- Sreshta Margan, The Academy of Science and Technology, TX, United States of America

Third Geno Award of \$250

CBIO051T - A Real-Time Predictive Modelling for Mitigation of Contagious Diseases- A Mathematical Approach

- Samriddhi Vishwakarma, Bhartiya Vidya Bhavan's R.K. Sarda Vidya Mandir, India
- Shresth Agrawal, Bharatiya Vidya Bhavans RK Sarda Vidya Mandir, India

EBED007 - Development of an Assistive and Rehabilitative Hand Orthosis and Its Complementary Control Systems

- Muhammad Ahnaf, Plano East Senior High School, TX, United States of America

### **Sigma, Xi, the Scientific Research Honor Society**

Founded in 1886, Sigma Xi is the international honor society of research scientists and engineers, with a distinguished history of service to science and society. This multi-disciplinary society includes members who were elected based on their research achievements or potential, and historically, more than 200 members have won the Nobel

Prize. The Society is pleased to offer awards for the best demonstration of interdisciplinary research.

First Life Science Award of \$2,000

PLNT061T - Innovative Method of Raising Paddy Seedlings by an Economically Viable and Ecologically Sustainable Method: A Boon to Farmers

- Ramkumaar Ekambaram Thondaiman, NSN Group of Schools, India
- Siva Bharathi Anbu Bharathi, Nsn Matriculation Higher Secondary School, India

First Physical Science Award of \$2,000

CHEM006T - Utilization of Carbon Monoxide as a Reducing Agent for C-C and C-N Bond Formation: Application to Asymmetric Catalyst and Synthesis of New Effective Fungicide

- Alexandra Samoylova, Moscow Chemical Lyceum of Moscow South-Eastern Lyceum and Grammar School Complex, Russian Federation
- Maria Makarova, Moscow Chemical Lyceum of Moscow South-Eastern Lyceum and Grammar School Complex, Russian Federation

Second Life Science Award of \$1,000

TMED036T - Inexpensive Mobile Diagnosis of Diabetic Retinopathy Using Deep Learning

- Kavya Kopparapu, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Neeyanth Kopparapu, Thomas Jefferson High School for Science and Technology, VA, United States of America
- Justin Zhang, Thomas Jefferson High School for Science and Technology, VA, United States of America

Second Physical Science Award of \$1,000



ENEV021T - Investigation of the Pyrolysis and Chemical Activation of Expanded Polystyrene Foam to Form Activated Carbon

- Ashton Cofer, Columbus Academy, OH, United States of America
- Julia Bray, Gahanna Lincoln High School, OH, United States of America

**Society for Experimental Mechanics, Inc.**

The Society for Experimental Mechanics is composed of international members from academia, government, and industry who are committed to interdisciplinary application, research and development, education, and active promotion of experimental methods to: (a) increase the knowledge of physical phenomena; (b) further the understanding of the behavior of materials, structures and systems; and (c) provide the necessary physical basis and verification for analytical and computational approaches to the development of engineering solutions.

First Award of \$2,500

MATS045 - A Novel Approach for Sensing Seismic Events: Applications of Graphene Nanoflake Powder Composites

- Isaac Jordan, Animas High School, CO, United States of America

Second Award of \$1,500

MATS073 - Shear Radial Strength: Combining Web Geometry with Shear Thickening Fluids to Create a Better Body Armor

- Lucas Lynn, Wetumpka High School, AL, United States of America

Third Award of \$1,000

MATS038 - Development and Testing of 45S5 Bioglass via Acid and Base Sol-Gel Polymerization and Fusing onto Gallus gallus domesticus Cervical Bones for Bone Grafting Treatment

- Aditi Bawa, Loudoun County High School, VA, United States of America

### **Society of Experimental Test Pilots**

Founded in 1955, the Society of Experimental Test Pilots is an international organization of flight test pilots and astronauts promoting air safety and education in the design and flight test of aerospace vehicles. SETP's membership extends across 30 countries worldwide, comprised of more than 2,400 active and retired test pilots representing all types of aerospace vehicles, military and civilian.

First Award of \$1,500

ENMC003 - A Wing Is Enough: An Improved Flying Wing Based on a Bell-Shaped Lift Distribution

- Ivo Zell, Internatsschule Schloss Hansenberg, Germany

Second Award of \$1,000

ENMC042 - Blown Away: Improving Propeller Efficiency with Natural Flow Propeller Shrouds

- Andrew Bennett, Bountiful High School, UT, United States of America

Third Award of \$500

ENMC034T - Analysis of Airborne Wind Energy Systems in a Wind Tunnel to Enhance Electricity Generation Efficiently

- Charles Fenske, Falmouth Academy, MA, United States of America
- Theo Guerin, Falmouth Academy, MA, United States of America

Honorable Mentions

EBED003T - A.T.S.P. (Autonomic Thermal Soaring Platform)

- Etienne Neumann, Johannes-Brahms-Schule, Germany
- Florian Vahl, Johannes-Brahms-Schule, Germany

- Friedrich Schiller, Johannes-Brahms-Schule, Germany

ENMC030 - The Next Airbender: A Novel Approach to Airfoil Efficiency and the Optimization of the Lift-to-Drag Ratio

- Rachel Seevers, Paul Laurence Dunbar High School, KY, United States of America

ROBO015 - Safecopter: Developing a Collision Avoidance System Based on an Array of Time-of-Flight 3D Cameras

- Robert Tacescu, Clovis North High School, CA, United States of America

### **SPIE, the international society for optics and photonics**

SPIE, the international society for optics and photonics, was founded in 1955 to advance light-based technologies. Serving more than 235,000 constituents from approximately 155 countries, the Society advances emerging technologies through interdisciplinary information exchange, continuing education, publications, patent precedent, and career and professional growth. Annually SPIE provides more than \$3.2 million in support of education and outreach programs.

First Award of \$2,000

MATS050 - Cellulose Nanocrystals for Security Applications: Embedding Non-Optical Signatures Provided by Nanoparticles into Cellulose Nanocrystal Chiral Nematic Films

- Nicky Wojtania, Plano West Senior High School, TX, United States of America

Second Award of \$1,500

EBED031 - LaserWAN - Laser Broadband Internet Connections

- Valerio Pagliarino, I.I.S. Nicola Pellati, Italy

Third Award of \$1,000

PHYS029 - Quick Aligning Telescopes

- Dominic Catanzaro, Cathedral Catholic High School, CA, United States of America

Fourth Award of \$500

ENMC005 - Gaze: A Low Cost, Digital Optical Device Supporting Education in Developing Countries

- Gareth Reid, Grosvenor Grammar School, United Kingdom

### **U.S. Agency for International Development**

The U.S. Agency for International Development (USAID) is the federal government agency responsible for administering foreign aid. USAID works to promote economic and social development in more than 100 countries around the world. The U.S. Global Development Lab works to accelerate the transformation of the development enterprise by opening development to people everywhere with good ideas, promoting new and deepening existing partnerships, bringing data and evidence to bear, and harnessing scientific and technological advances.

USAID Global Development Innovation First Award of \$3,000

ENBM068 - Refining a Novel Device to Decrease the Risk of Vesicovaginal and Rectovaginal Fistulae during Labor

- Lori, Zhang, NJ

EAEV088 - An Innovative Crowdsourcing Approach to Monitoring Freshwater Bodies

- Sahithi Pingali, Inventure Academy, India

ENEV072 - Unleading the Way! Remediation of Lead Contaminated Water with Coriandrum sativum (Cilantro) Biochar

- Manashree Padiyath, Woodbury High School, MN, United States of America

MATS030T - Corn Cob Particleboard: Ecological Product  
Manufactured with Corn Cob and Husk Residue

- Beatriz da Costa Dantas, Escola Estadual Joao de Abreu, Brazil
- Marcelo de Melo Ramalho, Escola Estadual Joao de Abreu, Brazil

USAID Global Development Innovation Second Award of \$2,000

ENBM027 - 3D Printable Transtibial Prosthetic

- Everett Kroll, Stillwater Area High School, MN, United States of America

ENBM021 - A Novel High-Efficiency System for Infant Warming through  
Secondary Heating Mechanisms

- Swathi Srinivasan, Beachwood High School, OH, United States of America

PLNT061T - Innovative Method of Raising Paddy Seedlings by an  
Economically Viable and Ecologically Sustainable Method: A Boon to  
Farmers

- Siva Bharathi Anbu Bharathi, Nsn Matriculation Higher Secondary School, India
- Ramkumaar Ekambaram Thondaiman, NSN Group of Schools, India

MATS069T - A Composite Material Made from Wastes of Glass,  
Polymers and Industrial Rubber as a Waste Management Initiative in  
Urban and Sub-Urban Areas in Kenya

- Bilhah Ontiriah, Shree Cutchi Leva Patel Samaj School, AZ, Kenya
- Mitesh Varsani, Shree Cutchi Leva Patel Samaj School, AZ, Kenya

**U.S. Environmental Protection Agency**

From nanomaterials a billionth of a meter in size to global climate dynamics, EPA scientists and engineers are investigating every scale of

our environment and the links between environment and human health. EPA conducts research that addresses the highest priority science needs of the nation. The work performed by EPA scientists, engineers and their research partners improves the quality of the air we breathe, the water that sustains us, and the land upon which we live.

The Patrick Hurd Sustainability Award winner will travel to EPA's National Sustainable Design Expo in Washington, D.C.

EAEV039 - Modeling the Effects of Land Use Change on Flooding in Pacific Northwest Streams to Promote Green Practices

- Adam Nayak, Cleveland High School, OR, United States of America

Alternate

ENEV041 - Low-Cost Gravity Driven Filtration System Designed Using Iron Oxide Nanoparticle-Loaded PU Foam for Arsenic Removal from Polluted Water in Developing Countries

- Arundhati Pillai, University School of Milwaukee, WI, United States of America

### **United Technologies Corporation**

United Technologies Corporation is a diversified company that provides a broad range of high-technology products and services to the global aerospace and commercial building systems industries. We are pleased to offer eight awards of \$3,000 in UTC common stock for projects showing excellence in science and engineering.

Each winning project will receive \$3,000 in shares of UTC common stock.

MATH042 - Mapping Edges to Nodes by Utilizing Morton Codes in Stochastic Kronecker Graphs

- Arjun Ramani, West Lafayette Jr./Sr. High School, IN, United States of America

ROBO031 - Unlocking History: An Algorithm to Virtually Unfold 3D Computed Tomography Scans of Unopened Historical Documents

- Holly Jackson, Notre Dame High School San Jose, CA, United States of America

CHEM043 - Predicting the Efficiency of Chaotic Mixing of Granular Pharmaceutical Materials Using Image Processing

- Labanya Mukhopadhyay, Evergreen Valley High School, CA, United States of America

EBED031 - LaserWAN - Laser Broadband Internet Connections

- Valerio Pagliarino, I.I.S. Nicola Pellati, Italy

ENMC058 - Designing a Scalable 3D Printer with a Novel Elevation System

- Liam Johnson, Arkansas School for Mathematics, Sciences, and the Arts, AR, United States of America

PHYS038 - Quantum Eraser with Applications to Optical Quantum Information Processing of Polarization-Encoded Qubits

- Mary Lorio, Saint Joseph's Academy, LA, United States of America

ENMC015T - Electric Jet Engine

- Adam Skora, Buena High School, AZ, United States of America
- Taylor Benning, Buena High School, AZ, United States of America

### **University of Arizona**

Established in 1885, the University of Arizona (UA) is the state's land-grant university. Recognized as a global leader, the UA is also a leader in research, bringing more than \$606 million in research investment each year, and ranking 20th among all public universities. UA offers over 300 undergraduate and graduate degree programs in 16 academic

colleges. UA will award scholarships to outstanding awardees who have demonstrated robust research for the greater good of society.

#### Tuition Scholarship Award

SOFT053 - An Investigation and Computer Simulation on the Temperature Dependence for Hall Mobility and Quality Factor in GaAs

- Zachary Rolfness, Paradise Valley High School, AZ, United States of America

PLNT044 - Molecular Characterization and Enhanced Efficacy in the Development of a Novel Host-Specific Bioherbicide Candidate for *Cyperus rotundus*

- Haniya Shareef, Lincoln Park Academy, FL, United States of America

EGPH009 - Increased Tidal Barrage Energy Output through Pumping

- Peter Menart, Carroll High School, OH, United States of America

TMED058 - Ameliorating Alpha-Synuclein Aggregation in Parkinson's Using Optimized Chaperones: An *in silico* Approach

- Jeremiah Pate, BASIS Oro Valley, AZ, United States of America

CELL022 - The Role of PAG1 and the SFKs in Neuroblastoma Tumor Formation and Invasion

- Shelby Kinch, Hellgate High School, MT, United States of America

CELL049 - An Investigation into Caffeine as a Migraine Treatment and Its Effects on the Severity of Spreading Depolarizations

- Rusty Ludwigsen, The Early College Academy, NM, United States of America

MATH042 - Mapping Edges to Nodes by Utilizing Morton Codes in Stochastic Kronecker Graphs



- Arjun Ramani, West Lafayette Jr./Sr. High School, IN, United States of America

BCHM008 - Insights into the Interaction of N-APP with Death Receptor 6 in Inducing Neuronal Apoptosis

- Yingxuan (Jason) Tan, College Station High School, TX, United States of America

CBIO001 - Mathematical Analysis of Melanocyte Patterns on Danio rerio

- Frances Slater, Cloquet Senior High School, MN, United States of America

ENEV055 - Analyzing the Practical Application of Filtering Pb 2+ Using Freshwater Algae, Phase Four

- Amanda Minke, Immaculate Heart High School, AZ, United States of America

EAEV053 - A Novel, Cost-Effective Water Filtration and Desalination Technique Based on Biodegradable Superabsorbent Polymers

- Joseph Galasso, Galasso Homeschool, AZ, United States of America

EGCH001 - Potatoes Are the Ultimate Solution to our Electricity Problems in Zimbabwe

- Pelagia Majoni, Queen Elizabeth Girls High School, Zimbabwe

ENEV032 - Crowd-Sourced Detection and Mapping of Nitrate Water Pollutants via a Mobile Web-Based Image Analysis System

- Luca Barcelo, Greenwich High School, CT, United States of America

PHYS035 - Spectral Measurements of Near-Earth Asteroids

- Kelsey Barber, Bountiful High School, UT, United States of America

MCRO061T - The Effect of the Wavelength of Light on the Growth Rate of Cyanobacteria and Its Survival in a Martian Atmosphere

- Catherine Aitken, San Ramon Valley High School, CA, United States of America
- Dana Jian, San Ramon Valley High School, CA, United States of America

CHEM026 - Improving Photoelectrochemical Decomposition of Water Using Earth Abundant Metal Oxide Catalysts

- Jake Bringetto, Clovis West, CA, United States of America

ENBM055 - A Fully-Integrated and Self-Contained Lab-On-A-Chip Device for Sample Preparation, RNA Amplification, and Detection for Disease Diagnostics

- Benjamin Liu, Arcadia High School, CA, United States of America

BEHA029 - Evaluation of Gender Bias in Social Media Using Artificial Intelligence

- Nitya Parthasarathy, Northwood High School, CA, United States of America

MATS010 - Novel Formulation of Highly Stable Metal-Organic Inks for Printed Electronic Applications

- Mason Varuso, Patrick F. Taylor Science & Technology Academy, LA, United States of America

ENMC015T - Electric Jet Engine

- Taylor Benning, Buena High School, AZ, United States of America
- Adam Skora, Buena High School, AZ, United States of America

MATS032 - Oh Crack

- Kristi Webster, Willcox High School, AZ, United States of America

ENMC039 - LifeSpin: Comprehensive Water Purification and Transportation via Induced Turbulent Flow in Conjunction with Faraday's Law of Induction

- Shane Tomaino, Rye Country Day School, NY, United States of America

ENMC060 - Enhancing Accessible Pedestrian Signals: Using Tactile Maps

- Mary Murray, Olentangy High School, OH, United States of America

### **University of the Sciences in Philadelphia**

University of the Sciences awards five \$15,000 scholarships to students whose research and academic interests align with the USciences mission. Scholarships become effective upon enrollment in the incoming class of fall 2017. At USciences, we are building on a life sciences legacy started almost two centuries ago as Philadelphia College of Pharmacy. From leading-edge research and developing innovative treatments and cures, to improving lives worldwide, USciences is about moving life forward.

Tuition Scholarships of \$15,000 per year for four years

BCHM025 - Behind the Cause: A Novel Role of a Natural Lipid Bilayer in Causing Alzheimer's Disease

- Elise White, Binghamton High School, NY, United States of America

BMED035 - Cytosine to Thymine: Unveiling Cancer's Achilles Heel via a Genome-wide Discovery of CpG Methylation Signatures

- Daniel Zhang, Westview High School, CA, United States of America

BMED040 - The Effects of Sex and Type 2 Diabetes on Alzheimer's Disease Pathology in Tg6799 Mouse Hippocampi and Cortices

- Sarah Hoffman, Ossining High School, NY, United States of America

CELL040 - Impact of Substance Use on Salivary Cytokine Levels in Healthy Female Individuals

- Miranda Li, Crescenta Valley High School, CA, United States of America

TMED028 - Early Detection of Malaria Infection with Portable and Electricity Free Isothermal Loop Amplification (LAMP)

- Nikhil Gopal, The Lawrenceville School, NJ, United States of America

### **University of Toronto, Faculty of Applied Science & Engineering Award**

University of Toronto's Da Vinci Engineering Enrichment Program (DEEP) Summer Academy, provides students from around the world the opportunity to explore some of the most innovative topics in engineering and science today, all taught by some of our faculty's top alumni, Ph.D. candidates, and Master's and undergraduate students.

Participation in Da Vinci Engineering Enrichment Program Summer Academy

ENMC067 - You're Out! An Electronic Baseball Umpire

- Elias Andersen, Pretty River Academy, Collingwood, Ontario, Canada

### **Wolfram Research, Inc.**

Wolfram Research presents all Intel ISEF finalists and observers with a complimentary license of "Mathematica" software for students, as well as a free 1-year subscription to Wolfram-Alpha Pro.